Hydrogeological Assessment Report, Woodcox Road Subdivision, Bancroft, Ontario.

February 22, 2022

Prepared for:
2744529 Ontario Inc. (York River Subdivision)

Cambium Reference: 11849-001

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Executive Summary

Cambium was retained by 2744529 Ontario Inc. (York River Subdivision) to complete a hydrogeological assessment for the proposed 20 lot subdivision located on Woodcox Road, on Parts of Lots 7&8, Concession 2 (Herschel), Municipality of Hastings Highlands, Ontario. The Hydrogeological assessment included an assessment of the surficial soils, the installation and hydraulic testing of four test wells, and nitrate attenuation calculation. as per MECP D-5-4 procedures.

Water supply assessment was completed as per MECP D-5-5 Procedure, Technical Guideline for Private Wells: Water Supply Assessment. Accordingly, the hydrogeological assessment included conducting hydraulic testing of four (4) test wells, namely Test Wells #1, #2, #3, and #4 installed at the Site.
An assessment of potential impacts on groundwater due to the proposed development on individual septic systems (assessment of nitrate loading and attenuation) as per MECP D-5-4 procedure was also completed.

The results of the pumping tests indicate that there are adequate groundwater resources available to support the proposed development. Further, the water withdrawal associated with the development will not negatively influence surrounding groundwater users.

Water samples were analysed for the required suite of parameters, as indicated in the MECP D-5-5 Procedure. There were a few water quality parameters which exceeded the Ontario Drinking Water Quality Standards in some of the test wells, namely hardness (all Test Wells); elevated fluoride at TW2, TW3, and TW4, as well as manganese in TW1. Total coliform was detected in test wells TW1, TW3 and TW4.

Additional disinfection was completed on all four wells and the test wells were resampled to confirm the presence of these parameters.

During the resampling event, the results indicate that only in Test Well TW2 were exceedances still noted above the detection limit for total coliforms and manganese, with fluoride elevated above a concentration of 1.5 mg/L. Hardness was above the aesthetic limit in all the four samples,. The source of the total coliforms is unknown. The source of fluoride, hardness and

manganese is assumed to be from the native bedrock formations in the area. Disinfection units are recommended to treat for the total coliforms while a conventional water softener system will reduce the concentration of hardness, fluoride and manganese. For fluoride, where supplies contain naturally occurring fluoride at levels higher than 1.5 mg/L mg/L but less than 2.4 mg/L, the Ministry of Health and Long-Term Care recommends an approach through local boards of health to raise public and professional awareness to control excessive exposure to fluoride from other sources. Levels above the MAC level of 1.5 mg/L must be reported to the local Medical Officer of Health.

The proposed development includes the construction of up to 20 residential dwellings. The nitrate loading calculations indicate that the concentration of nitrate at the boundary would be 7.4 mg/L, which is less than the Guideline D-5-4 limit of 10 mg/L. Therefore, the Site could be developed to accommodate 20 new residential lots without inducing a negative impact on the quality or quantity of on-site and off-site groundwater resources.

Respectfully submitted,

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1.0 Introduction

Cambium Inc. (Cambium) was retained by 2744529 Ontario Inc. (York River Subdivision) to undertake a hydrogeological assessment for a proposed subdivision development located on Woodcox Road, on Part of Lots 7&8, Concession 2 (Herschel), in the Municipality of Hasting Highlands (herein referred to as the Site). The total area of the property is approximately 16.38 ha (40.48 acres). It is proposed that the developable portion of the Site would be developed in to 20 residential lots.

There are no municipal services of water and wastewater available near the property; therefore, the Site will have to be privately serviced. As such, a hydrogeological assessment was undertaken for the required water supply and wastewater services, in accordance with the Ministry of the Environment and Climate Change (MECP) guidelines D-5-4 and D-5-5. The wastewater assessment involved assessing the Site for its suitability for disposal of wastewater on-site by identifying and assessing the native soils at the Site and the location of the shallow water table, water quality testing of the shallow aquifer (if present), hydraulic testing of the native soils, identification of surficial slopes across the Site, and an assessment of the attenuation capacity of Site for the potential contamination from nitrate loading from the on-site wastewater systems.

The water supply assessment required determination of quantity and quality of the groundwater, hydraulic testing by constructing and installing the required number of water supply test wells to identify on-site groundwater resources, determination of the areal extent of the aquifer system, and the water quality.

A draft site plan of the proposed development is in Appendix A.

1.1 Site Description

The Site is approximately irregular in shape with an easterly slope of ground surface from west to east towards the York River. The surface drainage is directed towards the York River located along the Eastern boundary of the Site. The location is bound by Woodcox Road to the west, Glory Road to the south and York River on the east as shown on Figure 2.

The majority of the Site is identified as forested land with random grassy spots located throughout the Site, as shown on Figure 2.

2.0 Methodology

This section describes the methodology undertaken to complete the hydrogeological assessment.

2.1 Background Information

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

- Ministry of Northern Development and Mines, 1991. Quaternary Geology of Ontario, Southern Sheet, Map 2556, scale 1: 1,000,000, and
- Ontario Geological Survey, 1991. Bedrock Geology of Ontario, Southern Sheet, Map 2544, scale 1:1,000,000.
- Source Protection Area Mapping provided by the Ministry of Environment, Conservation and Parks (MECP)

2.2 Test-Pit Investigation

On December 17, 2020, a test-pit investigation was completed by Cambium personnel to determine the shallow subsurface conditions across the property. The test-pits were excavated using a track-mounted excavator under the supervision of a Cambium technologist.

A total of 9 test-pits, designated as TP101-20 through TP109-20 were advanced throughout the Site. Dynamic probe penetration tests (DPT) were completed at each test pit to determine compaction coefficient of the encountered soil. In addition to DPT's, soil samples were collected from all test pits. Samples were logged for soil colour, texture, structure, moisture content, and consistency/compaction. Each sample was handled only by the technologist using dedicated nitrile gloves. 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 is provided in Figure 3.

2.3 Test Well Installation

Burgess Well Drilling Ltd. (MECP Well Contractor License No. 1455) installed four (4) test wells on-site in March of 2021. The provided conceptual site plan (see Appendix A) indicates the proposed development is 16.38 ha. As such, based on Section 4.2 of Procedure D-5-5 Technical Guideline for Private Wells: Water Supply Assessment (MOECC 1996), four test wells were required at the Site.

For all the drilled well locations, the general soil type encountered can be characterized as overburden sediments comprising of brown sand, grey clay, and broken stones ranging in thickness of 7.9 m to 41.1 m and underlain by granite bedrock. The overburden layers indicated increase in depth and thicknesses (7.9 m at TW1 to the south to 41.1 m at TW #4 in the north) from the South to the North of the Site. The depths of the wells ranged from 65.5 mbgs to 73.1 mbgs. The details of test wells are in Table 1 below and the well locations are presented on Figure 3.

Table 1 Test Well Information Summary

Test Well ID	Thickness of Overburden (m)	Water Found Depth (mbgs)	Well Completion Material	Depth of the Well (mbgs)	Pumping Rate during the Well Yield Test (LPM) by the driller
TW1	7.9	36.6-54.9 and 67.0-73.1	Granite bedrock	73.1	37.8
TW2	20.1	24.4-36.6 and 53.4-60.9	Granite bedrock	65.5	37.8
TW3	35.6	36.6-48.8 and 54.9-67.0	Granite bedrock	71.6	37.8
TW4	41.1	48.8-54.9 and 67.07-70.1	Granite bedrock	70.1	37.8

Note: Well Tag ID A269123 has been assigned to these wells as these has been recorded as a cluster of wells. All of these test wells were constructed in March 2021.

The soil type at the location of Test Well 1 is characterized by an overburden layer consisting of clay and stone down to a depth of 7.9 mbgs before granite bedrock was encountered. The well was drilled to a depth of 73.1 mbgs.

The soil type at the location of Test Well 2 has been identified as overburden characterized by sand, gravel, and stone up to a depth of 20.1 mbgs when top of granite bedrock was encountered. The well was extended through the granite down to a depth of 65.5 mbgs.

The location of Test Well 3 has overburden that is characterized as a mixture of clay, silt, sand, and rocks to a depth of 35.6 mbgs when granite bedrock was encountered. The well was extended through the granite down to a depth of 71.6 mbgs.

The depth of the Test well 4 is 70.1 mbgs. The 41.1 m thick overburden encountered at this well location is characterized by a mixture of clay, sand and stones to a depth of 41.1 mbgs. Granite bedrock was encountered below.

The soil type encountered, though varied in thickness, was consistent at all the 4 (four) test well locations.

Copies of test well records are included in Appendix B. The location of the Test Wells 1 to 4 are shown on Figure 3.

2.3.1 Hydraulic Pumping Test

On August 5, 6, 9, and 10 2021 Cambium staff completed a series of 6-hour duration pumping tests on each of the 4 (four) on-site water wells (4 pumping tests in total). Solinst™ pressure transducer level loggers (logger) were installed in each of the four test wells. The locations and labels of all these wells are shown on Figure 3. Barometric pressure was monitored by a baro logger and the collected data was used for water level data compensation purposes. Manual water level readings were recorded using a water level tape if the datalogger malfunctioned.

2.3.2 Test Well 1

On August 6, 2021, Cambium staff disinfected the well and temporarily installed a submersible pump at a depth of approximately 20 mbgs in Test Well 1. The pumping test commenced at 08:39 where the flow was slowly increased to ensure a steady drawdown was achieved in the well. The discharge outlet was placed at about 50 m to the east of Test Well 1 and followed along a slope towards the York River. The pumping rate was set at a flow rate of 25 L/min to begin the test from 0-2 minutes. The flow rate was adjusted as the test continued to reach a

steady drawdown; adjustments were made to 20 L/min from 2-7 minutes and lowered even further to 15 L/min for the remainder of the test. In response to the drawdown, the data logger and the pump were adjusted from a depth of 20 m to a depth of approximately 24 m for the remaining 90 minutes of the test. According to the drillers water well record for TW #1, the well yield test was run at a sustainable rate of 10 US gallons per minute (USGPM), which is equivalent to 37.8 L/min.

The pump was turned off at 14:39 and water level recovery was monitored until 16:50 allowing for 85% recovery. The pump was removed from the well at 16:37.

2.3.3 Test Well 2

On August 9, 2021 Cambium staff disinfected and installed the submersible pump prior to the pumping test. Pumping commenced at TW2 at 08:50 on August 9, 2021. The flow was set to a constant rate of 15 L/min for the duration of the 6-hour test. According to the drillers water well record for TW2 the well yield test at this well was run at rate of 10 USGPM equivalent to 37.8 L/min.

The discharge outlet was located to the east of TW2 and followed along a slope towards the York River. The pump was turned off at 14:50 and the well recovery was monitored manually until 16:05. The pump was removed from TW2 between 15:50 –16:05.

2.3.4 Test Well 3

On August 10, 2021 Cambium staff disinfected and installed the submersible pump prior to the pumping test. The pump was installed to a depth of approximately 40 mbgs, and the discharge outlet was located to the east of test well and followed along a slope towards the York River. The pumping test started at 08:32. Initial pumping rate was set at 15 L/min but increased to 22 L/min due to the insignificant drawdown. The pump was turned off at 14:32 and removed from the well at 15:45, and the installed data logger was left in the well to collect recovery data.

2.3.5 Test Well 4

On August 5, 2021, Cambium staff disinfected and temporarily installed a submersible pump in TW4 at a depth of approximately 50 m. The pumping test commenced at 09:55 where the flow

was slowly increased to ensure a steady drawdown was achieved in the well. The discharge outlet was placed at about 25 m to the east of the test well into a local drainage swale. The pumping rate was set at a steady state rate of 36 L/min. According to the water well record for TW4, the rate during well yield test was 10 gallons per minute (USGPM), equivalent to 37.8 L/min.

2.3.6 Monitoring Wells

The existing on-site supply wells (TW1 to TW4) were monitored for the duration of the pumping tests. The location of the wells is shown on Figure 3. Additional monitoring wells were not installed at the site. While one well was tested, the other three wells were used as monitoring wells.

Electronic data loggers were installed in each of the wells prior to the start of the pumping tests. The water levels were also recorded manually with a clean disinfected water level tape.

2.3.7 Groundwater Quality Sampling

Ground water samples were taken from each test well in the last half hour of the pumping tests. The samples were submitted to SGS Canada Inc. in Lakefield, Ontario for analysis of physical, general chemical and microbiological parameters. SGS is certified by the Canadian Council of Independent Laboratories (CCIL). Samples were stored at a temperature between 0 °C and 10 °C prior during transport to SGS.

Each test well was disinfected and resampled between January 31 and February 1, 2022, with two test wells resampled per day. Pumped water was recirculated within the well for approximately 20 minutes to circulate the disinfectant into the top of the water column. Each well was pumped until there was no residual chlorine in the discharge water prior to resampling.

The certificates of analysis have been included in Appendix C.

3.0 MECP Well Records Assessment

The Ministry of the Environment, Conservation and Parks (MECP) Water Well Information System (WWIS) database was accessed to review water well records located within 500 m of the Site.

A total of nine (9) water well records were located within 500 m of the Site as shown on Figure 2. The water well records are attached in Appendix D. One of the recorded well (Well ID: 2915080) is shown as located within the property limits however the accuracy of the location is unknown. Further details are summarized in Table 2 below.

Table 2 Summary of Surrounding Water Well Record Information

Well Type	Depth (mbgs)		Static Water Level (mbgs)	Recommended Pumping Rate (L/min) (Based on Well Drillers Yield Test)
Bedrock Wells (5 wells)	Maximum depth	92.7	21.3	68.2
	Minimum depth	54.9	3.2	9.1
	Water Found Depth (mbgs)	53.6-89.0		
	Final Well Use	Domestic		
Overburden Wells (4 wells)	Maximum depth	17.4	6.1	50.0
	Minimum depth	8.6	3.8	22.7
	Water Found Depth (mbgs)	6.1-17.4		
	Final Well Use	Domestic		

All of the searched and recorded wells are used as domestic water supply wells.

4.0 Water Supply Assessment

4.1 Pumping Tests

Pumping tests were performed at all of the four (4) test wells (TW1 to TW4) during August 5-10, 2021 period. Table 3 below provides a summary of the key parameters estimated from pumping tests analysis including pumping rates, well details and recorded final drawdowns at each well. The detail of pumping test analysis is presented in Appendix E.

Table 3 Pumping Test Details – August 5-10, 2021

Well Identification	Pump Depth (mbTOC)	Pumping Rates (L/min)	Static Water Level (mbTOC)	Observed Drawdown in the Well (m)	Available Drawdown (m)
Test Well 1	24	25/20/15	4.2	13.7	19.8
Test Well 2	28	15	6.3	5.0	21.7
Test Well 3	40	15/22	9.5	4.9	30.5
Test Well 4	50	36	2.3	3.7	47.7

Note: mbTOC – meters below top of casing

Based on the data above, the drawdown in the wells during a 6-hour pumping test ranged from 13.7 m to 3.7 m, while the available drawdown in the wells at respective pump set depths ranged between 19.8 m to 47.7 m.

Time-drawdown data are used to estimate the aquifer parameters such as transmissivity (T) and specific capacity (C_s). Aquifer Test Pro pumping test data analysis software was used to estimate the T and C_s of the aquifer. Accordingly, data was analysed using Cooper-Jacob and Theis and Jacob analytical solution methods for a fractured confined aquifer.

Time-recovery data of the pumping wells are also utilised to estimate the aquifer transmissivity. The recovery times are considered moderately rapid as over 90% recovery was achieved within less than 5 hours after the tests were stopped. This recovery rate in general is considered reasonably well for moderately yielding well in the area. Figures 4 to 7 in Appendix E shows the drawdown responses in water wells in each of the monitoring wells while one of the test wells was being pumped at the specified rate.

Table 4 Calculated Transmissivities and Hydraulic Conductivities

Test Well	Transmissivity (T)		Hydraulic Conductivity
	(m^2/s)	(m^2/day)	K (m/d)
Cooper and Jacobs Solution			
Test Well 1	9.3×10^{-6}	8.0×10^{-1}	1.2×10^{-2}
Test Well 2	3.1×10^{-5}	2.7×10^{0}	4.5×10^{-2}
Test Well 3	2.9×10^{-5}	2.5×10^{0}	4.1×10^{-2}
Test Well 4	6.2×10^{-5}	5.4×10^{0}	8.0×10^{-2}
Geometric Mean	*2.7×10^{-5}*	*2.3×10^{0}*	*3.6×10^{-2}*
Theis and Jacobs Solution			
Test Well 1	1.8×10^{-6}	1.6×10^{-1}	9.2×10^{-2}
Test Well 2	1.2×10^{-5}	1.0×10^{0}	1.7×10^{-2}
Test Well 3	6.7×10^{-4}	5.8×10^{1}	9.4×10^{-1}
Test Well 4	2.1×10^{-5}	1.9×10^{0}	2.8×10^{-2}
Geometric Mean	*2.4×10^{-5}*	*2.0×10^{0}*	*4.5×10^{-2}*

The pumping test data was analyzed using Cooper and Jacob and Theis and Jacob solution for comparison. The comparison of geometric mean of the results indicates that both the solutions provided very similar orders of transmissivity and hydraulic conductivity values. The results of the aquifer test analysis are provided in Appendix E.

4.1.1 Well Specific Capacities and Yields

The Specific Capacity of a well is given by the maximum sustainable pumping rate (yield) divided by the measured final drawdown in the well. It can be used to provide the design pumping rate or maximum yield for the well. It usually varies with the duration of pumping as pumping time increases the specific capacity decreases. Accordingly, the specific capacities were estimated for all four test wells as below Table 5.

Table 5 Well Specific Capacities and Yields based on Pumping Tests

Well	Pumping Rate (L/min)	Available Drawdown (m)	Measured Final Drawdown (m)	Specific Capacity (L/min/m of drawdown)	Maximum Yield of the Well (L/min)
Test Well 1	15	13.7	10.7	1.4	21.0
Test Well 2	15	5.0	4.4	3.4	51.0
Test Well 3	22	4.9	4.3	5.1	25.0
Test Well 4	36	3.7	3.7	9.7	36.0

Maximum yield of the well can be calculated using specific capacity multiplied by the maximum available drawdown. Therefore, as summarized above, all the wells can be described as moderate-capacity wells, except Test Well 1. However, given the minimum rate required is only 13.7 L/min for a residential dwelling as per D-5-5, Test Well 1 can be described as an adequate yielding well for a single residential dwelling.

4.1.2 Water Quality Results

Raw water samples were collected from each test well in the last half hour of the pumping test. Lab reports are included in Appendix D.

The water quality results were compared with the Ontario Drinking Water Quality Standards (ODWQS) Tables (O. Reg. 169/03) as well as objectives in D-5-5 (Private Well: Water Supply Assessment) (MOE, 2006). The Table 6 below summarizes the parameters which exceeded the ODWQS during original sampling event of August 2021 and resampling event during January-February 2022.

Table 6 Summary of Water Quality Parameter Exceedances

Parameter	Ontario Drinking Water Standard	TW1	TW2	TW3	TW4
August 2021 Sampling					
Total Coliforms (cfu/100mL)	Not detectable	**5**	0	**1**	**7**
Hardness (mg/L as $CaCO_3$)	80-100	**120**	**254**	**132**	**229**
Fluoride (mg/L)	1.5	0.6	**1.87**	**1.51**	**1.6**
Manganese (mg/L)	0.05	**0.0504**	0.049	0.036	0.022
Organic Nitrogen	0.15	**0.6**	**<0.5**	**<0.5**	**<0.5**
January-February 2022 Sampling					
Total Coliform (cfu/100ml)	Not detectable	**<2***	**12**	0	0
Hardness (mg/L)	80-100	**114**	**243**	**149**	**288**
Fluoride (mg/L)	1.5	0.52	**2.11**	1.46	1.32
Manganese (mg/L)	0.05	0.04	**0.06**	0.04	0.03
Organic Nitrogen (mg/L)	0.15	**<0.5***	**<0.5***	**<0.5***	**<0.5***
Turbidity (NTU)	5	**5.01**	**12.8**	0.75	0.38

*Note: **<2* and <0.5* -** laboratory detection limit was raised due to smaller sample matrix that was run for the analysis.*

Total coliforms were detected in three of the analyzed groundwater samples. The test wells were disinfected and the groundwater was resampled to confirm the concentrations of total coliform.

Total coliform was detected in TW2 but was below detection in TW1, TW3 and TW4. It should be noted at the method detection limit was raised to 2 CFU for TW1 and TW2 by the laboratory. Total coliform was not detected in TW2 during the first round of sampling. The

source of total coliform is unknown at this time. It is recommended that a disinfection unit be utilized for TW2 for residential development.

Hardness was elevated in the groundwater samples from all four test wells, likely resulting from elevated concentrations of calcium and magnesium which is typical of groundwater in bedrock aquifers. Typically, elevated hardness at these concentrations would be treated through conventional water softener systems to reduce taste and pipe scaling.

Fluoride was detected in each of the groundwater samples, with the concentration greater than 1.5 mg/L at TW2 during the resampling event. Fluoride naturally occurs in the groundwater due to weathering and leaching of fluoride bearing minerals from the bedrock formations.

Where supplies contain naturally occurring fluoride at levels higher than 1.5 mg/L but less than 2.4 mg/L, the Ministry of Health and Long-Term Care recommends an approach through local boards of health to raise public and professional awareness to control excessive exposure to fluoride from other sources. Levels above the MAC (1.5 mg/L) must be reported to the local Medical Officer of Health.

Using adsorption media treatment system (conventional water softener) or reverse osmosis are a viable treatment option to reduce the concentration of fluoride in the water supply.

Manganese was only elevated above the OWDQS limit in the groundwater sample from TW1 during the initial testing and at TW2 during the resampling event. Manganese is typically present naturally in the groundwater a result of leaching of minerals from the bedrock and is typically removed with water softening or filtration system for residential dwellings.

Organic nitrogen was elevated in TW1 and the main source of organic nitrogen is the application of nitrogen fertilizers to agriculture which contributes to excessive nitrogen accumulation in soils and excessive leaching into groundwater.

The test wells were resampled to confirm the elevated organic nitrogen; considering the depth of the well and that the Site is not located in an agricultural area, this exceedance was not anticipated. The sample results were all below the detection limit during the resampling event, although it should be noted that the method detection limit used by the lab (0.5 mg/L) is greater than the OWDQS limit of 0.15 mg/L.

Turbidity was detected at TW1 and TW2 during the resampling event; likely the result of a higher volume pumping rate during the resampling process. Turbidity was not an issue during the initial testing during August 2021. It is our opinion that the elevated turbidity concentrations during the resampling process was the result of the higher pumping rates and is not reflective of the anticipated water quality with domestic use.

Details of the water quality results are provided in Appendix C.

5.0 Wastewater Assessment

As per Procedure D-5-4 Technical Guideline for Individual On-Site Sewage Systems: Water Quality Risk Assessment (Ministry of the Environment, 1996), an assessment was completed to determine the feasibility of utilizing on-site sewage disposal for the development.

Procedure D-5-4 requires that the 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 can be used as the principal attenuation mechanism to predict future nitrate concentrations. As such, a mass balance calculation is used to determine the impact of developing residential lots on the Site.

5.1 Available Dilution

The total available dilution for the Site is estimated by the following equation:

$$Qi = A \times S \times I$$

Where: Qi – Volume of Available dilution water

A - Area of the Site

S – Water surplus

I – Infiltration factor

To calculate the water surplus, the fifteen-year climate normal data collected between 1981 and 2010 at the Combermere (ID 6101820) weather station was used. The data was accessed through the Environment Canada website (Environment Canada, 2020). The total yearly precipitation, on average, was 891 mm.

The Thornthwaite method was used to determine the amount of evapotranspiration that will occur at the Site (S. Lawrence Dingman, 2008). The calculated depth of evapotranspiration was 525 mm/year. The evapotranspiration calculations are attached in Appendix F. Therefore, the water surplus calculated to be 365 mm per year (1.001 mm/day).

To determine the fraction of surplus water that infiltrates into the soils on-site, the volume of surplus water is multiplied by an infiltration factor. The infiltration factor varies between 0 and 1 and is estimated based on topography, soils and cover (as per the Stormwater Management Planning and Design Manual, (Ministry of the Environment, June 2006).

In addition to calculating the infiltration factor for the Site, the area of the Site was measured (via available mapping) to determine the total volume of available dilution water generated in each portion of the Site.

The volume of dilution water was calculated based on post development permeable area. The areas of the roads and roofs from houses are assumed to be impermeable and water would run-off towards the permeable areas of the Site. From the development plan, the total Site area is 163,800 m^2. The non permeable area was calculated at 16,276.5 based on the road size. The calculations of available dilution water for each portion of the Site have been outlined below in Table 7.

Table 7 Available Dilution Calculations

Infiltration Factor	
Topography	Hilly Land = 0.1
Soil	Silty sand to silty clay= 0.3
Cover	Woodland = 0.2
Infiltration Factor (I)	0.60
Volume of Precipitation Water	
Dilution Area (A) (m^2)	147,523.5
Surplus (S) (m/day)	0.001001
Volume of Surplus Water Per Day (AxS)	147.67 m^3/day (147,670 L/day)
Volume of Available Dilution Water Per Day ((AxS)xI)	88.6 m^3/day (88,603 L/day)
Volume of Runoff Water Per Day ((AxS)x(1-I))	59.1 m^3/day (51,068 L/day)

5.2 Predictive Assessment

Based on 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 converts 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.

To determine if the proposed lot density is adequate for nitrate dilution, a mass balance calculation is used to determine the sewage loading for nitrate on the property boundary. The mass balance calculations are 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 = Volume of available dilution water

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 can be 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 8 below:

Table 8 Predictive Assessment of Nitrate Concentration

Variable	Value
Number of Lots in Portion	20
Volume of Sewage Effluent (Q_e)	20 Lots x 1,000 L/day = 20,000 L/day
C_e	40 mg/L
Q_i	88,603 L/day
C_i	0.1 mg/L
Q_t	108,603 L/day
C_t	**7.4 mg/L**

The estimated nitrate concentration at the Site boundary based on a 20-lot density is 7.4 mg/L based on dilution, which is below the maximum allowable limit of 10 mg/L. The concentrations

is anticipated to be even lower due to the natural attenuation that will occur within the soil since this calculation only assumes dilution.

The proposed development includes the construction of 20 residential dwellings. The nitrate loading calculations indicate that the concentration of nitrate at the boundary of the developable area will be 7.4 mg/L if 20 dwellings are constructed. Therefore, the land area can accommodate the proposed 20 residential lots according to Guideline D-5-4.

6.0 Conclusions

The following are our conclusions based on the completed analysis:

- Four water wells namely TW1, TW2, TW3 and TW4 were installed as per Guideline D-5-5. All four wells were installed into the underlying granite bedrock formations and are sourced by water bearing fractures within the bedrock. The well yield was sufficient as per the required guideline in all the test wells for peak usage for domestic purposes.
- Considering the aquifer transmissivity and long term well yields, the wells can sustain the proposed residential demand and no need for the inclusion of the water storage system.
- There were a few water quality parameters which exceeded the Ontario Drinking Water Quality Standards in some of the test wells, namely total coliforms, hardness, fluoride, manganese, and organic nitrogen.
- Exceedances of total coliform was detected in test wells TW1, TW3 and TW4; the test wells were disinfected and resampled. Total coliforms were elevated in TW2 only during the retest. The source of total coliforms is unknown at this time. Disinfection systems are recommended for the water supply wells at the Site.
- Hardness was greater than the aesthetic limit in each of the test wells. It is recommended that a conventional water softening system is utilized to treat the water for this parameter.
- Fluoride was above the detection limit in each of the groundwater samples, with the concentration greater than 1.5 mg/L at TW2 only during the resampling event. It is assumed that the source of fluoride is naturally occurring from the native bedrock. Where supplies contain naturally occurring fluoride at levels higher than 1.5 mg/L but less than 2.4 mg/L, the Ministry of Health and Long-Term Care recommends an approach through local boards of health to raise public and professional awareness to control excessive exposure to fluoride from other sources. Levels above the MAC (1.5 mg/L) must be reported to the local Medical Officer of Health. If required, an adsorption media treatment system or reverse osmosis can be utilized as treatment options to reduce fluoride.
- Manganese was elevated above the OWDQS limit only in the groundwater sample from Test Well TW1 during the initial testing and from TW2 during the resampling event.

Manganese is typically present naturally in the groundwater a result of leaching of minerals from the bedrock and is typically removed with an adsorption media treatment system (water softening) or filtration system for residential dwellings.

- Organic nitrogen was detected above the ODWQS limit in TW1 although all of the results were less than the detection limits during the resampling program. The initial exceedance is deemed anomalous.
- The nitrate loading calculations indicate that the site can be developed with 20 proposed lots as proposed. The calculations indicate that the concentration of nitrate at the boundary of the site is 7.4 mg/L, and less than the Guideline D-5-4 limit of 10 mg/L. Therefore, the Site could be developed to accommodate a maximum of 20 lots within the proposed developable area without exceeding a nitrate concentration limit of 10 mg/L at the property boundary.
- The bedrock aquifer is the main water supply aquifer in the area. The bedrock within the site limit is underlain by the overburden sediments varying in thickness of 7.9 m to 41.1 m which is anticipated to provide adequate protective cover for the bedrock aquifer.
- Cambium concludes that the Site can sustain the development of 20 new residential lots without inducing a negative impact on the quality or quantity of on-site and off-site groundwater resources.

7.0 References

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Ministry of the Environment. (June 2006). *Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines.*

MOE. (2006). *Technical Support Document for Ontario Drinking Water Standards, Objectives and Guidelines.*

S. Lawrence Dingman. (2008). *Physical Hydrology, Second Edition.*

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.

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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.

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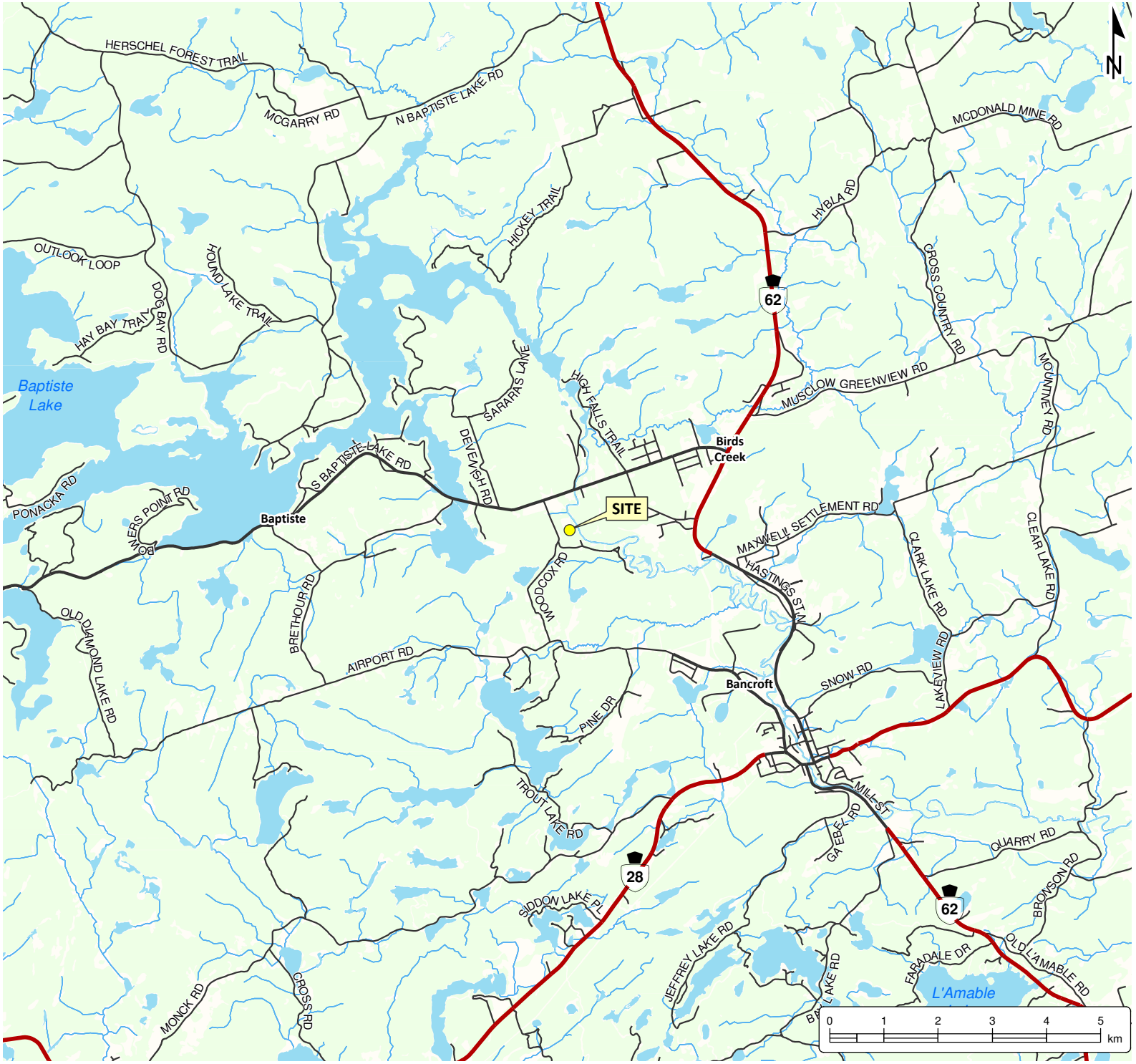
Appended Figures



HYDROGEOLOGICAL ASSESSMENT

2744529 ONTARIO INC.
(YORK RIVER SUBDIVISION)
Woodcox Road,
Bancroft, Ontario

LEGEND

- Highway
- Major Road
- Minor Road
- Watercourse
- Water Area
- Wooded Area

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- 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.

CAMBIUM
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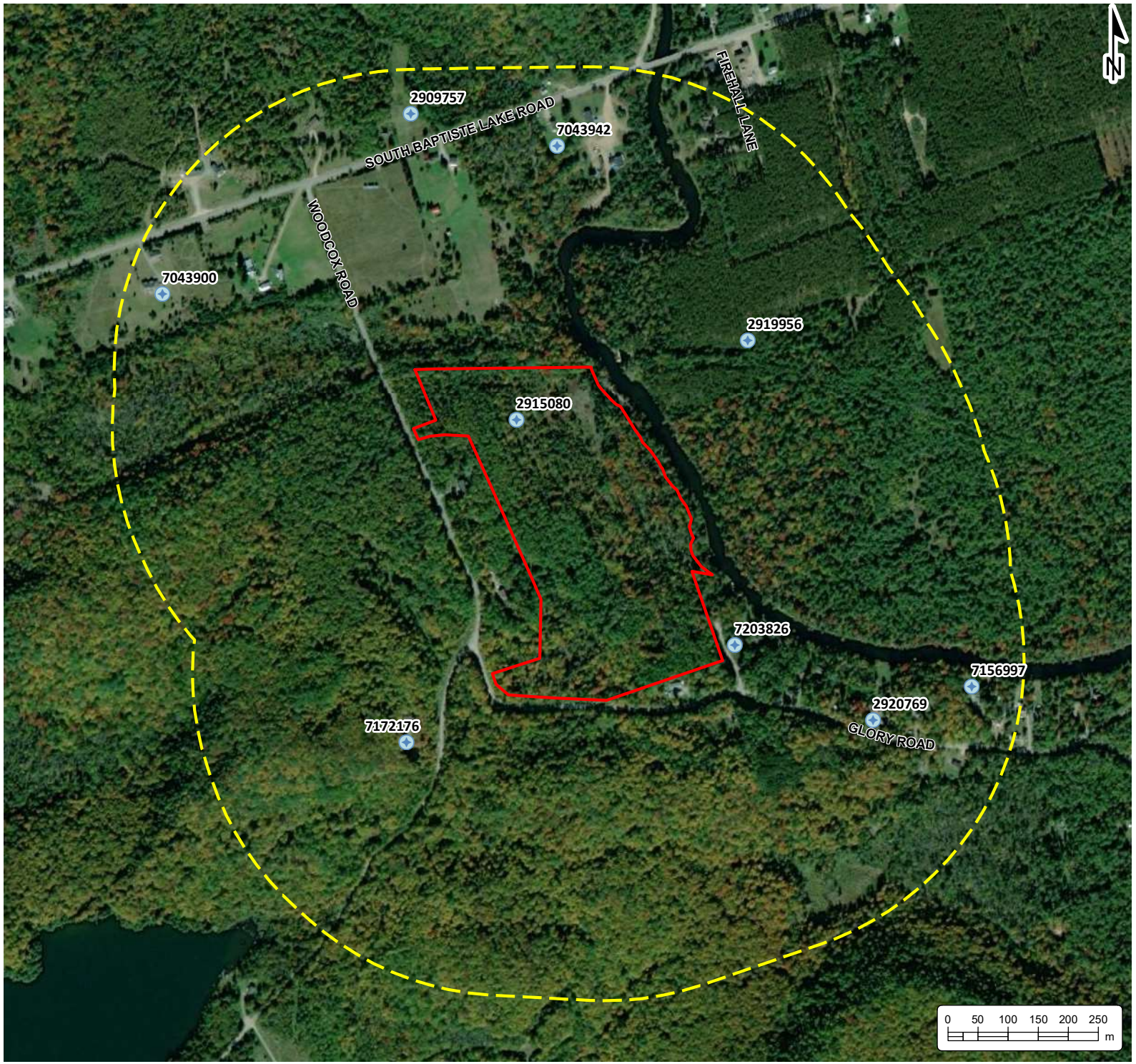
Peterborough, Ontario, K9H 1G5
Tel: (705) 742.7900 Fax: (705) 742.7907
www.cambium-inc.com

SITE LOCATION MAP

Project No.: 11849-001		Date: January 2022 Rev.:	
Scale: 1:100,000		Projection: NAD 1983 UTM Zone 18N	
Created by: TLC	Checked by: KW	Figure:	1

O:\GIS\MXDs\11800-11899\11849-001 Ecostructure Canada - Hydro & Geo - Woodcox Rd Subdivision\2022-01-03 FIG 1 - Site Location Map.mxd



HYDROGEOLOGICAL ASSESSMENT

2744529 ONTARIO INC.
(YORK RIVER SUBDIVISION)
Woodcox Road,
Bancroft, Ontario

LEGEND

- MECP Water Well Records
- 500 m Buffer
- Site (approximate)

Notes:
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- Distances on this plan are in metres and can be converted to feet by dividing by 0.3048.
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MECP WATER WELL RECORDS WITHIN 500 m

Project No.: 11849-001		Date: January 2022 Rev.:	
Scale: 1:9,000		Projection: NAD 1983 UTM Zone 18N	
Created by: TLC	Checked by: KW	Figure:	2

O:\GIS\MXDs\11800-11899\11849-001 Ecostructure Canada - Hydro & Geo - Woodcox Rd Subdivision\2022-01-03 FIG 2 - MECP Water Wells.mxd

HYDROGEOLOGICAL ASSESSMENT

2744529 ONTARIO INC.
(YORK RIVER SUBDIVISION)
Woodcox Road,
Bancroft, Ontario

LEGEND

- Test Well Location
- Test Pit Location
- Site (approximate)

Notes:
- Site plan overlay is a Concept Draft Plan of Subdivision by EcoVue Consulting Services, project no. 20-2032, drawing no. P1, dated September 2020.
- Base mapping features are © Queen's Printer of Ontario, 2019 (this does not constitute an endorsement by the Ministry of Natural Resources or the Ontario Government).
- 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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TEST PIT AND TEST WELL LOCATIONS

Project No.:	11849-001	Date:	January 2022
		Rev.:	
Scale:	1:3,500	Projection:	NAD 1983 UTM Zone 18N
Created by:	TLC	Checked by:	KW
Figure:	3		

O:\GIS\MXDs\11800-11899\11849-001 Ecostructure Canada - Hydro & Geo - Woodcox Rd Subdivision\2022-01-03 FIG 3 - Test Pit and Test Well Locations.mxd

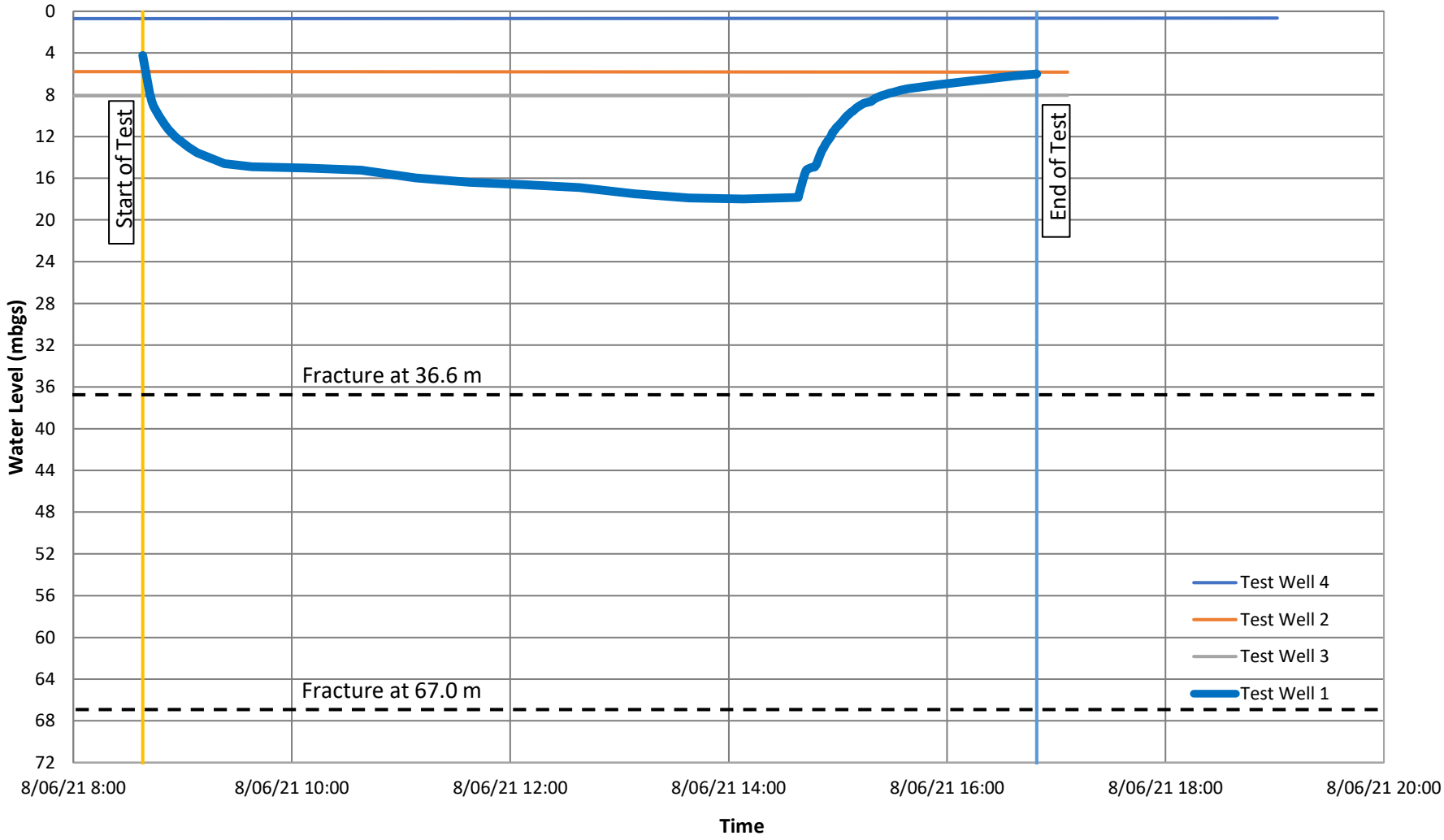


Figure 4: Pumping Test - Test Well 1

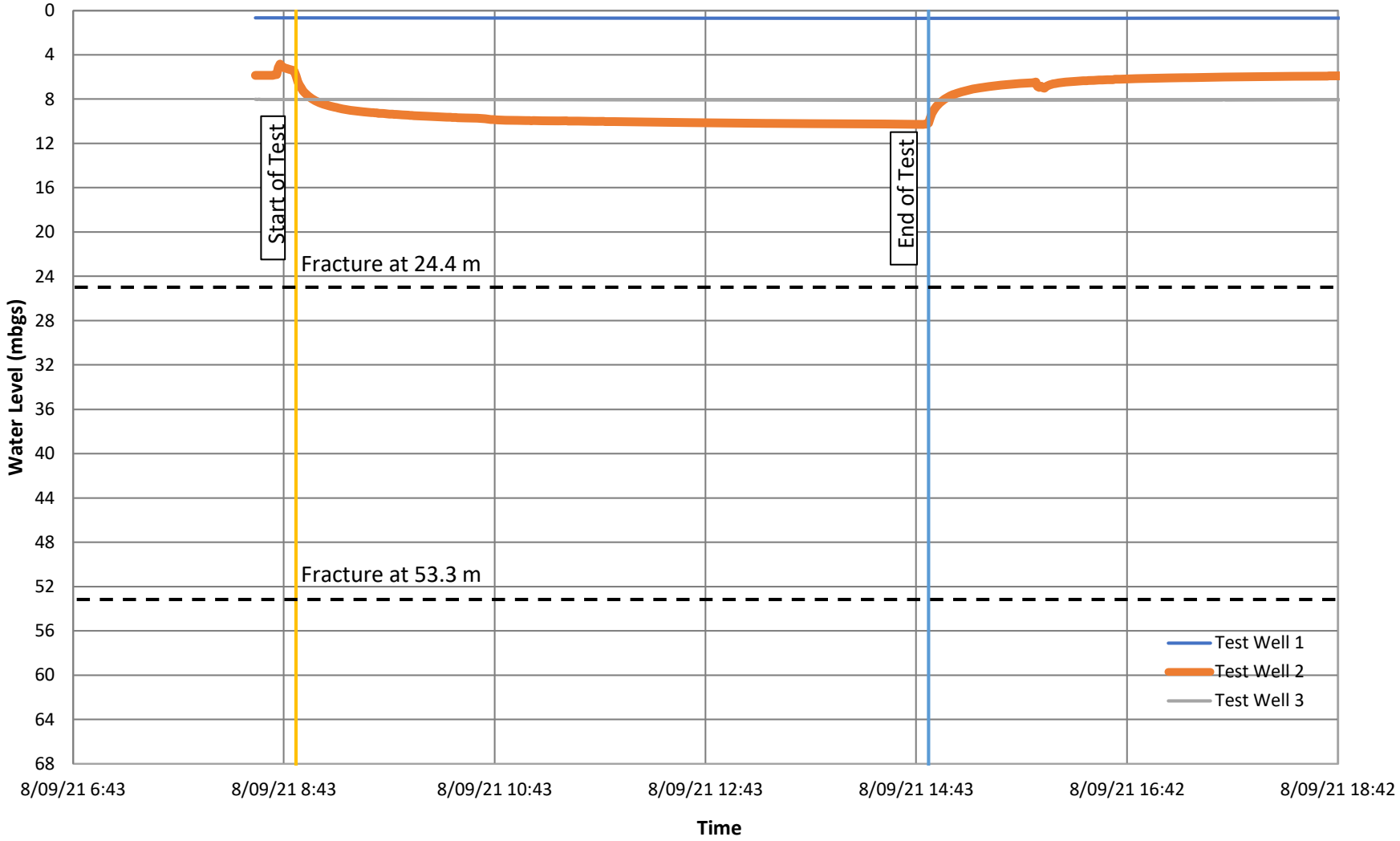


Figure 5: Pumping Test - Test Well 2

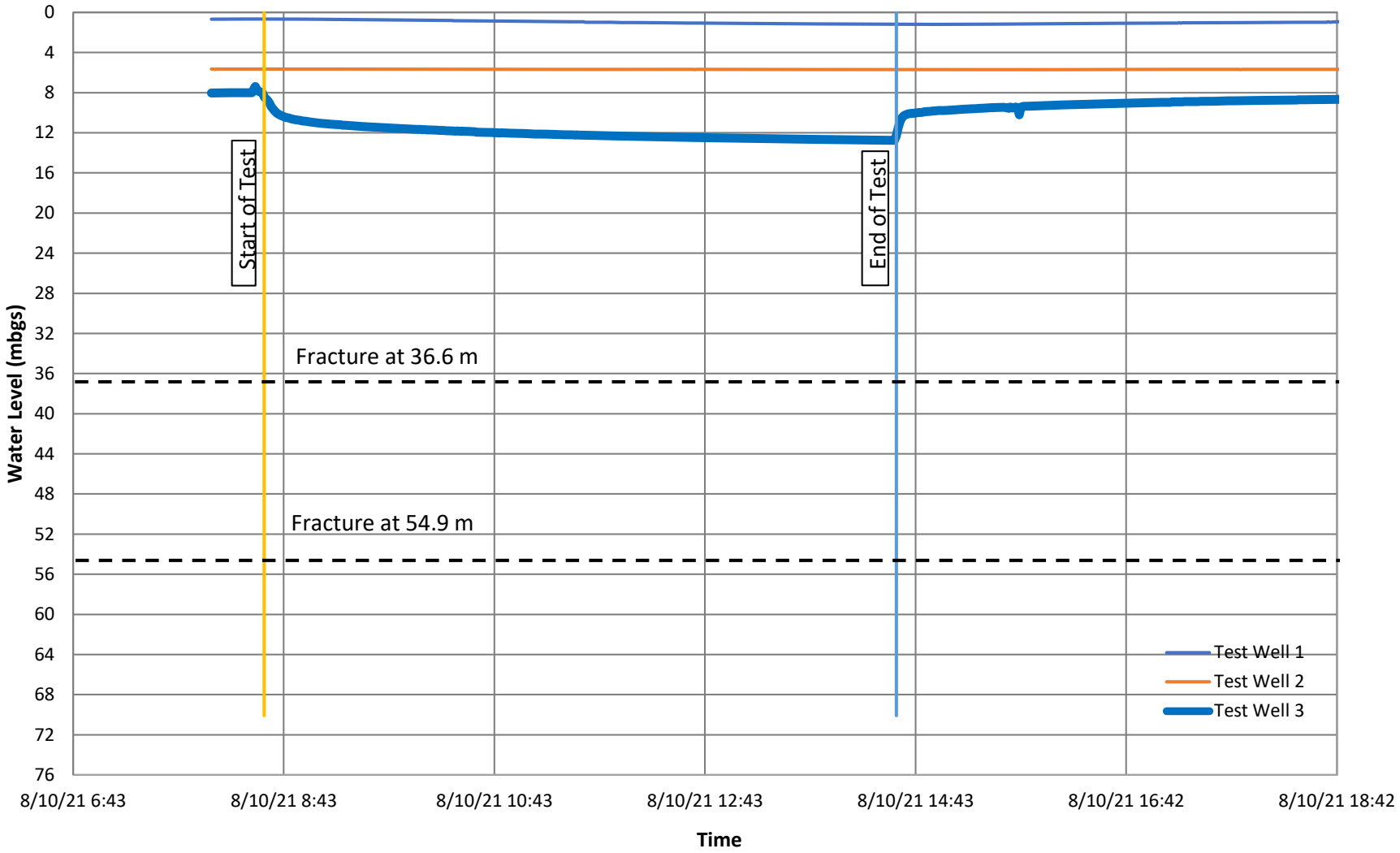


Figure 6: Pumping Test - Test Well 3

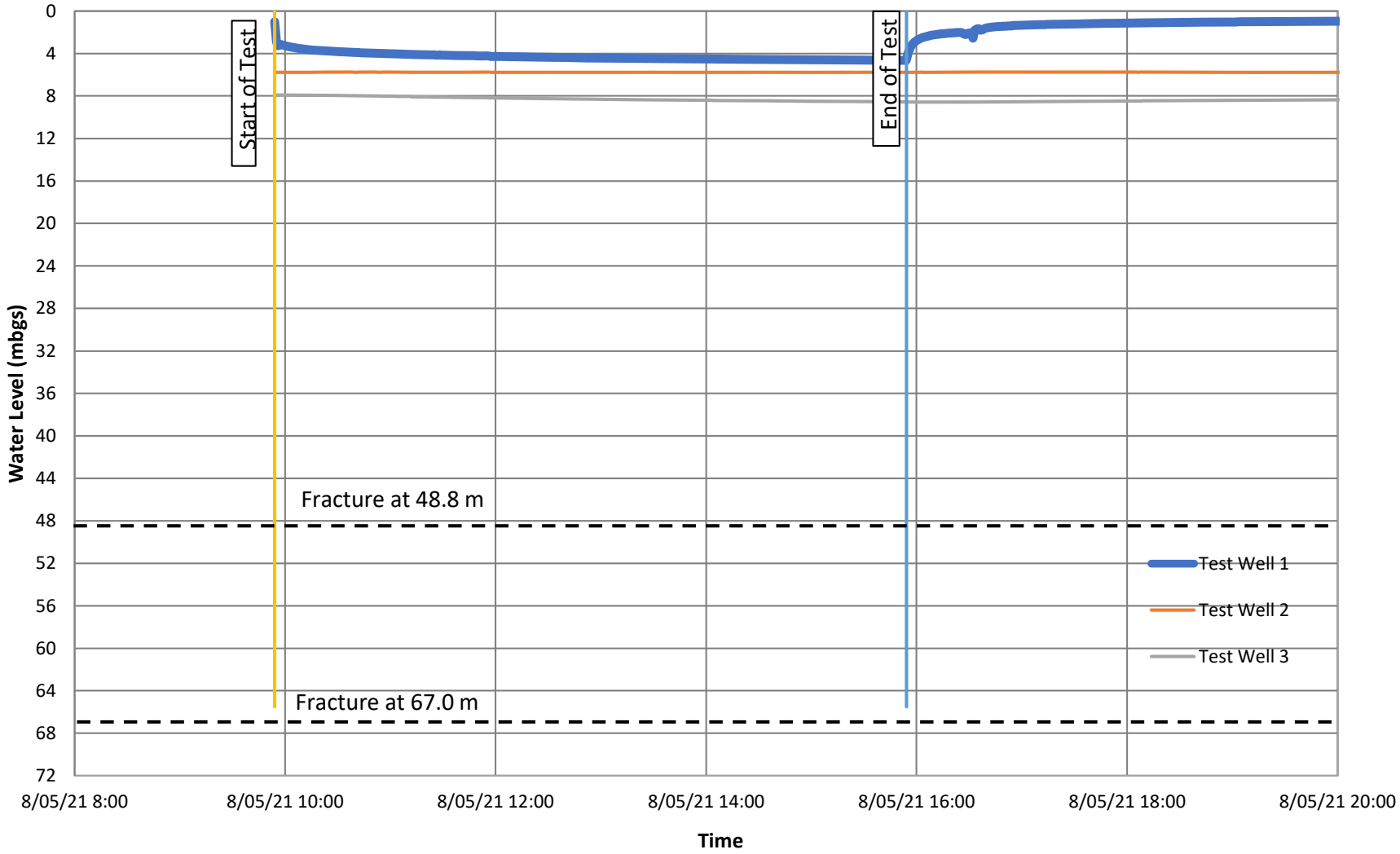


Figure 7: Pumping Test - Test Well 4

Appendix A

Site and Survey Plans

LOT 7
CON 2
HERSCHEL

York River

NORMAL WATER'S EDGE TIES FROM "POINT A"	
BEARING	DISTANCE
N38°29'W	219.3
N37°57'W	212.9
N39°15'W	187.6
N40°17'W	174.8
N40°17'W	163.7
N38°34'W	130.4
N35°55'W	101.5
N31°40'W	71.0
N35°42'W	52.3
N36°48'W	31.7
N32°04'W	11.8
N50°27'E	3.3
S42°42'E	15.1
S42°15'E	28.6
S41°01'E	40.2
S40°41'E	50.3
S38°12'E	80.7
S34°29'E	100.1
S31°41'E	117.8
S31°05'E	127.2
S30°16'E	135.7
S28°49'E	147.3
S28°5'E	164.2
S29°4'E	184.4
S30°55'E	213.3
S30°45'E	219.5
S31°34'E	229.4

UTILITY POLES TIES FROM "POINT B"	
BEARING	DISTANCE
N61°50'W	233.1
N75°21'W	174.2
S81°51'W	151.0
S81°27'W	84.7
S79°18'W	22.8
S86°04'E	42.7
S87°57'E	106.0
N70°43'E	246.4
N68°55'E	263.0
N53°20'E	263.4

RURAL RESIDENTIAL

WATERFRONT RESIDENTIAL

RIVERSIDE COURT

RURAL RESIDENTIAL

BLOCK A
50864.94m²

LOT 4
4449.60m²

LOT 5
4029.26m²

LOT 6
4043.51m²

LOT 7
4027.45m²

LOT 8
4032.33m²

LOT 9
4000.63m²

BLOCK A
50864.94m²

LOT 11
4124.95m²

LOT 10
4088.69m²

LOT 12
4801.94m²

BLOCK C
16276.46m²

ROAD "A"

LOT 3
4058.49m²

LOT 20
5134.88m²

LOT 19
4093.71m²

LOT 18
4093.79m²

LOT 17
4093.85m²

LOT 16
4093.75m²

LOT 15
4068.06m²

LOT 13
4012.29m²

BLOCK B
16024.53m²

LOT 2
4178.07m²

LOT 1
4160.81m²

LOT 14
4113.02m²

CULVERT TO BE INSTALLED AS PER OPSD STANDARDS
FOR SEEP TRAVELING UNDER ROADWAY

WOODCOX ROAD

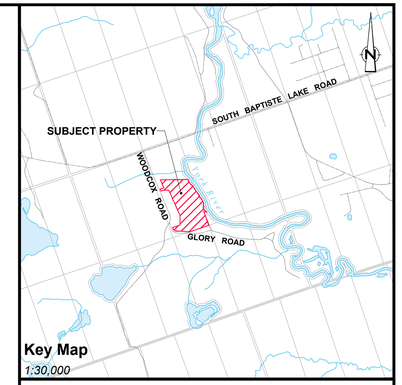
GLORY ROAD

RURAL RESIDENTIAL

MARGINAL AGRICULTURE

LOT 9
CON 2
HERSCHEL

RURAL RESIDENTIAL



LEGEND

- DENOTES SURVEY MONUMENT FOUND
- DENOTES SURVEY MONUMENT PLANTED
- DENOTES WOOD STAKES
- SIB DENOTES STANDARD IRON BAR
- SSIB DENOTES SHORT STANDARD IRON BAR
- IB DENOTES IRON BAR
- RP DENOTES ROCK POST
- IBro DENOTES 3/4" DIA. ROUND IRON BAR
- WIT DENOTES WITNESS
- (934) DENOTES GREG BISHOP SURVEYING and CONSULTING LTD.
- (934) DENOTES H.C. BISHOP O.L.S.
- (934) DENOTES BISHOP GEYER SURVEYING INC.
- (776) DENOTES M.J. McALPINE O.L.S.
- (M) DENOTES MEASURED
- (P) DENOTES PLAN 21R–13699
- (P1) DENOTES PLAN 21R–14629
- EG DENOTES EDGE OF GRAVEL
- EA DENOTES EDGE OF ASPHALT
- CLR DENOTES CENTERLINE OF ROAD
- UP DENOTES UTILITY POLE
- OH DENOTES OVERHEAD WIRES
- GW DENOTES GUY WIRE
- CLD DENOTES CENTERLINE OF DITCH
- TS DENOTES TOP OF SLOPE
- BS DENOTES BOTTOM OF SLOPE
- CV DENOTES CULVERT
- CSP DENOTES CORRUGATED STEEL PIPE
- PWF DENOTES POST AND WIRE FENCE
- 330 DENOTES 0.50 METRE CONTOURS
- BP DENOTES BELL (TELECOM) PEDESTAL

SUBJECT BOUNDARY

EXISTING WETLAND *(RETRIEVED FROM CAMBIUM EIS)*

EXISTING WETLAND BUFFER, 30m *(RETRIEVED FROM CAMBIUM EIS)*

EXISTING SEEP, W/ DIRECTION OF FLOW *(RETRIEVED FROM CAMBIUM EIS)*

EXISTING SEEP BUFFER, 15m *(RETRIEVED FROM CAMBIUM EIS)*

PROPOSED PEDESTRIAN TRAILS

Site Statistics

BLOCK / LOT #	AREA (ha)	DESCRIPTION
LOTS 1 - 20	8.37	20 Single Detached Residential Units
BLOCK A	5.08	Open Space / Recreational Amenities
BLOCK B	1.60	Open Space / Recreational Amenities
BLOCK C	1.33 *(length = 613.97m, min. CL turning radius = R20.0m)*	Proposed Right-of-Way *(Width = 20.0m)*
Total:	16.38	

EcoVue Consulting Services Inc.
311 George St. N., Suite 200
Peterborough ON K9J 3H3
Tel: 705-876-8340 Fax: 705-742-8343
www.ecovueconsulting.com

DRAWN BY: MC	PROJECT No.: 20-2032
APPROVED BY:	HORIZ. SCALE: 1:1000
REVISION DATE: DECEMBER 09 2020	PLOT DATE: DECEMBER 09 2020

ECOSTRUCTURE SUBDIVISION

FRASER YOUNG

PART OF LOTS 7 & 8, CONCESSION 2
GEOG. TWP. OF HERSCHEL
MUNICIPALITY OF HASTINGS HIGHLANDS
COUNTY OF HASTINGS

CONCEPT DRAFT PLAN OF SUBDIVISON — P1

Appendix B

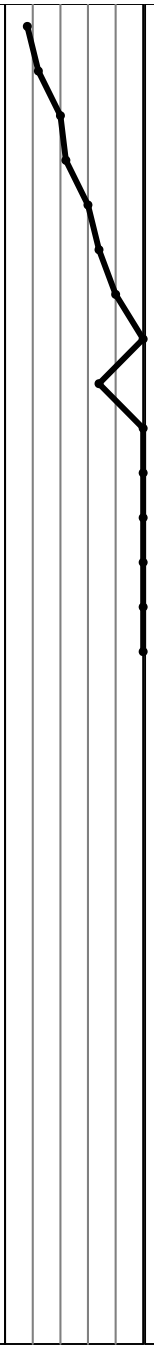
Test Well and Test Pit Logs

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP101-20

Client:	Ecostructure Canada	**Project Name:**	Woodcox Road Subdivision	**Project No.:**	11849-001
Contractor:	Yantha Excavating	**Method:**	Excavator	**Date Completed:**	Dec 17, 2020
Location:	Woodcox Road, Bancroft	**UTM:**	18T 270814.04 E 4997617.17 N	**Elevation:**	

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		TOPSOIL: 150 mm thick	1	GS		4				
		SAND: Brown sand, trace silt, trace organics, moist, compact to dense	2	GS		6 10 11 15 17 20 30				
-1 / 1		SAND: Brown coarse sand, trace gravel, moist, very dense	3	GS		17 30 32 30 35				
-2 / 2		Test pit terminated at 2.0 m depth at maximum reach of excavator arm				40 >50				
-3 / 3										
-4 / 4										



Logged By: S. Kennaley **Input By:** J. Wales

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP102-20

Client:	Ecostructure Canada	**Project Name:**	Woodcox Road Subdivision	**Project No.:**	11849-001
Contractor:	Yantha Excavating	**Method:**	Excavator	**Date Completed:**	Dec 17, 2020
Location:	Woodcox Road, Bancroft	**UTM:**	18T 270856.25 E 4997542.24 N	**Elevation:**	

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		TOPSOIL: 305 mm thick	1	GS		3				
						2				
		SAND: Brown sand, some cobbles, trace gravel, trace silt, trace organics, moist, loose to compact	2	GS		3				
						3				
						8				
						10				
-1 / 1		SAND: Brown coarse sand, some cobbles, trace gravel, moist, compact to very dense	3	GS		25				
						>50				
						25				
		Test pit terminated at 1.4 m depth due to refusal								GS3 GSA: Gravel 0% Sand 44% Silt 40% Clay 16% Test pit open and dry on completion
-2 / 2										
-3 / 3										
-4 / 4										

Logged By: S. Kennaley **Input By:** J. Wales

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP103-20

Client: Ecostructure Canada
Project Name: Woodcox Road Subdivision
Project No.: 11849-001
Contractor: Yantha Excavating
Method: Excavator
Date Completed: Dec 17, 2020
Location: Woodcox Road, Bancroft
UTM: 18T 270860.98 E 4997433.06 N
Elevation:

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		TOPSOIL: 455 mm thick	1	GS		2				
						2				
						3				
		SANDY SILT: Light brown to orange sandy silt, mottled, trace organics, moist, loose to compact	2	GS		4				
						17				
		- saturated, groundwater seepage at 0.75 m depth				23				
-1 / 1						35				
		SAND: Brown coarse sand, trace cobbles, trace gravel, moist, dense to very dense	3	GS		40				
						6				
						25				
						26				
						33				
						32				GS4 GSA: Gravel 0% Sand 1% Silt 43% Clay 56%
-2 / 2		Test pit terminated at 2.0 m depth at maximum reach of excavator arm				42				
						>50				
-3 / 3										Test pit open and dry on completion
-4 / 4										

Logged By: S. Kennaley
Input By: J. Wales

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP104-20

Client: Ecostructure Canada
Project Name: Woodcox Road Subdivision
Project No.: 11849-001
Contractor: Yantha Excavating
Method: Excavator
Date Completed: Dec 17, 2020
Location: Woodcox Road, Bancroft
UTM: 18T 270706.52 E 4997628.84 N
Elevation:

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		SAND: Brown sand, trace silt, moist, loose to compact	1	GS		2				
						4				
						3				
						4				
						5				
						5				
-1 / 1						6				
						15				
		SAND: Brown coarse sand, moist, compact	2	GS		5				
						6				
						5				
						5				
						5				
-2 / 2		Test pit terminated at 2.0 m depth at maximum reach of excavator arm				13				
						15				
						21				
-3 / 3										
-4 / 4										

Logged By: S. Kennaley
Input By: J. Wales

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP105-20

Client: Ecostructure Canada
Project Name: Woodcox Road Subdivision
Project No.: 11849-001
Contractor: Yantha Excavating
Method: Excavator
Date Completed: Dec 17, 2020
Location: Woodcox Road, Bancroft
UTM: 18T 270746.23 E 4997528.41 N
Elevation:

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		TOPSOIL: 305 mm thick	1	GS		1				
						2				
		SANDY SILT: Light brown to orange sandy silt, mottled, some cobbles, trace gravel, trace organics, moist, loose to dense	2	GS		4				
						6				
						15				
						38				
-1 / 1						>50				
		SAND: Light brown to orange coarse sand, some cobbles, trace gravel, moist, very dense	3	GS		25				
						>50				
		Test pit terminated at 1.5 m depth due to refusal								
-2 / 2										
-3 / 3										Test pit open and dry on completion
-4 / 4										

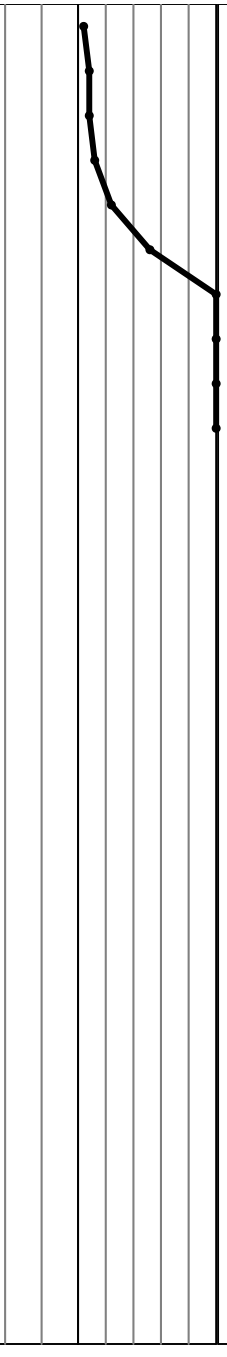
Logged By: S. Kennaley
Input By: J. Wales

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP106-20

Client:	Ecostructure Canada	**Project Name:**	Woodcox Road Subdivision	**Project No.:**	11849-001
Contractor:	Yantha Excavating	**Method:**	Excavator	**Date Completed:**	Dec 17, 2020
Location:	Woodcox Road, Bancroft	**UTM:**	18T 270796.19 E 4997384.23 N	**Elevation:**	

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		TOPSOIL: 305 mm thick	1	GS		1				
						2				
		SANDY SILT: Light brown to orange sandy silt, mottled, trace cobbles, trace organics, moist, loose	2	GS		2				
						3				
		SAND: Light brown sand, trace cobbles, trace silt, moist, compact to dense	3	GS		6				
						13				
-1 / 1						25				
						26				
		SAND: Brown coarse sand, trace cobbles, trace gravel, moist, very dense	4	GS		26				
						>50				
-2 / 2		Test pit terminated at 2.0 m depth at maximum reach of excavator arm								
-3 / 3										
-4 / 4										



Logged By:	S. Kennaley	**Input By:**	J. Wales

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Kingston
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Log of Test Pit: TP107-20

Client: Ecostructure Canada
Project Name: Woodcox Road Subdivision
Project No.: 11849-001
Contractor: Yantha Excavating
Method: Excavator
Date Completed: Dec 17, 2020
Location: Woodcox Road, Bancroft
UTM: 18T 270849.80 E 4997297.76 N
Elevation:

Elevation (m)	Depth	Lithology	Description	Number	Type	DPT	% Moisture (25 50 75)	DPT (5 10 15 20)	Remarks
0	0		TOPSOIL: 305 mm thick	1	GS	2 4			
			SANDY SILT: Light brown to orange sandy silt, mottled, trace cobbles, trace organics, moist, compact	2	GS	4 5 9 19 24			
-1	1		SAND: Brown coarse sand, trace cobbles, trace gravely, saturated, dense to very dense	3	GS	24 10 25 36 >50			GS3 GSA: Gravel 15% Sand 40% Silt 33% Clay 12%
-2	2		Test pit terminated at 2.0 m depth at maximum reach of excavator arm						Test pit open and dry on completion
-3	3								
-4	4								

Logged By: S. Kennaley
Input By: J. Wales

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP108-20

Client: Ecostructure Canada
Project Name: Woodcox Road Subdivision
Project No.: 11849-001
Contractor: Yantha Excavating
Method: Excavator
Date Completed: Dec 17, 2020
Location: Woodcox Road, Bancroft
UTM: 18T 270883.33 E 4997244.27 N
Elevation:

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		TOPSOIL: 150 mm thick	1	GS		1				
		SANDY SILT: Light brown to orange sandy silt, mottled, trace cobbles, trace organics, moist, loose to dense	2	GS		2				
						3				
						5				
						16				
-1 / 1						27				
						32				
						35				
		SAND: Brown coarse sand, trace cobbles, trace gravel, moist, very dense	3	GS		27				
						46				
		Test pit terminated at 1.5 m depth due to refusal				>50				
-2 / 2										
-3 / 3										
-4 / 4										

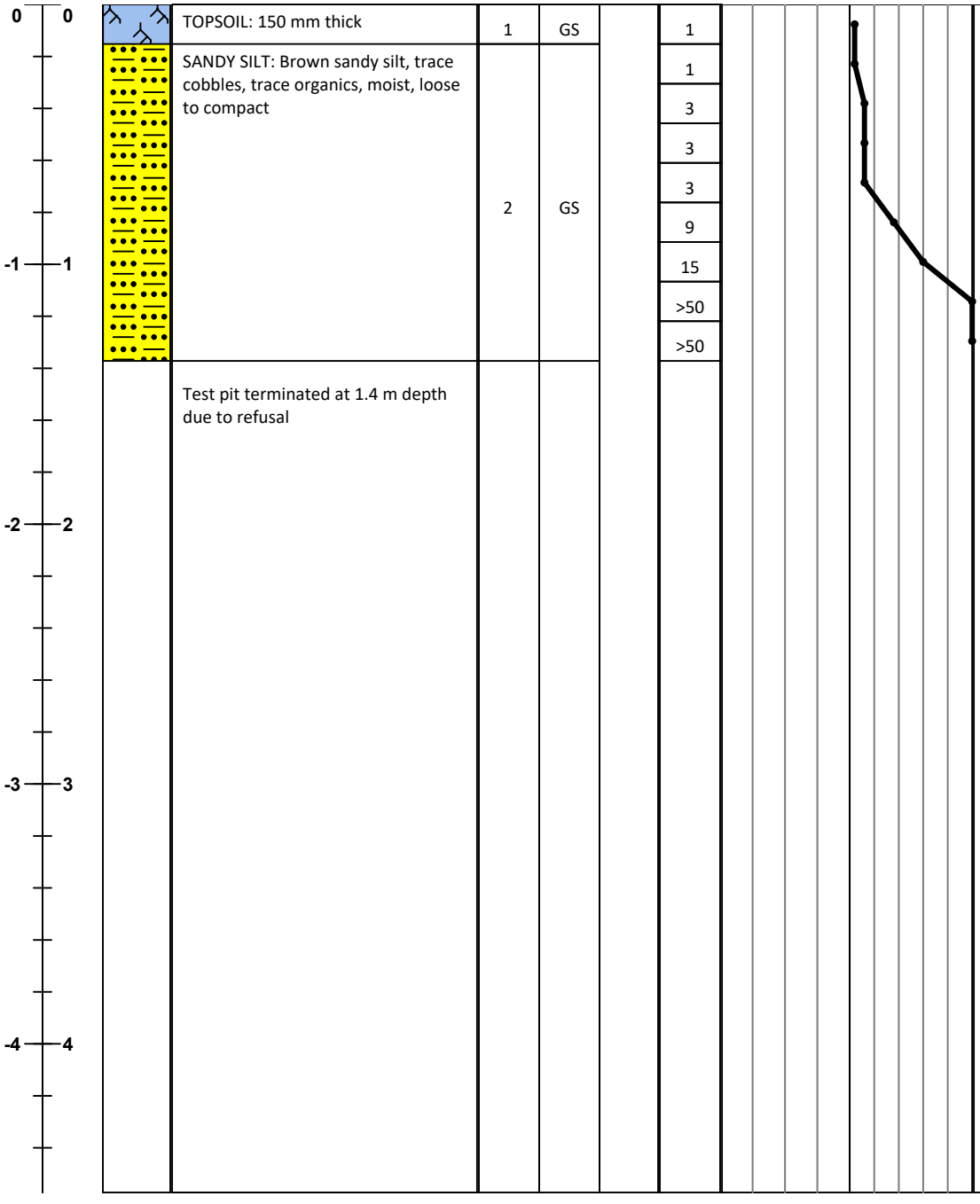
Logged By: S. Kennaley
Input By: J. Wales

Peterborough
Barrie
Oshawa
Kingston
T: 866-217-7900
www.cambium-inc.com

Log of Test Pit: TP109-20

Client:	Ecostructure Canada	**Project Name:**	Woodcox Road Subdivision	**Project No.:**	11849-001
Contractor:	Yantha Excavating	**Method:**	Excavator	**Date Completed:**	Dec 17, 2020
Location:	Woodcox Road, Bancroft	**UTM:**	18T 270624.45 E 4997625.12 N	**Elevation:**	

SUBSURFACE PROFILE			SAMPLE							
Elevation (m) / Depth	Lithology	Description	Number	Type		DPT	% Moisture (25 50 75)	DPT (5 10 15 20)		Remarks
0 / 0		TOPSOIL: 150 mm thick	1	GS		1				
		SANDY SILT: Brown sandy silt, trace cobbles, trace organics, moist, loose to compact				1				
						3				
						3				
			2	GS		3				
						9				
-1 / 1						15				
						>50				
						>50				
		Test pit terminated at 1.4 m depth due to refusal								
-2 / 2										
-3 / 3										
-4 / 4										



Logged By: S. Kennaley **Input By:** J. Wales

Ontario — Ministry of the Environment, Conservation and Parks

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. *(Place Sticker and/or Print Below)* CLUSTER # A269123. WELL #1

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name	Last Name / Organization	E-mail Address	☐ Well Constructed by Well Owner
FRASER	YOUNG.		

Mailing Address (Street Number/Name)	Municipality	Province	Postal Code	Telephone No. *(inc. area code)*
196 COLBOURNE ST.	BANCROFT.	ONT.		

Well Location

Address of Well Location (Street Number/Name)	Township	Lot	Concession
WOODCOX RD.	HERSCHEL	8	2

County/District/Municipality	City/Town/Village	Province	Postal Code
HASTINGS.	BANCROFT.	Ontario	K0L1C0

UTM Coordinates	Zone	Easting	Northing	Municipal Plan and Sublot Number	Other
336m NAD 83	18	270713	4997585		

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	TOPSOIL	SAND	SOFT.	0	3
GREY	CLAY, STONE,	SAND	HARD PACKED	3	26
RED	GRANITE	HARD		26	100
GREEN	GRANITE	HARD		100	240
*RED					

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	26	hole plug.	6 bags.
		quick grout mix	3 bags

Method of Construction

☐ Cable Tool ☑ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Other, *specify* ____

☐ Diamond ☐ Jetting ☐ Driving ☐ Digging

Well Use

☐ Public ☑ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, *specify* ____

☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning

☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6 1/4	STEEL	188	0	28'

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* ____

Construction Record - Screen

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

Water Details

Water found at Depth	Kind of Water	Gas	Other, *specify*
120-160 (m/ft)	☑ Fresh ☐ Untested	☐ Gas	☐ Other, *specify* ____
220-240 (m/ft)	☐ Fresh ☑ Untested	☐ Gas	☐ Other, *specify* ____
55' (m/ft)	☑ Fresh ☐ Untested	☐ Gas	☐ Other, *specify* ____

Hole Diameter

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

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump Intake set at (m/ft): 220

Pumping rate (l/min / GPM): 10+ G.P.M.

Duration of pumping: ____ hrs + ____ min

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

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

Recommended pump depth (m/ft): 220

Recommended pump rate (l/min / GPM): 10 G.P.M.

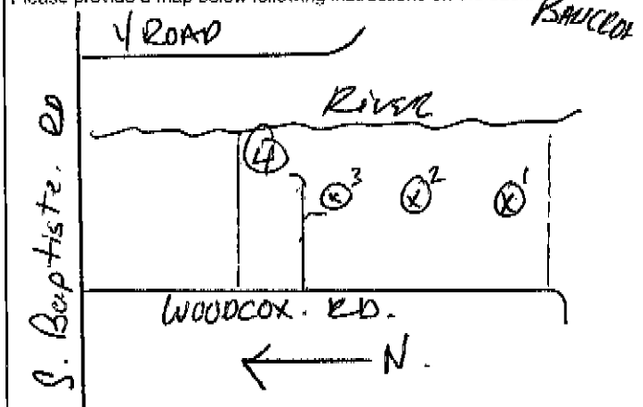
Well production (l/min / GPM): 10 - G.P.M.

Disinfected? ☐ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor	Well Contractor's Licence No.
BURGESS WELL DRILLING	1455

Business Address (Street Number/Name)	Municipality
467 EMILY PARK RD	OMEMEE

Province	Postal Code	Business E-mail Address
ONT.	K0L2W0	

Bus. Telephone No. *(inc. area code)*	Name of Well Technician (Last Name, First Name)
705 799 5871	BURGESS-RYAN

Well Technician's Licence No.	Signature of Technician and/or Contractor	Date Submitted
4122		2021/04/02

Well owner's information package delivered	Date Package Delivered	Date Work Completed
☑ Yes ☐ No	2021/03/30	2021/03/03

Ministry Use Only

Audit No. Z325758

Received

#2

Ontario — Ministry of the Environment, Conservation and Parks

Well Tag No. *(Place Sticker and/or Print Below)* CLUSTER A269123 # WELL 2.

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☐ Metric ☑ Imperial

Well Owner's Information

First Name: FRASER | Last Name / Organization: YOUNG | E-mail Address | ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name): 196 Colborne St. | Municipality: Bancroft | Province: Ont. | Postal Code | Telephone No. *(inc. area code)*

Well Location

Address of Well Location (Street Number/Name): WOODCOX RD. | Township: HERSHEL | Lot: 8 | Concession: 2

County/District/Municipality: HASTINGS. | City/Town/Village: BANCROFT. | Province: Ontario | Postal Code: K0L1C0

Other | Municipal Plan and Sublot Number

UTM Coordinates: Zone 18 | Easting 4707 13 | Northing 4997585 | NAD 83 | 336

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	TOPSOIL			0	2
Brown	SAND, STONE,	Boulders.	Coarse	2	48
Grey	GRAVEL, SAND,	Rock Layers.	"	48	66
White	Grey GRANITE		Soft.	66	140
Red	GRANITE ROCK		Hard	140	180
Red/	Grey GRANITE		"	180	215

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	66'	hole plug.	2 bags.
		quick grout-M.	6 bags.

Method of Construction

☐ Cable Tool ☑ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Other, *specify* ____

☐ Diamond ☐ Jetting ☐ Driving ☐ Digging

Well Use

☐ Public ☑ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, *specify* ____

☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning

☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing

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

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth	Kind of Water	Hole Diameter Depth (m/ft) From	To	Diameter (cm/in)
80-620 (m/ft) ☐ Gas	☑ Fresh ☑ Untested ☐ Other, *specify* ____	0	20	10"
175-200 ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify* ____	20	215	6¼"
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, *specify* ____			

Results of Well Yield Testing

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

If pumping discontinued, give reason: ____

Pump intake set at (m/ft): 190'

Pumping rate (l/min / GPM): ____

Duration of pumping: ____ hrs + ____ min

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

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

Recommended pump depth (m/ft): 190'

Recommended pump rate (l/min / GPM): 10 G.P.M.

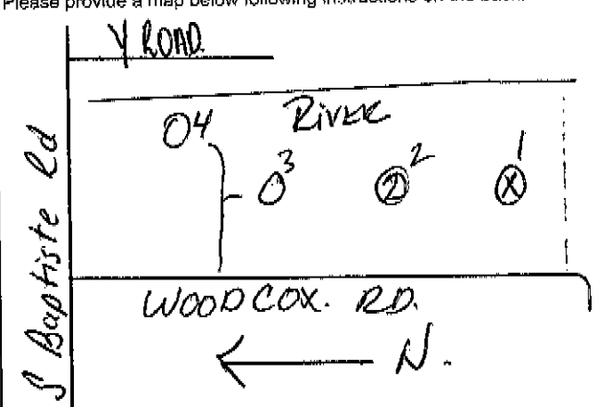
Well production (l/min / GPM): 12 G.P.M.

Disinfected? ☑ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments: ____

Well Contractor and Well Technician Information

Business Name of Well Contractor: BURGESS WELL DRILLING. | Well Contractor's Licence No.: 1455

Business Address (Street Number/Name): 467 EMILY PARK RD | Municipality: OMEMEE

Province: ONT. | Postal Code: K0L2W0 | Business E-mail Address

Bus. Telephone No. *(inc. area code)*: 7057995E71 | Name of Well Technician (Last Name, First Name): BURGESS, RYAN.

Well Technician's Licence No. | Signature of Technician and/or Contractor | Date Submitted: 2021/03/03

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

Date Package Delivered: 2021/03/03 | Date Work Completed: 2021/03/03

Ministry Use Only

Audit No: Z32575

Received

#3.

Ontario

Ministry of the Environment, Conservation and Parks

Measurements recorded in: ☐ Metric ☑ Imperial

Well Tag No. (Place Sticker and/or Print Below)
Tag#:A269123 #3.

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Well Owner's Information

First Name: FRASER | Last Name / Organization: YOUNG. | E-mail Address: | ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name): 196 Colborne St. | Municipality: BANCROFT. | Province: ONT. | Postal Code: | Telephone No. (Inc. area code):

Well Location

Address of Well Location (Street Number/Name): WOODCOX. RD. | Township: HERSHEL | Lot: 8 | Concession: 2.

County/District/Municipality: HASTINGS | City/Town/Village: BANCROFT. | Province: Ontario | Postal Code:

UTM Coordinates: Zone: 18 | Easting: 270713 | Northing: 4997585 | Municipal Plan and Sublot Number: | Other:

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	TOPSOIL			0	3.
GREY	CLAY, SILT, SAND,	BOULDERS	HARD PACKED	3	80
GREY	CLAY, ROCK layers,	SAND,	BOULDERS HARD.	80	117
RED	GRANITE ROCK			117	160
RED,	GREEN " "			160	235

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	30'	quick grout mix	3 bags.

Method of Construction

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

Well Use

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

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth (m/ft) From	Depth (m/ft) To
6¼	STEEL	188W	0	117
				+3.
				120'

Construction Record - Screen

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

Status of Well

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

Water Details

Water found at Depth (m/ft)	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
120 (m/ft) ☐ Gas	☑ Fresh ☑ Untested ☐ Other, specify	0	30'	10"
180 - 200 ☐ Gas	☑ Fresh ☑ Untested ☐ Other, specify	30	235	6¼"
(m/ft) ☐ Gas	☐ Fresh ☐ Untested ☐ Other, specify			

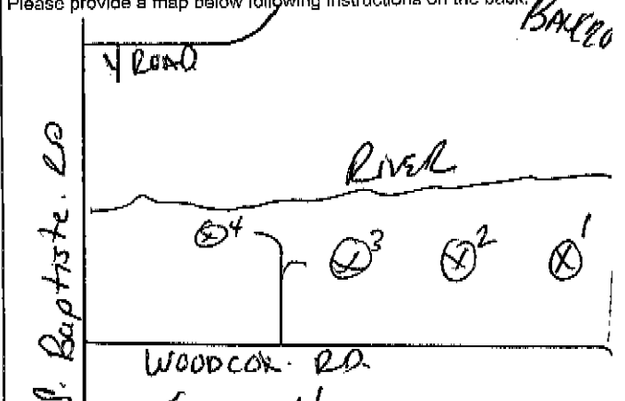
Results of Well Yield Testing

After test of well yield, water was: ☑ Clear and sand free ☐ Other, specify
If pumping discontinued, give reason:
Pump intake set at (m/ft): 210
Pumping rate (l/min / GPM):
Duration of pumping: hrs + min
Final water level end of pumping (m/ft):
If flowing give rate (l/min / GPM):
Recommended pump depth (m/ft): 210
Recommended pump rate (l/min / GPM): 10 G.P.M.
Well production (l/min / GPM): 12. G.P.M
Disinfected? ☑ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: BURGESS WELL DRILLING. | Well Contractor's Licence No.: 1455
Business Address (Street Number/Name): 467 EMILY PARK CO | Municipality: OMEMEE
Province: ONT. | Postal Code: K0L2W0 | Business E-mail Address:
Bus. Telephone No. (Inc. area code): 7057995821 | Name of Well Technician (Last Name, First Name): BURGESS RYAN.
Well Technician's Licence No.: 4122 | Signature of Technician and/or Contractor: | Date Submitted: 2021/03/08

Well owner's information package delivered: ☑ Yes ☐ No
Date Package Delivered: 2021/03/08
Date Work Completed: 2021/03/08

Ministry Use Only

Audit No.: Z325756
Received:

#4

Ontario — Ministry of the Environment, Conservation and Parks

Well Tag No. (Place Sticker and/or Print Below) A269123. CLUSKE WELL #4.

Well Record

Regulation 903 Ontario Water Resources Act

Page ____ of ____

Measurements recorded in: ☐ Metric ☑ Imperial

Well Owner's Information

First Name: FRASER | Last Name / Organization: YOUNG | E-mail Address | ☐ Well Constructed by Well Owner

Mailing Address (Street Number/Name): 196 COLBORNE ST. | Municipality: BANCROFT | Province: ONT. | Postal Code | Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name): WOOD COX. RD | Township: HERSEY | Lot: 8 | Concession: 2

County/District/Municipality: HASTINGS. | City/Town/Village: BANCROFT. | Province: Ontario | Postal Code

UTM Coordinates: Zone 18 | Easting 277713 | Northing 4997585 (NAD 83) | Municipal Plan and Sublot Number | Other

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 From	Depth To
BROWN	TOPSOIL		SOFT.	0	2
BROWN	SAND, STONES.		SOFT.	2	20
GREY	CLAY, STONES, SAND		HARD PACKED	20	136
RED	GRANITE ROCK		HARD.	136	180
BLACK	GRANITE ROCK		HARD	180	200
RED	GRANITE ROCK			200	230

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	40	QUICK GROUT MIX	4 BAGS.

Method of Construction

☐ Cable Tool ☑ Rotary (Conventional) ☐ Rotary (Reverse) ☐ Boring ☐ Air percussion ☐ Other, specify

☐ Diamond ☐ Jetting ☐ Driving ☐ Digging

Well Use

☐ Public ☑ Domestic ☐ Livestock ☐ Irrigation ☐ Industrial ☐ Other, specify

☐ Commercial ☐ Municipal ☐ Test Hole ☐ Cooling & Air Conditioning

☐ Not used ☐ Dewatering ☐ Monitoring

Construction Record - Casing

Inside Diameter (cm/in)	Open Hole OR Material (Galvanized, Fibreglass, Concrete, Plastic, Steel)	Wall Thickness (cm/in)	Depth From (m/ft)	Depth To (m/ft)
6 1/4	STEEL	18EW	0	140

Status of Well

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

Construction Record - Screen

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

Water Details

Water found at Depth	Kind of Water	Hole Diameter Depth From	Depth To	Diameter (cm/in)
160 - 180 (m/ft)	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	0	40	10"
220 - 230 (m/ft)	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify	0	230	6 1/4
	☐ Fresh ☐ Untested ☐ Gas ☐ Other, specify			

Results of Well Yield Testing

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

If pumping discontinued, give reason:

Pump intake set at (m/ft): 200'

Pumping rate (l/min / GPM): 20 G.P.M.

Duration of pumping: ___ hrs + ___ min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft): 200

Recommended pump rate (l/min / GPM): 10 G.P.M

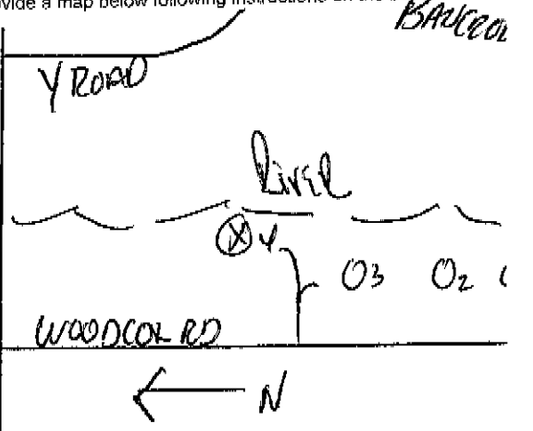
Well production (l/min / GPM): 20 PLUS G.P.M

Disinfected? ☑ Yes ☐ No

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

Map of Well Location

Please provide a map below following instructions on the back.



Comments:

Well Contractor and Well Technician Information

Business Name of Well Contractor: BURGESS WELL DRILLING | Well Contractor's Licence No.: 1455

Business Address (Street Number/Name): 467 EMILY PARK RD | Municipality: ORMEMEE

Province: ONT | Postal Code: K0L2W0 | Business E-mail Address

Bus. Telephone No. (inc. area code): 705 799 5871 | Name of Well Technician (Last Name, First Name): BURGESS, RYAN

Well Technician's Licence No. | Signature of Technician and/or Contractor | Date Submitted: 2021/03

Well owner's information package delivered: ☑ Yes ☐ No | Date Package Delivered: 2021/03

Date Work Completed: 2021/03

Ministry Use Only

Audit No.: Z32575

(Received)

Appendix C
Water Quality Sampling Results

Summary of Groundwater Quality

Parameter	Units	ODWQS				Test Well #1	Test Well #2	Test Well #3	Test Well #4	Test Well #1	Test Well #2	Test Well #3	Test Well
		MAC	AO	IMAC	OG	5-Aug-21	06-Aug-21	9-Aug-21	10-Aug-21	31-Jan-22	31-Jan-22	01-Feb-22	01-Feb-22
Alkalinity	mg/L as CaCO3	-	-	-	30-500	87	54	50	42	81	50	48	45
Aluminum (total)	mg/L	-	-	-	0.1	0.012	0.011	0.002	0.004	0.054	0.304	0.002	0.007
Ammonia+Ammonium (N)	as N mg/L	10	-	-	-	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1	< 0.1
Antimony (total)	mg/L	0.006	-	-	-	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009	< 0.0009
Arsenic (total)	mg/L	0.025	-	-	-	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002	< 0.0002
Barium (total)	mg/L	1	-	-	-	0.09393	0.02061	0.05011	0.0313	0.0858	0.0294	0.0453	0.0315
Beryllium (total)	mg/L	-	-	-	-	< 0.000007	< 0.000007	< 0.000007	< 0.000007	0.000011	0.000020	< 0.000007	< 0.000007
Bismuth (total)	mg/L	-	-	-	-	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001	< 0.00001
Boron (total)	mg/L	-	-	-	-	0.010	0.076	0.060	0.058	0.007	0.076	0.052	0.055
Cadmium (total)	mg/L	0.005	-	-	-	0.000005	0.000004	0.000008	< 0.000003	0.000013	0.000029	0.000019	0.000005
Calcium (total)	mg/L	-	-	-	-	40.4	96.7	48.4	87.8	37.4	92.2	55.5	110
Chloride	mg/L	250	-	-	-	14	5.8	< 1	3.9	16	3.6	6.5	8.0
Chromium (total)	mg/L	0.05	-	-	-	0.00124	0.00077	0.00037	0.00012	0.00168	0.00134	0.00016	0.00012
Cobalt (total)	mg/L	-	-	-	-	0.000078	0.000101	0.000008	0.000013	0.000110	0.000423	< 0.000004	< 0.000004
Colour	TCU	5	-	-	-	3	3	3	< 3	< 3	< 3	3	< 3
Conductivity	uS/cm	-	-	-	-	232	459	296	406	226	427	284	519
Copper (total)	mg/L	-	1	-	-	0.0010	0.0016	< 0.0002	< 0.0002	0.0056	0.0050	0.0030	0.0044
Dissolved Organic Carbon	mg/L	5	-	-	-	< 1	< 1	< 1	< 1	< 1	< 1	< 1	< 1
E. Coli	cfu/100mL	0	-	-	-	0	0	0	0	< 2	< 2	0	0
Fluoride	mg/L	1.5	-	-	-	0.60	**1.87**	**1.51**	**1.60**	0.52	**2.11**	1.46	1.32
Hardness	mg/L as CaCO3	-	-	-	80-100	**120**	**254**	**132**	**229**	**114**	**243**	**149**	**288**
Iron (total)	mg/L	-	0.3	-	-	0.260	0.224	0.034	0.086	1.46	1.49	0.116	0.155
Lead (total)	mg/L	0.01	-	-	-	0.00030	0.00012	< 0.00009	0.00025	0.00027	0.00095	< 0.00009	0.00010
Lithium (total)	mg/L	-	-	-	-	0.0013	0.0025	0.0098	0.0026	0.0018	0.0030	0.0024	0.0029
Magnesium (total)	mg/L	-	-	-	-	4.57	3.08	2.84	2.31	4.95	3.17	2.45	3.09
Manganese (total)	mg/L	-	0.05	-	-	**0.05042**	0.04930	0.0362	0.0218	0.0440	**0.0600**	0.0375	0.0305
Molybdenum (total)	mg/L	-	-	-	-	0.00848	0.02801	0.0146	0.00529	0.00506	0.0258	0.0166	0.00573
Nickel (total)	mg/L	-	-	-	-	0.0011	0.0006	< 0.0001	0.0001	0.0009	0.0011	0.0001	0.0002
Nitrate (as N)	as N mg/L	10	-	-	-	< 0.06	< 0.06	< 0.06	0.12	< 0.06	< 0.06	< 0.06	< 0.06
Nitrate + Nitrite (as N)	as N mg/L	-	-	-	-	< 0.06	< 0.06	< 0.06	0.12	< 0.06	< 0.06	< 0.06	< 0.06
Nitrite (as N)	as N mg/L	1	-	-	-	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03
Organic Nitrogen	mg/L	-	-	-	0.15	**0.6**	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
pH	No unit	-	-	-	6.5-8.5	7.93	7.98	7.79	7.85	7.80	7.87	7.91	7.70
Phosphorus (total)	mg/L	-	-	-	-	< 0.003	< 0.003	< 0.003	< 0.003	0.007	0.048	< 0.003	< 0.003
Potassium (total)	mg/L	-	-	-	-	1.38	1.08	2.86	1.54	1.57	1.29	3.06	1.95
Selenium (total)	mg/L	0.01	-	-	-	0.00009	0.00005	< 0.00004	< 0.00004	0.00009	0.00008	< 0.00004	< 0.00004
Silicon (total)	mg/L	-	-	-	-	9.77	9.57	8.57	8.37	9.24	10.3	8.05	8.96
Silver (total)	mg/L	-	-	-	-	< 0.00005	< 0.00005	< 0.00005	< 0.00005	0.00010	0.00007	0.00007	0.00010
Sodium (total)	mg/L	20	200	-	-	4.74	12.2	9.37	12.7	4.70	9.24	8.86	14.2
Strontium (total)	mg/L	-	-	-	-	1.22	4.10	2.05	3.06	0.810	4.16	2.17	4.47
Sulphate	mg/L		500	-	-	11	150	92	140	9.5	150	79	210
Temperature Upon Receipt	°C		15	-	-	16.0	***	7.0	1.0	***	***	***	***
Thallium (total)	mg/L	-	-	-	-	< 0.000005	< 0.000005	< 0.000005	< 0.000005	0.000036	0.000012	< 0.000005	< 0.000005
Tin (total)	mg/L	-	-	-	-	0.00013	0.00016	0.00013	0.00010	0.00012	0.00011	0.00427	0.00215
Titanium (total)	mg/L	-	-	-	-	0.00085	0.00096	0.00013	0.00020	0.00302	0.0307	0.00022	0.00050
Total Coliform	cfu/100mL	0	-	-	-	**5**	0	**1**	**7**	< 2	**12**	0	0
Total Dissolved Solids	mg/L	-	500	-	-	149	340	189	225	160	314	174	360
Total Kjeldahl Nitrogen	as N mg/L	-	-	-	-	0.6	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5	< 0.5
Tungsten (total)	mg/L		-	-	-	0.00007	0.00169	0.00111	0.00165	0.00004	0.00144	0.00138	0.00167
Turbidity	NTU	5	-	-	-	1.83	3.25	0.67	0.62	**5.01**	**12.8**	0.75	0.38
Uranium (total)	mg/L	0.02	-	-	-	0.004690	0.001387	0.000832	0.000860	0.00293	0.00150	0.000812	0.000938
Vanadium (total)	mg/L	-	-	-	-	0.00078	0.00038	0.00003	0.00002	0.00136	0.00143	0.00003	0.00003
Yttrium (total)	mg/L	-	-	-	-	0.00173	0.00017	0.00010	0.00005	0.00241	0.00112	0.00010	0.00007
Zinc (total)	mg/L	5	-	-	-	0.005	0.003	< 0.002	< 0.002	0.010	0.007	0.005	0.006

Exceeds ODWQS standards
MAC = Maximum Acceptable Concentrations
IMAC = Interim Maximum Acceptable Concentrations
OG = Opoerational Guidelines limits
AO = Aesthetic Oobjective
ODWQS = Ontario Drinking Water Quality Standards

FINAL REPORT

CA13315-AUG21 R1

11849-001, Woodcox Road

Prepared for

Cambium Inc.

FINAL REPORT

CA13315-AUG21 R1

First Page

CLIENT DETAILS

Client	Cambium Inc.
Address	194 Sophia Street, Peterborough Canada, K9H 1E5 Phone: 705-742-7900. Fax:
Contact	Kevin Warner
Telephone	705-742-7900
Facsimile	
Email	kevin.warner@cambium-inc.com
Project	11849-001, Woodcox Road
Order Number	
Samples	Ground Water (1)

LABORATORY DETAILS

Project Specialist	Brad Moore Hon. B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2143
Facsimile	705-652-6365
Email	brad.moore@sgs.com
SGS Reference	CA13315-AUG21
Received	08/07/2021
Approved	08/16/2021
Report Number	CA13315-AUG21 R1
Date Reported	08/16/2021

COMMENTS

Temperature of Sample upon Receipt: 16
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:014934

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

Client: Cambium Inc.

Project: 11849-001, Woodcox Road

Project Manager: Kevin Warner

Samplers: Josh Munro

PACKAGE: **- General Chemistry** (WATER)

Sample Number	5
Sample Name	Test Well 1
Sample Matrix	Ground Water
Sample Date	06/08/2021

Parameter	Units	RL		Result
General Chemistry				
Alkalinity	mg/L as CaCO3	2		87
Conductivity	uS/cm	2		232
Colour	TCU	3		3
Turbidity	NTU	0.10		1.83
Dissolved Organic Carbon	mg/L	1		< 1
Total Kjeldahl Nitrogen	as N mg/L	0.5		0.6
Ammonia+Ammonium (N)	as N mg/L	0.1		< 0.1
Organic Nitrogen	mg/L	0.5		0.6
Total Dissolved Solids	mg/L	30		149

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 1
Sample Matrix	Ground Water
Sample Date	06/08/2021

Parameter	Units	RL		Result
Metals and Inorganics				
Nitrite (as N)	as N mg/L	0.03		< 0.03
Nitrate (as N)	as N mg/L	0.06		< 0.06
Nitrate + Nitrite (as N)	as N mg/L	0.06		< 0.06
Sulphate	mg/L	0.2		11
Fluoride	mg/L	0.06		0.60
Hardness	mg/L as CaCO3	0.05		120
Silver (total)	mg/L	0.00005		< 0.00005
Aluminum (total)	mg/L	0.001		0.012
Arsenic (total)	mg/L	0.0002		< 0.0002
Barium (total)	mg/L	0.00002		0.09393
Beryllium (total)	mg/L	0.000007		< 0.000007
Boron (total)	mg/L	0.002		0.010
Bismuth (total)	mg/L	0.00001		< 0.00001
Calcium (total)	mg/L	0.01		40.4
Cadmium (total)	mg/L	0.000003		0.000005
Cobalt (total)	mg/L	0.000004		0.000078
Chromium (total)	mg/L	0.00008		0.00124
Copper (total)	mg/L	0.0002		0.0010
Iron (total)	mg/L	0.007		0.260
Potassium (total)	mg/L	0.009		1.38
Lithium (total)	mg/L	0.0001		0.0013

Client: Cambium Inc.

Project: 11849-001, Woodcox Road

Project Manager: Kevin Warner

Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 1
Sample Matrix	Ground Water
Sample Date	06/08/2021

Parameter	Units	RL		Result
Metals and Inorganics (continued)				
Magnesium (total)	mg/L	0.001		4.57
Manganese (total)	mg/L	0.00001		0.05042
Molybdenum (total)	mg/L	0.00004		0.00848
Sodium (total)	mg/L	0.01		4.74
Nickel (total)	mg/L	0.0001		0.0011
Phosphorus (total)	mg/L	0.003		< 0.003
Lead (total)	mg/L	0.00009		0.00030
Antimony (total)	mg/L	0.0009		< 0.0009
Selenium (total)	mg/L	0.00004		0.00009
Silicon (total)	mg/L	0.02		9.77
Tin (total)	mg/L	0.00006		0.00013
Strontium (total)	mg/L	0.00002		1.22
Titanium (total)	mg/L	0.00005		0.00085
Thallium (total)	mg/L	0.000005		< 0.000005
Uranium (total)	mg/L	0.000002		0.004690
Vanadium (total)	mg/L	0.00001		0.00078
Tungsten (total)	mg/L	0.00002		0.00007
Yttrium (total)	mg/L	0.00002		0.00173
Zinc (total)	mg/L	0.002		0.005

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Microbiology** (WATER)

Sample Number	5
Sample Name	Test Well 1
Sample Matrix	Ground Water
Sample Date	06/08/2021

Parameter	Units	RL		Result
Microbiology				
Total Coliform	cfu/100mL	-		5
E. Coli	cfu/100mL	-		0

PACKAGE: **- Other (ORP)** (WATER)

Sample Number	5
Sample Name	Test Well 1
Sample Matrix	Ground Water
Sample Date	06/08/2021

Parameter	Units	RL		Result
Other (ORP)				
pH	No unit	0.05		7.93
Chloride	mg/L	0.2		14

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	EWL0155-AUG21	mg/L as CaCO3	2	< 2	0	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)	SKA0102-AUG21	as N mg/L	0.1	<0.1	ND	10	98	90	110	96	75	125

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
Chloride	DIO0208-AUG21	mg/L	0.2	<0.2	0	20	94	90	110	95	75	125
Sulphate	DIO0208-AUG21	mg/L	0.2	<0.2	NV	20	94	90	110	NV	75	125
Nitrate + Nitrite (as N)	DIO0212-AUG21	mg/L	0.06	<0.06	NA		NA			NA		
Nitrite (as N)	DIO0212-AUG21	mg/L	0.03	<0.03	ND	20	99	90	110	99	75	125
Nitrate (as N)	DIO0212-AUG21	mg/L	0.06	<0.06	0	20	102	90	110	101	75	125

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-IENVISFA-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	SKA0076-AUG21	mg/L	1	<1	ND	20	105	90	110	110	75	125

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	EWL0127-AUG21	TCU	3	< 3	ND	10	95	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	EWL0125-AUG21	uS/cm	2	< 2	2	20	99	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	EWL0136-AUG21	mg/L	0.06	<0.06	ND	10	94	90	110	97	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)	EMS0048-AUG21	mg/L	0.00005	<0.00005	2	20	104	90	110	98	70	130
Aluminum (total)	EMS0048-AUG21	mg/L	0.001	<0.001	7	20	105	90	110	84	70	130
Arsenic (total)	EMS0048-AUG21	mg/L	0.0002	<0.0002	ND	20	103	90	110	117	70	130
Barium (total)	EMS0048-AUG21	mg/L	0.00002	<0.00002	3	20	101	90	110	100	70	130
Beryllium (total)	EMS0048-AUG21	mg/L	0.000007	<0.00007	ND	20	93	90	110	76	70	130
Boron (total)	EMS0048-AUG21	mg/L	0.002	<0.002	11	20	104	90	110	101	70	130
Bismuth (total)	EMS0048-AUG21	mg/L	0.00001	<0.00001	ND	20	94	90	110	92	70	130
Calcium (total)	EMS0048-AUG21	mg/L	0.01	<0.01	3	20	101	90	110	100	70	130
Cadmium (total)	EMS0048-AUG21	mg/L	0.000003	<0.000003	ND	20	104	90	110	104	70	130
Cobalt (total)	EMS0048-AUG21	mg/L	0.000004	<0.000004	0	20	103	90	110	103	70	130
Chromium (total)	EMS0048-AUG21	mg/L	0.00008	<0.00008	1	20	104	90	110	100	70	130
Copper (total)	EMS0048-AUG21	mg/L	0.0002	<0.0002	0	20	99	90	110	90	70	130
Iron (total)	EMS0048-AUG21	mg/L	0.007	<0.007	2	20	101	90	110	100	70	130
Potassium (total)	EMS0048-AUG21	mg/L	0.009	<0.009	3	20	100	90	110	100	70	130
Lithium (total)	EMS0048-AUG21	mg/L	0.0001	<0.0001	8	20	104	90	110	100	70	130
Magnesium (total)	EMS0048-AUG21	mg/L	0.001	<0.001	17	20	102	90	110	94	70	130
Manganese (total)	EMS0048-AUG21	mg/L	0.00001	<0.00001	3	20	102	90	110	100	70	130
Molybdenum (total)	EMS0048-AUG21	mg/L	0.00004	<0.00004	4	20	96	90	110	113	70	130
Sodium (total)	EMS0048-AUG21	mg/L	0.01	<0.01	1	20	102	90	110	100	70	130
Nickel (total)	EMS0048-AUG21	mg/L	0.0001	<0.0001	3	20	102	90	110	100	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
Lead (total)	EMS0048-AUG21	mg/L	0.00009	<0.00001	2	20	105	90	110	100	70	130
Phosphorus (total)	EMS0048-AUG21	mg/L	0.003	<0.003	ND	20	97	90	110	NV	70	130
Antimony (total)	EMS0048-AUG21	mg/L	0.0009	<0.0009	ND	20	102	90	110	93	70	130
Selenium (total)	EMS0048-AUG21	mg/L	0.00004	<0.00004	5	20	105	90	110	100	70	130
Silicon (total)	EMS0048-AUG21	mg/L	0.02	<0.02	1	20	108	90	110	NV	70	130
Tin (total)	EMS0048-AUG21	mg/L	0.00006	<0.00006	19	20	91	90	110	NV	70	130
Strontium (total)	EMS0048-AUG21	mg/L	0.00002	<0.00002	1	20	97	90	110	100	70	130
Titanium (total)	EMS0048-AUG21	mg/L	0.00005	<0.00005	10	20	101	90	110	NV	70	130
Thallium (total)	EMS0048-AUG21	mg/L	0.000005	<0.000005	3	20	97	90	110	100	70	130
Uranium (total)	EMS0048-AUG21	mg/L	0.000002	<0.000002	0	20	91	90	110	82	70	130
Vanadium (total)	EMS0048-AUG21	mg/L	0.00001	<0.00001	8	20	101	90	110	114	70	130
Tungsten (total)	EMS0048-AUG21	mg/L	0.00002	<0.00002	5	20	94	90	110	NV	70	130
Yttrium (total)	EMS0048-AUG21	mg/L	0.00002	<0.00002	3	20	102	90	110	NV	70	130
Zinc (total)	EMS0048-AUG21	mg/L	0.002	<0.002	2	20	102	90	110	111	70	130

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-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
E. Coli	BAC9129-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							
Total Coliform	BAC9129-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							

pH

Method: SM 4500 | 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 (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
pH	EWL0155-AUG21	No unit	0.05	NA	0		100			NA		

QC SUMMARY

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	EWL0134-AUG21	mg/L	30	<30	0	20	100	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENVISFA-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	SKA0129-AUG21	as N mg/L	0.5	<0.5	1	10	99	90	110	104	75	125

Turbidity

Method: SM 2130 | Internal ref.: ME-CA-[ENVIEWL-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	EWL0119-AUG21	NTU	0.10	< 0.10	0	10	99	90	110	NA		

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

Samples analysed as received. 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" 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. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

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-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Environment, Health & Safety - 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: 014934 Page ____ of ____

Laboratory Information Section - Lab use only

Received By: MacDonald Received By (signature): Ice
Received Date: AUG 06 2021 (mm/dd/yy) Custody Seal Present: Yes ☐ No ☒ Cooling Agent Present: Yes ☑ No ☐ Type:
Received Time: 18:00 (hr : min) Custody Seal Intact: Yes ☐ No ☒ Temperature Upon Receipt (°C) 16, 16, 16 LAB LIMS #: CA-13315 Aqs21

REPORT INFORMATION	INVOICE INFORMATION
Company: Cumbium - Inc.	☒ (same as Report Information)
Contact: Kevin Werner	Company:
Address: 1914 Sophia Street, Peterborough, Ontario	Contact:
Phone: 705 - 772 - 1800	Address:
Fax:	Phone:
Email: kevin.werner@cumbium-inc.com	Email:

Quotation #: P.O. #:
Project #: 11849-001 Site Location/ID: Woodcox Road

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

Regulation 153/04: ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table ____ ☐ Res/Park ☐ Ind/Com ☐ Agri/Other Soil Texture: ☐ Coarse ☐ Medium ☐ Fine

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA

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: Total Coliforms and E.coli	Other: Alkalinity, conductivity, pH, chloride, Sulphate	Other: Nitrate, Nitrite, calculated Nitrogen	Other: Turbidity, Fluoride	Other: ODC, TDS, Hardness	Sewer Use: Specify pkg:	Water Characterization Pkg General ☐ Extended ☐	TCLP: Specify TCLP tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
1	Test well 1	08-06-21	14:30	7	GW	N			X									X	X	X	X	X				
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Observations/Comments/Special Instructions

Sampled By (NAME): Josh Munro Signature: Josh Munro Date: 08 / 06 / 21 (mm/dd/yy) Pink Copy - Client

Relinquished by (NAME): Josh Munro Signature: Josh Munro Date: 08 / 06 / 21 (mm/dd/yy) Yellow & White Copy - SGS

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

FINAL REPORT

CA15134-AUG21 R1

11849-001, Woodcox Road

Prepared for

Cambium Inc.

FINAL REPORT

CA15134-AUG21 R1

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Cambium Inc.	Project Specialist	Jill Campbell, B.Sc.,GISAS
		Laboratory	SGS Canada Inc.
Address	194 Sophia Street, Peterborough Canada, K9H 1E5 Phone: 705-742-7900. Fax:	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Kevin Warner	Telephone	2165
Telephone	705-742-7900	Facsimile	705-652-6365
Facsimile		Email	jill.campbell@sgs.com
Email	kevin.warner@cambium-inc.com	SGS Reference	CA15134-AUG21
Project	11849-001, Woodcox Road	Received	08/09/2021
Order Number		Approved	08/16/2021
Samples	Ground Water (1)	Report Number	CA15134-AUG21 R1
		Date Reported	08/16/2021

COMMENTS

Temperature of Sample upon Receipt: 17 degrees C
Cooling Agent Present: Yes
Custody Seal Present: Yes

Chain of Custody Number: 014936

SIGNATORIES

Jill Campbell, B.Sc.,GISAS

TABLE OF CONTENTS

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- General Chemistry** (WATER)

Sample Number	5
Sample Name	Test Well 2
Sample Matrix	Ground Water

Parameter	Units	RL		Result
General Chemistry				
Alkalinity	mg/L as CaCO3	2		54
Conductivity	uS/cm	2		459
Colour	TCU	3		3
Turbidity	NTU	0.10		3.25
Dissolved Organic Carbon	mg/L	1		< 1
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Ammonia+Ammonium (N)	as N mg/L	0.1		< 0.1
Organic Nitrogen	mg/L	0.5		< 0.5
Total Dissolved Solids	mg/L	30		340

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 2
Sample Matrix	Ground Water

Parameter	Units	RL		Result
Metals and Inorganics				
Nitrite (as N)	as N mg/L	0.03		< 0.03
Nitrate (as N)	as N mg/L	0.06		< 0.06
Nitrate + Nitrite (as N)	as N mg/L	0.06		< 0.06
Sulphate	mg/L	0.2		150
Fluoride	mg/L	0.06		1.87
Hardness	mg/L as CaCO3	0.05		254
Silver (total)	mg/L	0.00005		< 0.00005
Aluminum (total)	mg/L	0.001		0.011
Arsenic (total)	mg/L	0.0002		< 0.0002
Barium (total)	mg/L	0.00002		0.02061
Beryllium (total)	mg/L	0.000007		< 0.000007
Boron (total)	mg/L	0.002		0.076
Bismuth (total)	mg/L	0.00001		< 0.00001
Calcium (total)	mg/L	0.01		96.7
Cadmium (total)	mg/L	0.000003		0.000004
Cobalt (total)	mg/L	0.000004		0.000101
Chromium (total)	mg/L	0.00008		0.00077
Copper (total)	mg/L	0.0002		0.0016
Iron (total)	mg/L	0.007		0.224
Potassium (total)	mg/L	0.009		1.08
Lithium (total)	mg/L	0.0001		0.0025
Magnesium (total)	mg/L	0.001		3.08

Client: Cambium Inc.

Project: 11849-001, Woodcox Road

Project Manager: Kevin Warner

Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 2
Sample Matrix	Ground Water

Parameter	Units	RL		Result
Metals and Inorganics (continued)				
Manganese (total)	mg/L	0.00001		0.04930
Molybdenum (total)	mg/L	0.00004		0.02801
Sodium (total)	mg/L	0.01		12.2
Nickel (total)	mg/L	0.0001		0.0006
Phosphorus (total)	mg/L	0.003		< 0.003
Lead (total)	mg/L	0.00009		0.00012
Antimony (total)	mg/L	0.0009		< 0.0009
Selenium (total)	mg/L	0.00004		0.00005
Silicon (total)	mg/L	0.02		9.57
Tin (total)	mg/L	0.00006		0.00016
Strontium (total)	mg/L	0.00002		4.10
Titanium (total)	mg/L	0.00005		0.00096
Thallium (total)	mg/L	0.000005		< 0.000005
Uranium (total)	mg/L	0.000002		0.001387
Vanadium (total)	mg/L	0.00001		0.00038
Tungsten (total)	mg/L	0.00002		0.00169
Yttrium (total)	mg/L	0.00002		0.00017
Zinc (total)	mg/L	0.002		0.003

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Microbiology** (WATER)

Sample Number 5
Sample Name Test Well 2
Sample Matrix Ground Water

Parameter	Units	RL		Result
Microbiology				
Total Coliform	cfu/100mL	-		0
E. Coli	cfu/100mL	-		0

PACKAGE: **- Other (ORP)** (WATER)

Sample Number 5
Sample Name Test Well 2
Sample Matrix Ground Water

Parameter	Units	RL		Result
Other (ORP)				
pH	No unit	0.05		7.98
Chloride	mg/L	0.2		5.8

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	EWL0155-AUG21	mg/L as CaCO3	2	< 2	0	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)	SKA0102-AUG21	as N mg/L	0.1	<0.1	ND	10	98	90	110	96	75	125

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 (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
Nitrate + Nitrite (as N)	DIO0166-AUG21	mg/L	0.06	<0.06	NA		NA			NA		
Nitrite (as N)	DIO0166-AUG21	mg/L	0.03	<0.03	ND	20	98	90	110	89	75	125
Nitrate (as N)	DIO0166-AUG21	mg/L	0.06	<0.06	ND	20	100	90	110	100	75	125
Sulphate	DIO0176-AUG21	mg/L	0.2	<0.2	2	20	93	90	110	91	75	125
Chloride	DIO0187-AUG21	mg/L	0.2	<0.2	NV	20	96	90	110	NV	75	125

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-IENVISFA-LAK-AN-009

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
Dissolved Organic Carbon	SKA0099-AUG21	mg/L	1	<1	1	20	97	90	110	116	75	125

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	EWL0153-AUG21	TCU	3	< 3	0	10	90	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	EWL0155-AUG21	uS/cm	2	< 2	0	20	99	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	EWL0170-AUG21	mg/L	0.06	<0.06	2	10	100	90	110	95	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)	EMS0066-AUG21	mg/L	0.00005	<0.00005	ND	20	97	90	110	95	70	130
Aluminum (total)	EMS0066-AUG21	mg/L	0.001	<0.001	8	20	106	90	110	109	70	130
Arsenic (total)	EMS0066-AUG21	mg/L	0.0002	<0.0002	6	20	101	90	110	103	70	130
Barium (total)	EMS0066-AUG21	mg/L	0.00002	<0.00002	2	20	96	90	110	97	70	130
Beryllium (total)	EMS0066-AUG21	mg/L	0.000007	<0.00007	11	20	91	90	110	88	70	130
Boron (total)	EMS0066-AUG21	mg/L	0.002	<0.002	5	20	102	90	110	101	70	130
Bismuth (total)	EMS0066-AUG21	mg/L	0.00001	<0.00001	ND	20	92	90	110	93	70	130
Calcium (total)	EMS0066-AUG21	mg/L	0.01	<0.01	3	20	96	90	110	102	70	130
Cadmium (total)	EMS0066-AUG21	mg/L	0.000003	<0.000003	5	20	100	90	110	120	70	130
Cobalt (total)	EMS0066-AUG21	mg/L	0.000004	<0.000004	1	20	102	90	110	99	70	130
Chromium (total)	EMS0066-AUG21	mg/L	0.00008	<0.00008	ND	20	100	90	110	103	70	130
Copper (total)	EMS0066-AUG21	mg/L	0.0002	<0.0002	6	20	97	90	110	96	70	130
Iron (total)	EMS0066-AUG21	mg/L	0.007	<0.007	7	20	97	90	110	100	70	130
Potassium (total)	EMS0066-AUG21	mg/L	0.009	<0.009	1	20	99	90	110	109	70	130
Lithium (total)	EMS0066-AUG21	mg/L	0.0001	<0.0001	0	20	98	90	110	91	70	130
Magnesium (total)	EMS0066-AUG21	mg/L	0.001	<0.001	1	20	100	90	110	125	70	130
Manganese (total)	EMS0066-AUG21	mg/L	0.00001	<0.00001	3	20	99	90	110	79	70	130
Molybdenum (total)	EMS0066-AUG21	mg/L	0.00004	<0.00004	16	20	102	90	110	101	70	130
Sodium (total)	EMS0066-AUG21	mg/L	0.01	<0.01	1	20	103	90	110	94	70	130
Nickel (total)	EMS0066-AUG21	mg/L	0.0001	<0.0001	1	20	98	90	110	97	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
Lead (total)	EMS0066-AUG21	mg/L	0.00009	<0.00001	0	20	107	90	110	109	70	130
Phosphorus (total)	EMS0066-AUG21	mg/L	0.003	<0.003	0	20	101	90	110	NV	70	130
Antimony (total)	EMS0066-AUG21	mg/L	0.0009	<0.0009	6	20	101	90	110	102	70	130
Selenium (total)	EMS0066-AUG21	mg/L	0.00004	<0.00004	2	20	100	90	110	106	70	130
Silicon (total)	EMS0066-AUG21	mg/L	0.02	<0.02	1	20	104	90	110	NV	70	130
Tin (total)	EMS0066-AUG21	mg/L	0.00006	<0.00006	ND	20	96	90	110	NV	70	130
Strontium (total)	EMS0066-AUG21	mg/L	0.00002	<0.00002	1	20	98	90	110	99	70	130
Titanium (total)	EMS0066-AUG21	mg/L	0.00005	<0.00005	16	20	99	90	110	NV	70	130
Thallium (total)	EMS0066-AUG21	mg/L	0.000005	<0.000005	7	20	101	90	110	105	70	130
Uranium (total)	EMS0066-AUG21	mg/L	0.000002	<0.000002	2	20	97	90	110	98	70	130
Vanadium (total)	EMS0066-AUG21	mg/L	0.00001	<0.00001	0	20	100	90	110	107	70	130
Tungsten (total)	EMS0066-AUG21	mg/L	0.00002	<0.00002	ND	20	103	90	110	NV	70	130
Yttrium (total)	EMS0066-AUG21	mg/L	0.00002	<0.00002	3	20	100	90	110	NV	70	130
Zinc (total)	EMS0066-AUG21	mg/L	0.002	<0.002	0	20	97	90	110	118	70	130

QC SUMMARY

Microbiology

Method: OMOE MICROMFDC-E3407A | Internal ref.: ME-CA-IENVIMIC-LAK-AN-001

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
E. Coli	BAC9164-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							
Total Coliform	BAC9164-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							

pH

Method: SM 4500 | 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 (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
pH	EWL0155-AUG21	No unit	0.05	NA	0		100			NA		

QC SUMMARY

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	EWL0163-AUG21	mg/L	30	<30	10	20	99	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENVISFA-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	SKA0133-AUG21	as N mg/L	0.5	<0.5	ND	10	100	90	110	88	75	125

Turbidity

Method: SM 2130 | Internal ref.: ME-CA-[ENVIEWL-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	EWL0196-AUG21	NTU	0.10	< 0.10	1	10	99	90	110	NA		

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

Samples analysed as received. 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" 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. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

This report must not be reproduced, except in full. This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Environment, Health & Safety - 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: 014936 Page _____ of _____

Laboratory Information Section - Lab use only

Received By: Natasha M. | Received By (signature): Natasha M.
Received Date: 08/09/21 (mm/dd/yy) | Custody Seal Present: Yes ☐ No ☑ | Cooling Agent Present: Yes ☑ No ☐ Type: ice and icepacks
Received Time: 17:35 (hr:min) | Custody Seal Intact: Yes ☐ No ☑ | Temperature Upon Receipt (°C) 18, 17, 17 | LAB LIMS #: CR-15134-aug21

REPORT INFORMATION	INVOICE INFORMATION
Company: Cambium Inc.	☒ (same as Report Information)
Contact: Kevin Warner	Company:
Address: 194 Sophia Street, Peterborough, Ontario.	Contact:
Phone: 705-772-1800	Address:
Fax:	Phone:
Email: kevin.warner@cambium-inc.com	Email:

Quotation #: _____ P.O. #: _____
Project #: 11849-001 Site Location/ID: Woodcox Road

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

Regulation 153/04: ☐ Table 1 ☐ Table 2 ☐ Table 3 ☐ Table _____ | ☐ Res/Park ☐ Ind/Com ☐ Agri/Other | Soil Texture: ☐ Coarse ☐ Medium ☐ Fine

Other Regulations: ☐ Reg 347/558 (3 Day min TAT) ☐ PWQO ☐ MMER ☐ CCME ☐ Other: ☐ MISA

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: Total Coliforms + E.coli	Other: Alkalinity; (conductivity; pH, chlorides, sulphates)	Other: Nitrate, nitrite, Colour, Fluoride)	Other: Turbidity, DOC, Organic nitrogen,	Other: TDS, Hardness	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg (General ☐ Extended ☐)	TCLP: Specify TCLP tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
1	Test well 2	08-09-21	14:40	7	GW	N			X									X	X	X	X	X			
2																									
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									
11																									
12																									

Observations/Comments/Special Instructions

Sampled By (NAME): Josh Munro	**Signature:**	Date: 08/09/21 (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): Josh Munro	**Signature:**	Date: 08/09/21 (mm/dd/yy)	Yellow & White Copy - SGS

Revision #: 1.2
Date of Issue: 09 Sept, 2019

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

FINAL REPORT

CA15170-AUG21 R---

11849-001, Woodcox Road

Prepared for

Cambium Inc.

FINAL REPORT

CA15170-AUG21 R---

First Page

CLIENT DETAILS		LABORATORY DETAILS	
Client	Cambium Inc.	Project Specialist	Brad Moore Hon. B.Sc
		Laboratory	SGS Canada Inc.
Address	194 Sophia Street Peterborough, ON K9H 1E5. Canada	Address	185 Concession St., Lakefield ON, K0L 2H0
Contact	Kevin Warner	Telephone	705-652-2143
Telephone	705-742-7900	Facsimile	705-652-6365
Facsimile		Email	brad.moore@sgs.com
Email	kevin.warner@cambium-inc.com	SGS Reference	CA15170-AUG21
Project	11849-001, Woodcox Road	Received	08/10/2021
Order Number		Approved	08/17/2021
Samples	Solution (1)	Report Number	CA15170-AUG21 R---
		Date Reported	08/17/2021

COMMENTS

Temperature of Sample upon Receipt: 7 degrees C
Cooling Agent Present:Yes
Custody Seal Present:No

Chain of Custody Number:014990

SIGNATORIES

Brad Moore Hon. B.Sc

TABLE OF CONTENTS

FINAL REPORT

CA15170-AUG21 R---

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- General Chemistry** (WATER)

Sample Number	5
Sample Name	Test Well 3
Sample Matrix	Solution
Sample Date	10/08/2021

Parameter	Units	RL		Result
General Chemistry				
Alkalinity	mg/L as CaCO3	2		50
Conductivity	uS/cm	2		296
Total Dissolved Solids	mg/L	30		189
Colour	TCU	3		3
Turbidity	NTU	0.10		0.67
Organic Nitrogen	mg/L	0.5		< 0.5
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Ammonia+Ammonium (N)	as N mg/L	0.1		< 0.1
Dissolved Organic Carbon	mg/L	1		< 1

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 3
Sample Matrix	Solution
Sample Date	10/08/2021

Parameter	Units	RL		Result
Metals and Inorganics				
Fluoride	mg/L	0.06		1.51
Sulphate	mg/L	2		92
Nitrite (as N)	as N mg/L	0.03		< 0.03
Nitrate (as N)	as N mg/L	0.06		< 0.06
Nitrate + Nitrite (as N)	as N mg/L	0.06		< 0.06
Hardness	mg/L as CaCO3	0.05		132
Aluminum (total)	mg/L	0.001		0.002
Barium (total)	mg/L	0.00002		0.05011
Beryllium (total)	mg/L	0.000007		< 0.000007
Boron (total)	mg/L	0.002		0.060
Bismuth (total)	mg/L	0.00001		< 0.00001
Calcium (total)	mg/L	0.01		48.4
Cadmium (total)	mg/L	0.000003		0.000008
Chromium (total)	mg/L	0.00008		0.00037
Cobalt (total)	mg/L	0.000004		0.000008
Copper (total)	mg/L	0.0002		< 0.0002
Iron (total)	mg/L	0.007		0.034
Potassium (total)	mg/L	0.009		2.86
Lithium (total)	mg/L	0.0001		0.0098
Magnesium (total)	mg/L	0.001		2.84

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 3
Sample Matrix	Solution
Sample Date	10/08/2021

Parameter	Units	RL		Result
Metals and Inorganics (continued)				
Manganese (total)	mg/L	0.00001		0.0362
Lead (total)	mg/L	0.00009		< 0.00009
Molybdenum (total)	mg/L	0.00004		0.0146
Sodium (total)	mg/L	0.01		9.37
Nickel (total)	mg/L	0.0001		< 0.0001
Phosphorus (total)	mg/L	0.003		< 0.003
Silver (total)	mg/L	0.00005		< 0.00005
Silicon (total)	mg/L	0.02		8.57
Tin (total)	mg/L	0.00006		0.00013
Strontium (total)	mg/L	0.00002		2.05
Titanium (total)	mg/L	0.00005		0.00013
Thallium (total)	mg/L	0.000005		< 0.000005
Uranium (total)	mg/L	0.000002		0.000832
Vanadium (total)	mg/L	0.00001		0.00003
Tungsten (total)	mg/L	0.00002		0.00111
Yttrium (total)	mg/L	0.00002		0.00010
Zinc (total)	mg/L	0.002		< 0.002
Antimony (total)	mg/L	0.0009		< 0.0009
Arsenic (total)	mg/L	0.0002		< 0.0002
Selenium (total)	mg/L	0.00004		< 0.00004

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Microbiology** (WATER)

Sample Number	5
Sample Name	Test Well 3
Sample Matrix	Solution
Sample Date	10/08/2021

Parameter	Units	RL		Result
Microbiology				
Total Coliform	cfu/100mL	-		1
E. Coli	cfu/100mL	-		0

PACKAGE: **- Other (ORP)** (WATER)

Sample Number	5
Sample Name	Test Well 3
Sample Matrix	Solution
Sample Date	10/08/2021

Parameter	Units	RL		Result
Other (ORP)				
pH	No unit	0.05		7.79
Chloride	mg/L	1		< 1

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	EWL0182-AUG21	mg/L as CaCO3	2	< 2	2	20	102	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)	SKA0114-AUG21	as N mg/L	0.1	<0.1	0	10	100	90	110	96	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	DIO5023-AUG21	mg/L	1	<1	4	20	101	80	120	110	75	125
Sulphate	DIO5023-AUG21	mg/L	2	<2	0	20	106	80	120	112	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
Nitrate + Nitrite (as N)	DIO0179-AUG21	mg/L	0.06		NA		NA			NA		
Nitrite (as N)	DIO0179-AUG21	mg/L	0.03		ND	20	98	90	110	96	75	125
Nitrate (as N)	DIO0179-AUG21	mg/L	0.06		1	20	101	90	110	102	75	125

QC SUMMARY

Carbon by SFA

Method: SM 5310 I 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	SKA0110-AUG21	mg/L	1	<1	1	20	99	90	110	112	75	125

Colour

Method: SM 2120 I Internal ref.: ME-CA-[ENV]EWL-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	EWL0236-AUG21	TCU	3	< 3	2	10	105	80	120	NA		

Conductivity

Method: SM 2510 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
Conductivity	EWL0182-AUG21	uS/cm	2	< 2	0	20	99	90	110	NA		

QC SUMMARY

Fluoride by Specific Ion Electrode

Method: SM 4500 I Internal ref.: ME-CA-[ENV]EWL-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	EWL0229-AUG21	mg/L	0.06	<0.06	3	10	100	90	110	103	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)	EMS0091-AUG21	mg/L	0.00005	<0.00005	ND	20	100	90	110	91	70	130
Aluminum (total)	EMS0091-AUG21	mg/L	0.001	<0.001	9	20	91	90	110	78	70	130
Arsenic (total)	EMS0091-AUG21	mg/L	0.0002	<0.0002	6	20	101	90	110	104	70	130
Barium (total)	EMS0091-AUG21	mg/L	0.00002	<0.00002	3	20	101	90	110	112	70	130
Beryllium (total)	EMS0091-AUG21	mg/L	0.000007	<0.00007	0	20	101	90	110	100	70	130
Boron (total)	EMS0091-AUG21	mg/L	0.002	<0.002	10	20	101	90	110	103	70	130
Bismuth (total)	EMS0091-AUG21	mg/L	0.00001	<0.00001	ND	20	94	90	110	100	70	130
Calcium (total)	EMS0091-AUG21	mg/L	0.01	<0.01	1	20	98	90	110	94	70	130
Cadmium (total)	EMS0091-AUG21	mg/L	0.000003	<0.000003	18	20	100	90	110	81	70	130
Cobalt (total)	EMS0091-AUG21	mg/L	0.000004	<0.000004	2	20	101	90	110	90	70	130
Chromium (total)	EMS0091-AUG21	mg/L	0.00008	<0.00008	8	20	106	90	110	86	70	130
Copper (total)	EMS0091-AUG21	mg/L	0.0002	<0.0002	ND	20	104	90	110	84	70	130
Iron (total)	EMS0091-AUG21	mg/L	0.007	<0.007	0	20	99	90	110	100	70	130
Potassium (total)	EMS0091-AUG21	mg/L	0.009	<0.009	0	20	99	90	110	102	70	130
Lithium (total)	EMS0091-AUG21	mg/L	0.0001	<0.0001	3	20	100	90	110	111	70	130
Magnesium (total)	EMS0091-AUG21	mg/L	0.001	<0.001	1	20	98	90	110	99	70	130
Manganese (total)	EMS0091-AUG21	mg/L	0.00001	<0.00001	1	20	98	90	110	101	70	130
Molybdenum (total)	EMS0091-AUG21	mg/L	0.00004	<0.00004	18	20	103	90	110	103	70	130
Sodium (total)	EMS0091-AUG21	mg/L	0.01	<0.01	0	20	101	90	110	83	70	130
Nickel (total)	EMS0091-AUG21	mg/L	0.0001	<0.0001	4	20	102	90	110	92	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
Lead (total)	EMS0091-AUG21	mg/L	0.00009	<0.00001	2	20	100	90	110	91	70	130
Phosphorus (total)	EMS0091-AUG21	mg/L	0.003	<0.003	ND	20	101	90	110	NV	70	130
Antimony (total)	EMS0091-AUG21	mg/L	0.0009	<0.0009	7	20	100	90	110	93	70	130
Selenium (total)	EMS0091-AUG21	mg/L	0.00004	<0.00004	11	20	100	90	110	96	70	130
Silicon (total)	EMS0091-AUG21	mg/L	0.02	<0.02	5	20	104	90	110	NV	70	130
Tin (total)	EMS0091-AUG21	mg/L	0.00006	<0.00006	0	20	95	90	110	NV	70	130
Strontium (total)	EMS0091-AUG21	mg/L	0.00002	<0.00002	1	20	98	90	110	97	70	130
Titanium (total)	EMS0091-AUG21	mg/L	0.00005	<0.00005	9	20	104	90	110	NV	70	130
Thallium (total)	EMS0091-AUG21	mg/L	0.000005	<0.000005	0	20	97	90	110	91	70	130
Uranium (total)	EMS0091-AUG21	mg/L	0.000002	<0.000002	1	20	99	90	110	93	70	130
Vanadium (total)	EMS0091-AUG21	mg/L	0.00001	<0.00001	9	20	100	90	110	103	70	130
Tungsten (total)	EMS0091-AUG21	mg/L	0.00002	<0.00002	ND	20	94	90	110	NV	70	130
Yttrium (total)	EMS0091-AUG21	mg/L	0.00002	<0.00002	3	20	100	90	110	NV	70	130
Zinc (total)	EMS0091-AUG21	mg/L	0.002	<0.002	3	20	92	90	110	99	70	130

QC SUMMARY

Microbiology

Method: SM 9222D | Internal ref.: ME-CA-IENVIMIC-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
E. Coli	BAC9205-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							
Total Coliform	BAC9205-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							

pH

Method: SM 4500 | 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 (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
pH	EWL0182-AUG21	No unit	0.05	NA	0		100			NA		

QC SUMMARY

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	EWL0193-AUG21	mg/L	30	<30	4	20	94	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENVISFA-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	SKA0141-AUG21	as N mg/L	0.5	<0.5	ND	10	104	90	110	96	75	125

Turbidity

Method: SM 2130 | Internal ref.: ME-CA-[ENVIEWL-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	EWL0196-AUG21	NTU	0.10	< 0.10	1	10	99	90	110	NA		

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

Samples analysed as received. 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" 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. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

This report must not be reproduced, except in full. This report supersedes all previous versions.

-- End of Analytical Report --

SGS Environment, Health & Safety

Request for Laboratory Services and CHAIN OF CUSTODY

No: 01495

- 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: Emily Laurence
Received Date: AUG 10 2021 (mm/dd/yy)
Received Time: 17:15 (hr : min)
Received By (signature): Emily Laurence
Custody Seal Present: Yes ☐ No ☑
Custody Seal Intact: Yes ☐ No ☑
Cooling Agent Present: Yes ☑ No ☐ Type: ice
Temperature Upon Receipt (°C): 6.7.8
LAB LIMS #: CA-15170-Aug21

REPORT INFORMATION

Company: Cambium Inc.
Contact: Kevin Warner
Address: 194 Sophia Street, Peterborough, Ontario
Phone: 705-772-1300
Fax:
Email: kevin.warner@cambium-inc.com

INVOICE INFORMATION

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

Quotation #:
P.O. #:
Project #: 11649-001
Site Location/ID: Woodcox Road

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

Regulation 153/04:
☐ Table 1 ☐ Res/Park Soil Texture: ☐ Coarse
☐ Table 2 ☐ Ind/Com ☐ Medium
☐ Table 3 ☐ Agri/Other ☐ Fine
☐ Table ____

Other Regulations:
☐ Reg 347/558 (3 Day min TAT)
☐ PWQO ☐ MMER
☐ CCME ☐ Other:
☐ MISA

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,Ti,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: Total coliform + E. Coli	Other: Alkalinity, conductivity, Chlorides, Sulphates, pH	Other: Nitrate, Nitrite, organic nitrogen,	Other: Colour, turbidity, Fluoride	Other: BOD, TDS, Hardness	Other: Sewer Use: Specify pkg:	Other: Water Characterization Pkg General ☐ Extended ☐	TCLP: Specify TCLP tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
1	Test well 3	08-10-21	14:25	7	GW	N			X									X	X	X	X	X				
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

Observations/Comments/Special Instructions

Sampled By (NAME): Josh Munro
Signature: Josh Munro
Date: 08 / 10 / 21 (mm/dd/yy)

Relinquished by (NAME): Josh Munro
Signature: Josh Munro
Date: 08 / 10 / 21 (mm/dd/yy)

Pink Copy - Client
Yellow & White Copy - SGS

Revision #: 1.2
Date of Issue: 09 Sept, 2019

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

FINAL REPORT

CA14841-AUG21 R1

11849-001, Woodcox Road

Prepared for

Cambium Inc.

FINAL REPORT

CA14841-AUG21 R1

First Page

CLIENT DETAILS

Client	Cambium Inc.
Address	194 Sophia Street, Peterborough Canada, K9H 1E5 Phone: 705-742-7900. Fax:
Contact	Kevin Warner
Telephone	705-742-7900
Facsimile	
Email	kevin.warner@cambium-inc.com
Project	11849-001, Woodcox Road
Order Number	
Samples	Ground Water (1)

LABORATORY DETAILS

Project Specialist	Brad Moore Hon. B.Sc
Laboratory	SGS Canada Inc.
Address	185 Concession St., Lakefield ON, K0L 2H0
Telephone	705-652-2143
Facsimile	705-652-6365
Email	brad.moore@sgs.com
SGS Reference	CA14841-AUG21
Received	08/06/2021
Approved	08/13/2021
Report Number	CA14841-AUG21 R1
Date Reported	08/13/2021

COMMENTS

Temperature of Sample upon Receipt: 15
Cooling Agent Present:Yes
Custody Seal Present:Yes

Chain of Custody Number:021124

SIGNATORIES

Brad Moore Hon. B.Sc

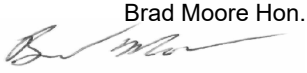


TABLE OF CONTENTS

Client: Cambium Inc.

Project: 11849-001, Woodcox Road

Project Manager: Kevin Warner

Samplers: Josh Munro

PACKAGE: **- General Chemistry** (WATER)

Sample Number	5
Sample Name	Test Well 4 (A269123)
Sample Matrix	Ground Water
Sample Date	05/08/2021

General Chemistry

Parameter	Units	RL		Result
Alkalinity	mg/L as CaCO3	2		42
Conductivity	uS/cm	2		406
Colour	TCU	3		< 3
Turbidity	NTU	0.10		0.62
Dissolved Organic Carbon	mg/L	1		< 1
Total Kjeldahl Nitrogen	as N mg/L	0.5		< 0.5
Ammonia+Ammonium (N)	as N mg/L	0.1		< 0.1
Organic Nitrogen	mg/L	0.5		< 0.5
Total Dissolved Solids	mg/L	30		225

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 4 (A269123)
Sample Matrix	Ground Water
Sample Date	05/08/2021

Parameter	Units	RL		Result
Metals and Inorganics				
Nitrite (as N)	as N mg/L	0.03		< 0.03
Nitrate (as N)	as N mg/L	0.06		0.12
Nitrate + Nitrite (as N)	as N mg/L	0.06		0.12
Sulphate	mg/L	0.2		140
Fluoride	mg/L	0.06		1.60
Hardness	mg/L as CaCO3	0.05		229
Silver (total)	mg/L	0.00005		< 0.00005
Aluminum (total)	mg/L	0.001		0.004
Arsenic (total)	mg/L	0.0002		< 0.0002
Barium (total)	mg/L	0.00002		0.0313
Beryllium (total)	mg/L	0.000007		< 0.000007
Boron (total)	mg/L	0.002		0.058
Bismuth (total)	mg/L	0.00001		< 0.00001
Calcium (total)	mg/L	0.01		87.8
Cadmium (total)	mg/L	0.000003		< 0.000003
Cobalt (total)	mg/L	0.000004		0.000013
Chromium (total)	mg/L	0.00008		0.00012
Copper (total)	mg/L	0.0002		< 0.0002
Iron (total)	mg/L	0.007		0.086

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Metals and Inorganics** (WATER)

Sample Number	5
Sample Name	Test Well 4 (A269123)
Sample Matrix	Ground Water
Sample Date	05/08/2021

Parameter	Units	RL		Result
Metals and Inorganics (continued)				
Potassium (total)	mg/L	0.009		1.54
Lithium (total)	mg/L	0.0001		0.0026
Magnesium (total)	mg/L	0.001		2.31
Manganese (total)	mg/L	0.00001		0.0218
Molybdenum (total)	mg/L	0.00004		0.00529
Sodium (total)	mg/L	0.01		12.7
Nickel (total)	mg/L	0.0001		0.0001
Phosphorus (total)	mg/L	0.003		< 0.003
Lead (total)	mg/L	0.00009		0.00025
Antimony (total)	mg/L	0.0009		< 0.0009
Selenium (total)	mg/L	0.00004		< 0.00004
Silicon (total)	mg/L	0.02		8.37
Tin (total)	mg/L	0.00006		0.00010
Strontium (total)	mg/L	0.00002		3.06
Titanium (total)	mg/L	0.00005		0.00020
Thallium (total)	mg/L	0.000005		< 0.000005
Uranium (total)	mg/L	0.000002		0.000860
Vanadium (total)	mg/L	0.00001		0.00002
Tungsten (total)	mg/L	0.00002		0.00165
Yttrium (total)	mg/L	0.00002		0.00005
Zinc (total)	mg/L	0.002		< 0.002

Client: Cambium Inc.
Project: 11849-001, Woodcox Road
Project Manager: Kevin Warner
Samplers: Josh Munro

PACKAGE: **- Microbiology** (WATER)

Sample Number 5
Sample Name Test Well 4 (A269123)
Sample Matrix Ground Water
Sample Date 05/08/2021

Parameter	Units	RL		Result
Microbiology				
Total Coliform	cfu/100mL	-		7
E. Coli	cfu/100mL	-		0

PACKAGE: **- Other (ORP)** (WATER)

Sample Number 5
Sample Name Test Well 4 (A269123)
Sample Matrix Ground Water
Sample Date 05/08/2021

Parameter	Units	RL		Result
Other (ORP)				
pH	No unit	0.05		7.85
Chloride	mg/L	0.2		3.9

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	EWL0105-AUG21	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)	SKA0063-AUG21	as N mg/L	0.1	<0.1	ND	10	99	90	110	88	75	125

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 (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
Nitrate + Nitrite (as N)	DIO0112-AUG21	mg/L	0.06	<0.06	NA		NA			NA		
Nitrite (as N)	DIO0112-AUG21	mg/L	0.03	<0.03	ND	20	94	90	110	91	75	125
Nitrate (as N)	DIO0112-AUG21	mg/L	0.06	<0.06	2	20	98	90	110	96	75	125
Chloride	DIO0129-AUG21	mg/L	0.2	<0.2	ND	20	93	90	110	93	75	125
Sulphate	DIO0163-AUG21	mg/L	0.2	<0.2	1	20	95	90	110	89	75	125

Carbon by SFA

Method: SM 5310 | Internal ref.: ME-CA-IENVISFA-LAK-AN-009

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
Dissolved Organic Carbon	SKA0052-AUG21	mg/L	1	<1	1	20	100	90	110	108	75	125

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	EWL0086-AUG21	TCU	3	< 3	ND	10	95	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	EWL0105-AUG21	uS/cm	2	< 2	1	20	101	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	EWL0136-AUG21	mg/L	0.06	<0.06	ND	10	94	90	110	97	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)	EMS0042-AUG21	mg/L	0.00005	<0.00005	ND	20	104	90	110	79	70	130
Aluminum (total)	EMS0042-AUG21	mg/L	0.001	<0.001	1	20	105	90	110	118	70	130
Arsenic (total)	EMS0042-AUG21	mg/L	0.0002	<0.0002	3	20	103	90	110	108	70	130
Barium (total)	EMS0042-AUG21	mg/L	0.00002	<0.00002	4	20	101	90	110	99	70	130
Beryllium (total)	EMS0042-AUG21	mg/L	0.000007	<0.00007	8	20	93	90	110	94	70	130
Boron (total)	EMS0042-AUG21	mg/L	0.002	<0.002	3	20	104	90	110	101	70	130
Bismuth (total)	EMS0042-AUG21	mg/L	0.00001	<0.00001	1	20	94	90	110	99	70	130
Calcium (total)	EMS0042-AUG21	mg/L	0.01	<0.01	4	20	101	90	110	101	70	130
Cadmium (total)	EMS0042-AUG21	mg/L	0.000003	<0.000003	13	20	104	90	110	109	70	130
Cobalt (total)	EMS0042-AUG21	mg/L	0.000004	<0.000004	5	20	103	90	110	103	70	130
Chromium (total)	EMS0042-AUG21	mg/L	0.00008	<0.00008	ND	20	104	90	110	103	70	130
Copper (total)	EMS0042-AUG21	mg/L	0.0002	<0.0002	6	20	99	90	110	97	70	130
Iron (total)	EMS0042-AUG21	mg/L	0.007	<0.007	0	20	101	90	110	125	70	130
Potassium (total)	EMS0042-AUG21	mg/L	0.009	<0.009	7	20	100	90	110	103	70	130
Lithium (total)	EMS0042-AUG21	mg/L	0.0001	<0.0001	1	20	104	90	110	72	70	130
Magnesium (total)	EMS0042-AUG21	mg/L	0.001	<0.001	3	20	102	90	110	127	70	130
Manganese (total)	EMS0042-AUG21	mg/L	0.00001	<0.00001	9	20	102	90	110	105	70	130
Molybdenum (total)	EMS0042-AUG21	mg/L	0.00004	<0.00004	1	20	96	90	110	103	70	130
Sodium (total)	EMS0042-AUG21	mg/L	0.01	<0.01	3	20	102	90	110	100	70	130
Nickel (total)	EMS0042-AUG21	mg/L	0.0001	<0.0001	5	20	102	90	110	102	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
Lead (total)	EMS0042-AUG21	mg/L	0.00009	<0.00001	3	20	105	90	110	119	70	130
Phosphorus (total)	EMS0042-AUG21	mg/L	0.003	<0.003	ND	20	97	90	110	NV	70	130
Antimony (total)	EMS0042-AUG21	mg/L	0.0009	<0.0009	ND	20	97	90	110	99	70	130
Selenium (total)	EMS0042-AUG21	mg/L	0.00004	<0.00004	ND	20	105	90	110	106	70	130
Silicon (total)	EMS0042-AUG21	mg/L	0.02	<0.02	6	20	108	90	110	NV	70	130
Tin (total)	EMS0042-AUG21	mg/L	0.00006	<0.00006	15	20	91	90	110	NV	70	130
Strontium (total)	EMS0042-AUG21	mg/L	0.00002	<0.00002	4	20	97	90	110	100	70	130
Titanium (total)	EMS0042-AUG21	mg/L	0.00005	<0.00005	15	20	101	90	110	NV	70	130
Thallium (total)	EMS0042-AUG21	mg/L	0.000005	<0.000005	18	20	102	90	110	99	70	130
Uranium (total)	EMS0042-AUG21	mg/L	0.000002	<0.000002	6	20	91	90	110	89	70	130
Vanadium (total)	EMS0042-AUG21	mg/L	0.00001	<0.00001	0	20	101	90	110	103	70	130
Tungsten (total)	EMS0042-AUG21	mg/L	0.00002	<0.00002	10	20	94	90	110	NV	70	130
Yttrium (total)	EMS0042-AUG21	mg/L	0.00002	<0.00002	6	20	98	90	110	NV	70	130
Zinc (total)	EMS0042-AUG21	mg/L	0.002	<0.002	2	20	102	90	110	106	70	130

QC SUMMARY

Microbiology

Method: OMOE MICROMFDC-E3407A | Internal ref.: ME-CA-IENVIMIC-LAK-AN-001

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
E. Coli	BAC9120-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							
Total Coliform	BAC9120-AUG21	cfu/100mL	-	ACCEPTED	ACCEPTED							

pH

Method: SM 4500 | 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 (%) Low	Recovery Limits (%) High	Spike Recovery (%)	Recovery Limits (%) Low	Recovery Limits (%) High
pH	EWL0105-AUG21	No unit	0.05	NA	0		100			NA		

QC SUMMARY

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	EWL0201-AUG21	mg/L	30	<30	0	20	99	90	110	NA		

Total Nitrogen

Method: SM 4500-N C/4500-NO3- F | Internal ref.: ME-CA-[ENVISFA-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	SKA0093-AUG21	as N mg/L	0.5	<0.5	1	10	102	90	110	102	75	125

Turbidity

Method: SM 2130 | Internal ref.: ME-CA-[ENVIEWL-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	EWL0095-AUG21	NTU	0.10	< 0.10	7	10	99	90	110	NA		

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

Samples analysed as received. 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” 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. This document is issued, on the Client's behalf, by the Company under its General Conditions of Service available on request and accessible at http://www.sgs.com/terms_and_conditions.htm. The Client's attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein. Any other holder of this document is advised that information contained hereon reflects the Company's findings at the time of its intervention only and within the limits of Client's instructions, if any. The Company's sole responsibility is to its Client and this document does not exonerate parties to a transaction from exercising all their rights and obligations under the transaction documents.

This report must not be reproduced, except in full. This report supersedes all previous versions.

-- End of Analytical Report --

Request for Laboratory Services and CHAIN OF CUSTODY

SGS Environment, Health & Safety - 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: 021124 Page _____ of _____

Laboratory Information Section - Lab use only

Received By: Olivia Maley
Received Date: 08/05/21 (mm/dd/yy)
Received Time: 10:30 (hr : min)
Received By (signature): Olivia Maley
Custody Seal Present: Yes ☐ No ☑
Custody Seal Intact: Yes ☐ No ☑
Cooling Agent Present: Yes ☑ No ☐ Type: ice
Temperature Upon Receipt (°C) 17.16.15
LAB LIMS #: CA14841-Aug21

REPORT INFORMATION	INVOICE INFORMATION
Company: Cambium - Inc.	☒ (same as Report Information)
Contact: Kevin Werner	Company:
Address: 194 Sophia Street, Peterborough, ON	Contact:
Phone: 705-772-1800	Address:
Fax:	Phone:
Email: kevin.werner@cambium-inc.com	Email:

Quotation #: P.O. #:
Project #: 11849-001 Site Location/ID: Woodcox Road

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 _____
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,	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: (please specify)	TCLP: Specify TCLP tests ☐M&I ☐VOC ☐PCB ☐B(a)P ☐ABN ☐Ignit.	COMMENTS:
1	Test well 4 (A269123)	08-05-21	15:45	7	GW	2			X									alkalinity, pH, conductivity, chlorides, sulphate		
2																		Nitrates, nitrites, colour, turbidity, hardness		
3																		Fluorides, DOC, TDS, organic nitrogen		
4																		Total coliforms & E.coli		
5																		Appendix 2: 406/19 Leachate Screening Levels Table: _____		
6																		Sewer Use: Specify pkg:		
7																		Water Characterization Pkg ☐ Extended ☐ General		
8																				
9																				
10																				
11																				
12																				

Observations/Comments/Special Instructions

Sampled By (NAME): Josh Munro	Signature: Josh Munro	Date: 08/05/21 (mm/dd/yy)	Pink Copy - Client
Relinquished by (NAME): Josh Munro	Signature: Josh Munro	Date: 08/05/21 (mm/dd/yy)	Yellow & White Copy - SGS

Revision #: 1.4
Date of Issue: 22 May. 2020

Note: Submission of samples to SGS is acknowledgement that you have been provided direction on sample collection/handling and transportation of samples. {2} Submission of samples to SGS is considered authorization for completion of work. Signatures may appear on this form or be retained on file in the contract, or in an alternative format (e.g. shipping documents). {3} Results may be sent by email to an unlimited number of addresses for no additional cost. Fax is available upon request. This document is issued by the Company under its General Conditions of Service accessible at http://www.sgs.com/terms_and_conditions.htm. (Printed copies are available upon request.) Attention is drawn to the limitation of liability, indemnification and jurisdiction issues defined therein.

Appendix D

MECP Water Well Records within 500 m distance

Water Well Records

Well Record # **Based on Ministry of Environment Water Well Information Database September 2016, available online.**

2909757 **Lot** 008 **Conc** 03 HERSCHEL TOWNSHIP / HASTINGS

Flowing? N

Date 11/18/1980 **Elev** 348.5 (masl) **Easting** 270528 **Northing** 4998121 **SWL** 6.1 (mbgs) 342.4 (masl)

DDMMYY **Well_Depth_m:** 17.3736000061035 **UTM RC** 5 **margin of error : 100 m - 300 m** **Pumping WL** 13.7 (mbgs) 334.8 (masl)

Pump Rate 45.5 (LPM) 3 / 0

Spec. Cap. 5.97 (LPM/m) Hr / Min

/ Domestic Water Supply

Water Found 17.4 (mbgs) 331.2 (masl) FRESH

Street

Town/City

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0	348.5		
10.7	337.9	GREY	TOPSOIL / BOULDERS /
15.2	333.3	BROWN	SAND / /
17.4	331.2	GREY	COARSE GRAVEL / /

2915080 **Lot** 008 **Conc** 02 HERSCHEL TOWNSHIP / HASTINGS

Flowing? N

Date 1/6/1992 **Elev** 345.0 (masl) **Easting** 270704 **Northing** 4997611 **SWL** 6.1 (mbgs) 338.9 (masl)

DDMMYY **Well_Depth_m:** 92.6592025756836 **UTM RC** 9 **unknown UTM** **Pumping WL** 92.7 (mbgs) 252.3 (masl)

Pump Rate 22.7 (LPM) 1 / 0

Spec. Cap. 0.26 (LPM/m) Hr / Min

/ Domestic Water Supply

Water Found 89.0 (mbgs) 255.9 (masl) FRESH

Street

Town/City

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0	345.0		
9.8	335.2	GREY	HARDPAN / BOULDERS /
39.6	305.3	RED	GRANITE / /
59.4	285.5	GREY	GRANITE / /
92.7	252.3	RED	GRANITE / /

2919956 **Lot** 007 **Conc** 02 HERSCHEL TOWNSHIP / HASTINGS

Flowing? N

Date 7/30/2003 **Elev** 335.6 (masl) **Easting** 271088 **Northing** 4997743 **SWL** 12.8 (mbgs) 322.8 (masl)

DDMMYY **Well_Depth_m:** 58.521598815918 **UTM RC** 9 **unknown UTM** **Pumping WL** 57.9 (mbgs) 277.7 (masl)

Pump Rate 9.1 (LPM) 2 / 0

Spec. Cap. 0.20 (LPM/m) Hr / Min

/ Domestic Water Supply

Water Found (mbgs) (masl)

Street

Town/City

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0	335.6		
58.5	277.1		UNKNOWN TYPE / UNKNOWN TYPE / UNKNOWN TYPE

2920769 **Lot** 007 **Conc** 01 HERSCHEL TOWNSHIP / HASTINGS

Flowing?

Date 7/6/2005 **Elev** 341.0 (masl) **Easting** 271297 **Northing** 4997111 **SWL** 6.4 (mbgs) 334.6 (masl)

DDMMYY **Well_Depth_m:** 67.0999984741211 **UTM RC** 4 **margin of error : 30 m - 100 m** **Pumping WL** 33.1 (mbgs) 307.9 (masl)

Pump Rate 13.6 (LPM) 1 /

Spec. Cap. 0.51 (LPM/m) Hr / Min

/ Domestic Water Supply

Water Found 53.3 (mbgs) 287.7 (masl) FRESH

Street 155 GLORY RD

Town/City

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0	341.0		
4.6	336.4	BROWN	SAND / GRAVEL /
53.3	287.7	GREY	GRANITE / /
67.1	273.9	BLACK	GRANITE / /

7043900 **Lot** **Conc** HERSCHEL TOWNSHIP / HASTINGS

Date 4/27/2007 **Elev** 365.5 (masl) **Easting** 270115 **Northing** 4997821
DDMMYY **Well_Depth_m:** 91.4400024414063 **UTM RC** 3 **margin of error : 10 - 30 m**

/ Domestic Water Supply
Water Found 81.4 (mbgs) 284.2 (masl) FRESH
Street SOUTH BAPTISTE LAKE RD
Town/City BANCROFT

Flowing?
SWL 11.5 (mbgs) 354.0 (masl)
Pumping WL 67.6 (mbgs) 297.9 (masl)
Pump Rate 50.0 (LPM) 1 / 0
Spec. Cap. 0.89 (LPM/m) Hr / Min

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0	365.5		
1.2	364.3	BROWN	SAND / STONES / SOFT
27.1	338.4	GREY	CLAY / SANDY / HARDPAN
31.7	333.9	GREY	CLAY / BOULDERS / HARDPAN
78.9	286.6	BLACK	GRANITE / /
91.4	274.1	GREY	GRANITE / /

7043942 **Lot** 007 **Conc** 02 HERSCHEL TOWNSHIP / HASTINGS

Date 4/18/2007 **Elev** 331.8 (masl) **Easting** 270771 **Northing** 4998068
DDMMYY **Well_Depth_m:** 12.1920003890991 **UTM RC** 3 **margin of error : 10 - 30 m**

/ Domestic Water Supply
Water Found 6.1 (mbgs) 325.7 (masl) FRESH
Street 629 SOUTH BAPTISTE LK RD
Town/City BANCROFT

Flowing?
SWL 4.6 (mbgs) 327.2 (masl)
Pumping WL 4.9 (mbgs) 326.9 (masl)
Pump Rate 50.0 (LPM) 1 / 0
Spec. Cap. 164.06 (LPM/m) Hr / Min

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0	331.8		
7.0	324.8	BROWN	SAND / GRAVEL /
		BROWN	SAND / GRAVEL /
11.6	320.2	BROWN	SAND / /
		BROWN	SAND / /
12.2	319.6	GREY	CLAY / /
		GREY	CLAY / /

7156997 **Lot** 007 **Conc** 01 HERSCHEL TOWNSHIP / HASTINGS

Date 10/20/2010 **Elev** (masl) **Easting** 271461 **Northing** 4997167
DDMMYY **Well_Depth_m:** 8.53439998626709 **UTM RC** 3 **margin of error : 10 - 30 m**

/ Domestic Water Supply
Water Found 8.5 (mbgs) (masl) Untested
Street 185 GLORY RD.
Town/City HERSCHEL

Flowing?
SWL 3.8 (mbgs) (masl)
Pumping WL 4.1 (mbgs) (masl)
Pump Rate 22.7 (LPM) 1 / 0
Spec. Cap. 62.14 (LPM/m) Hr / Min

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
5.5		BROWN	SAND / FINE SAND /
8.5		RED	ROCK / GRAVEL /

7172176 **Lot** 008 **Conc** 02 HERSCHEL TOWNSHIP / HASTINGS

Date 11/4/2011 **Elev** (masl) **Easting** 270521 **Northing** 4997074
DDMMYY **Well_Depth_m:** 54.8640022277832 **UTM RC** 3 **margin of error : 10 - 30 m**

/ Domestic Water Supply
Water Found 53.6 (mbgs) (masl) Untested
Street WODCOX RD
Town/City Bancroft

Flowing?
SWL 21.3 (mbgs) (masl)
Pumping WL 34.1 (mbgs) (masl)
Pump Rate 68.2 (LPM) 1 /
Spec. Cap. 5.33 (LPM/m) Hr / Min

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0			
2.4		GREY	CLAY / SAND / STONES
54.9		GREY	GRANITE / / ROCK

7203826 **Lot** 007 **Conc** 02 HERSCHEL TOWNSHIP / HASTINGS

Date 5/27/2013 **Elev** (masl) **Easting** 271067 **Northing** 4997236
DDMMYY **Well_Depth_m:** 73.1520004272461 **UTM RC** 4 **margin of error : 30 m - 100 m**

/ Domestic Water Supply

Water Found 68.0 (mbgs) (masl) Untested

Street 16 RIVERSIDE COURT
Town/City

Flowing?
SWL 3.2 (mbgs) (masl)
Pumping WL 70.1 (mbgs) (masl)
Pump Rate 27.3 (LPM) / 50
Spec. Cap. 0.41 (LPM/m) Hr / Min

Depth (m)	Elev (masl)	Color	Soil Descriptions
0.0		BROWN	SAND / COARSE GRAVEL / BOULDERS
5.8		BROWN	SAND / COARSE GRAVEL / BOULDERS
73.2		RED	GRANITE / /
		RED	GRANITE / /

Appendix E

Pumping Test Data and Analytical Results

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 1
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hast	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh	Test Date: 8/6/2021	Discharge: variable, average rate 0.2522 [l/s]
Observation Well: TW#1	Static Water Level [m]: 4.23	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	0	4.23	0.00
2	4	7.90	3.67
3	4.5	8.25	4.02
4	5	8.58	4.35
5	6	9.09	4.86
6	7	9.42	5.19
7	8	9.73	5.50
8	9	10.03	5.80
9	10	10.31	6.08
10	12	10.85	6.62
11	14	11.33	7.10
12	16	11.68	7.45
13	18	12.04	7.81
14	25	13.02	8.79
15	30	13.57	9.34
16	45	14.61	10.38
17	60	14.89	10.66
18	90	15.03	10.80
19	120	15.22	10.99
20	150	15.98	11.75
21	180	16.38	12.15
22	210	16.62	12.39
23	240	16.89	12.66
24	270	17.51	13.28
25	300	17.90	13.67
26	330	17.99	13.76
27	360	17.86	13.63

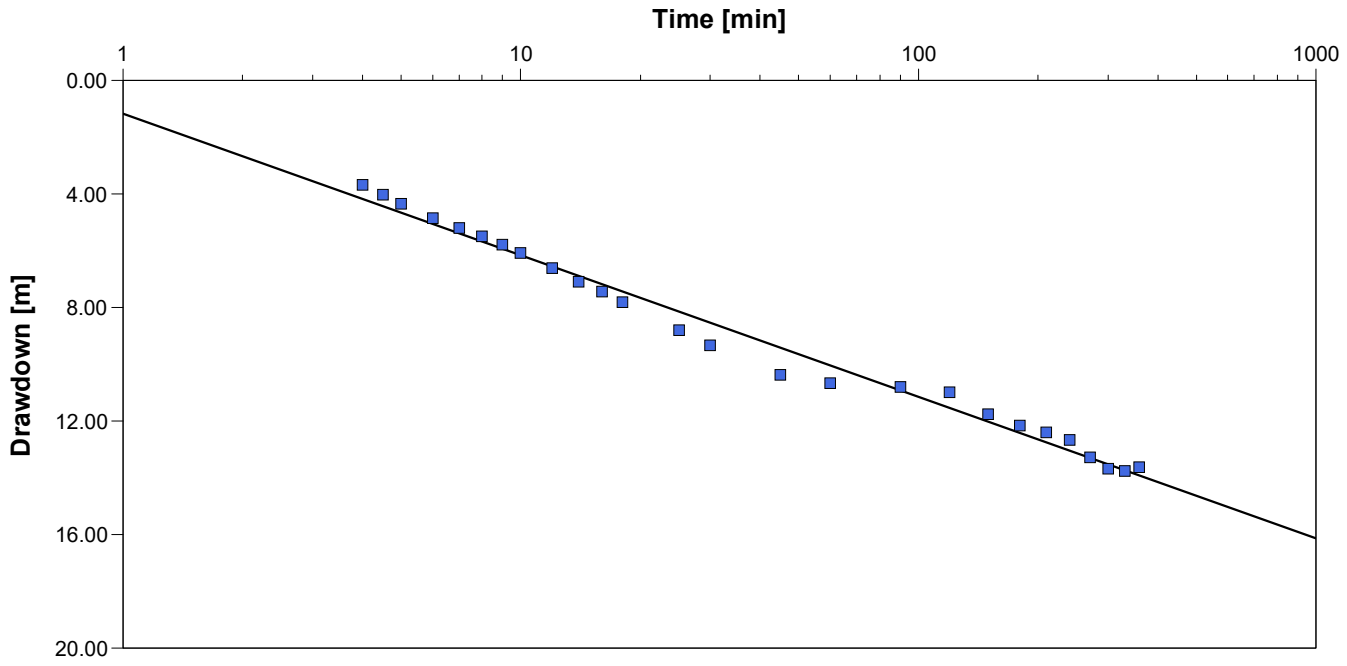
Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Discharge Data**	Page 1 of 1
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh	Test Date: 8/6/2021	Discharge: variable, average rate 0.2522 [l/s]
Observation Well: TW#1		Radial Distance to PW [m]: -

	Time [min]	Discharge [l/s]
1	2.5	0.417
2	7	0.333
3	360	0.25

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh		Test Date: 8/6/2021
Analysis Performed by: Sudhakar Kurli	Cooper & Jacob	Analysis Date: 1/10/2022
Aquifer Thickness: 69.00 m	Discharge: variable, average rate 0.2522 [l/s]	



Calculation using COOPER & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Storage coefficient	Radial Distance to PW [m]	
TW#1	8.00×10^{-1}	1.16×10^{-2}	3.23×10^{-2}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh		Test Date: 8/6/2021
Aquifer Thickness: 69.00 m	Discharge: variable, average rate 0.2522 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Cooper & Jacob	Sudhakar Kurli	1/10/2022	Cooper & Jacob l	TW#1	8.00×10^{-1}	1.16×10^{-2}	3.23×10^{-2}

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 2
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh	Test Date: 8/6/2021	Discharge: variable, average rate 0.2522 [l/s]
Observation Well: TW#1	Static Water Level [m]: 4.23	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	0	4.23	0.00
2	4	7.90	3.67
3	4.5	8.25	4.02
4	5	8.58	4.35
5	6	9.09	4.86
6	7	9.42	5.19
7	8	9.73	5.50
8	9	10.03	5.80
9	10	10.31	6.08
10	12	10.85	6.62
11	14	11.33	7.10
12	16	11.68	7.45
13	18	12.04	7.81
14	25	13.02	8.79
15	30	13.57	9.34
16	45	14.61	10.38
17	60	14.89	10.66
18	90	15.03	10.80
19	120	15.22	10.99
20	150	15.98	11.75
21	180	16.38	12.15
22	210	16.62	12.39
23	240	16.89	12.66
24	270	17.51	13.28
25	300	17.90	13.67
26	330	17.99	13.76
27	360	17.86	13.63
28	360.5	17.50	13.27
29	361	17.17	12.94
30	361.5	16.85	12.62
31	362	16.53	12.30
32	362.5	16.21	11.98
33	363	15.93	11.70
34	363.5	15.65	11.42
35	364	15.37	11.14
36	364.5	15.22	10.99
37	365	15.16	10.93
38	366	15.08	10.85
39	367	15.01	10.78
40	368	14.96	10.73
41	369	14.92	10.69
42	370	14.67	10.44
43	371	14.20	9.97
44	372	13.77	9.54
45	373	13.35	9.12
46	374	13.07	8.84
47	375	12.72	8.49
48	378	12.01	7.78

Cambium Inc.
135 Bayfield St #102, Barrie, ON L4M 3B3

Pumping Test - Water Level Data

Project: Hydrogeological Assessment

Number: 11849-001

Client: Ecostructure Canada

	Time [min]	Water Level [m]	Drawdown [m]
49	379	11.63	7.40
50	380	11.42	7.19
51	381	11.16	6.93
52	383	10.80	6.57
53	384	10.59	6.36
54	385	10.38	6.15
55	386	10.16	5.93
56	387	10.00	5.77
57	388	9.84	5.61
58	389	9.67	5.44
59	390	9.55	5.32
60	392	9.28	5.05
61	394	9.03	4.80
62	396	8.83	4.60
63	398	8.72	4.49
64	400	8.64	4.41
65	402	8.38	4.15
66	404	8.22	3.99
67	406	8.08	3.85
68	408	7.96	3.73
69	410	7.85	3.62
70	412	7.76	3.53
71	414	7.66	3.43
72	416	7.58	3.35
73	418	7.50	3.27
74	420	7.43	3.20
75	436	7.07	2.84
76	479	6.19	1.96
77	491	6.01	1.78

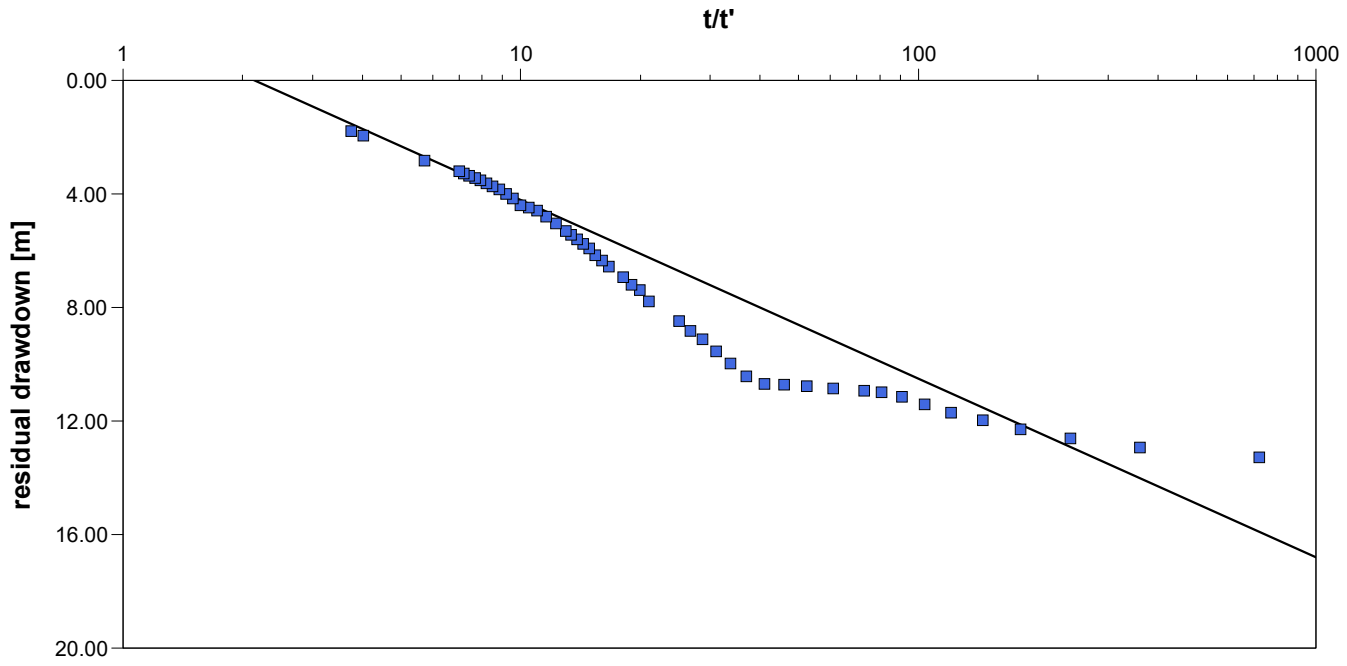
Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Discharge Data**	Page 1 of 1
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh	Test Date: 8/6/2021	Discharge: variable, average rate 0.2522 [l/s]
Observation Well: TW#1		Radial Distance to PW [m]: -

	Time [min]	Discharge [l/s]
1	2.5	0.417
2	7	0.333
3	360	0.25

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh		Test Date: 8/6/2021
Analysis Performed by: Sudhakar Kurli	Theis Recovery	Analysis Date: 1/10/2022
Aquifer Thickness: 69.00 m	Discharge: variable, average rate 0.2522 [l/s]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Radial Distance to PW [m]	
TW#1	6.33×10^{-1}	9.18×10^{-3}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #1	Pumping Well: TW#1
Test Conducted by: Josh		Test Date: 8/6/2021
Aquifer Thickness: 69.00 m	Discharge: variable, average rate 0.2522 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Theis Recovery	Sudhakar Kurli	1/10/2022	Theis Recovery	TW#1	6.33×10^{-1}	9.18×10^{-3}	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 19
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: TW#2	Pumping Well: TW#2
Test Conducted by: Josh	Test Date: 8/5/2021	Discharge Rate: 0.25 [l/s]
Observation Well: TW#2	Static Water Level [m]: 5.39	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	0	5.89	0.50
2	1	6.4041	1.0141
3	2	6.7108	1.3208
4	3	6.9839	1.5939
5	4	7.2299	1.8399
6	5	7.4081	2.0181
7	6	7.5774	2.1874
8	7	7.7244	2.3344
9	8	7.8454	2.4554
10	9	7.9569	2.5669
11	10	8.0498	2.6598
12	11	8.1203	2.7303
13	12	8.2102	2.8202
14	13	8.2802	2.8902
15	14	8.3443	2.9543
16	15	8.4167	3.0267
17	16	8.4678	3.0778
18	17	8.526	3.136
19	18	8.5598	3.1698
20	19	8.6126	3.2226
21	20	8.6479	3.2579
22	21	8.6903	3.3003
23	22	8.7296	3.3396
24	23	8.7606	3.3706
25	24	8.7956	3.4056
26	25	8.8353	3.4453
27	26	8.8679	3.4779
28	27	8.895	3.505
29	28	8.9088	3.5188
30	29	8.9405	3.5505
31	30	8.9668	3.5768
32	31	8.9965	3.6065
33	32	9.0176	3.6276
34	33	9.0478	3.6578
35	34	9.0776	3.6876
36	35	9.0897	3.6997
37	36	9.095	3.705
38	37	9.1083	3.7183
39	38	9.1446	3.7546
40	39	9.1489	3.7589
41	40	9.169	3.779
42	41	9.1728	3.7828
43	42	9.1934	3.8034
44	43	9.2087	3.8187
45	44	9.2202	3.8302
46	45	9.2372	3.8472
47	46	9.2449	3.8549
48	47	9.2744	3.8844

	Time [min]	Water Level [m]	Drawdown [m]
49	48	9.2737	3.8837
50	49	9.2875	3.8975
51	50	9.2992	3.9092
52	51	9.3083	3.9183
53	52	9.3376	3.9476
54	53	9.3478	3.9578
55	54	9.3585	3.9685
56	55	9.3644	3.9744
57	56	9.3778	3.9878
58	57	9.3853	3.9953
59	58	9.406	4.016
60	59	9.3999	4.0099
61	60	9.4105	4.0205
62	61	9.4356	4.0456
63	62	9.4406	4.0506
64	63	9.4369	4.0469
65	64	9.4506	4.0606
66	65	9.4685	4.0785
67	66	9.4788	4.0888
68	67	9.493	4.103
69	68	9.4968	4.1068
70	69	9.515	4.125
71	70	9.5131	4.1231
72	71	9.5257	4.1357
73	72	9.5444	4.1544
74	73	9.5431	4.1531
75	74	9.5556	4.1656
76	75	9.5507	4.1607
77	76	9.5596	4.1696
78	77	9.5777	4.1877
79	78	9.5679	4.1779
80	79	9.583	4.193
81	80	9.5952	4.2052
82	81	9.5984	4.2084
83	82	9.6031	4.2131
84	83	9.6175	4.2275
85	84	9.6403	4.2503
86	85	9.6279	4.2379
87	86	9.6512	4.2612
88	87	9.6486	4.2586
89	88	9.6476	4.2576
90	89	9.6559	4.2659
91	90	9.6716	4.2816
92	91	9.6696	4.2796
93	92	9.6838	4.2938
94	93	9.6838	4.2938
95	94	9.6855	4.2955
96	95	9.6921	4.3021
97	96	9.703	4.313
98	97	9.6998	4.3098
99	98	9.7057	4.3157
100	99	9.7117	4.3217
101	100	9.7184	4.3284

	Time [min]	Water Level [m]	Drawdown [m]
102	101	9.73	4.34
103	102	9.7228	4.3328
104	103	9.745	4.355
105	104	9.7384	4.3484
106	105	9.7439	4.3539
107	106	9.7479	4.3579
108	107	9.7501	4.3601
109	108	9.7803	4.3903
110	109	9.7942	4.4042
111	110	9.8085	4.4185
112	111	9.8239	4.4339
113	112	9.8281	4.4381
114	113	9.8305	4.4405
115	114	9.8537	4.4637
116	115	9.861	4.471
117	116	9.8781	4.4881
118	117	9.873	4.483
119	118	9.8946	4.5046
120	119	9.8962	4.5062
121	120	9.8973	4.5073
122	121	9.9069	4.5169
123	122	9.9098	4.5198
124	123	9.9112	4.5212
125	124	9.9097	4.5197
126	125	9.9058	4.5158
127	126	9.9152	4.5252
128	127	9.9208	4.5308
129	128	9.9075	4.5175
130	129	9.9076	4.5176
131	130	9.9158	4.5258
132	131	9.919	4.529
133	132	9.9336	4.5436
134	133	9.9291	4.5391
135	134	9.9382	4.5482
136	135	9.9271	4.5371
137	136	9.9457	4.5557
138	137	9.9332	4.5432
139	138	9.9365	4.5465
140	139	9.9494	4.5594
141	140	9.9444	4.5544
142	141	9.9433	4.5533
143	142	9.9505	4.5605
144	143	9.964	4.574
145	144	9.9417	4.5517
146	145	9.9502	4.5602
147	146	9.9426	4.5526
148	147	9.9573	4.5673
149	148	9.9474	4.5574
150	149	9.9517	4.5617
151	150	9.9628	4.5728
152	151	9.9622	4.5722
153	152	9.9606	4.5706
154	153	9.9549	4.5649

	Time [min]	Water Level [m]	Drawdown [m]
155	154	9.9546	4.5646
156	155	9.9628	4.5728
157	156	9.9681	4.5781
158	157	9.9679	4.5779
159	158	9.9801	4.5901
160	159	9.9732	4.5832
161	160	9.9648	4.5748
162	161	9.9784	4.5884
163	162	9.9691	4.5791
164	163	9.9883	4.5983
165	164	9.9908	4.6008
166	165	9.981	4.591
167	166	9.9846	4.5946
168	167	9.9931	4.6031
169	168	10.0001	4.6101
170	169	9.9944	4.6044
171	170	10.0012	4.6112
172	171	10.00	4.61
173	172	10.0037	4.6137
174	173	10.0095	4.6195
175	174	10.0058	4.6158
176	175	10.0021	4.6121
177	176	10.0189	4.6289
178	177	10.0145	4.6245
179	178	10.0206	4.6306
180	179	10.012	4.622
181	180	10.0169	4.6269
182	181	10.0242	4.6342
183	182	10.0237	4.6337
184	183	10.0351	4.6451
185	184	10.0377	4.6477
186	185	10.0274	4.6374
187	186	10.0368	4.6468
188	187	10.029	4.639
189	188	10.0303	4.6403
190	189	10.031	4.641
191	190	10.0472	4.6572
192	191	10.0299	4.6399
193	192	10.0472	4.6572
194	193	10.0442	4.6542
195	194	10.0445	4.6545
196	195	10.0489	4.6589
197	196	10.0569	4.6669
198	197	10.0507	4.6607
199	198	10.0562	4.6662
200	199	10.0634	4.6734
201	200	10.0688	4.6788
202	201	10.0568	4.6668
203	202	10.0633	4.6733
204	203	10.0579	4.6679
205	204	10.0642	4.6742
206	205	10.0719	4.6819
207	206	10.079	4.689

	Time [min]	Water Level [m]	Drawdown [m]
208	207	10.0777	4.6877
209	208	10.0666	4.6766
210	209	10.0893	4.6993
211	210	10.0781	4.6881
212	211	10.075	4.685
213	212	10.084	4.694
214	213	10.0974	4.7074
215	214	10.0952	4.7052
216	215	10.0967	4.7067
217	216	10.1001	4.7101
218	217	10.1062	4.7162
219	218	10.0923	4.7023
220	219	10.0984	4.7084
221	220	10.116	4.726
222	221	10.1073	4.7173
223	222	10.0992	4.7092
224	223	10.1119	4.7219
225	224	10.1157	4.7257
226	225	10.1182	4.7282
227	226	10.117	4.727
228	227	10.1163	4.7263
229	228	10.1224	4.7324
230	229	10.1356	4.7456
231	230	10.1281	4.7381
232	231	10.1359	4.7459
233	232	10.1331	4.7431
234	233	10.1307	4.7407
235	234	10.1275	4.7375
236	235	10.135	4.745
237	236	10.1295	4.7395
238	237	10.1334	4.7434
239	238	10.1321	4.7421
240	239	10.1341	4.7441
241	240	10.138	4.748
242	241	10.1444	4.7544
243	242	10.1411	4.7511
244	243	10.1549	4.7649
245	244	10.1505	4.7605
246	245	10.1534	4.7634
247	246	10.1529	4.7629
248	247	10.1548	4.7648
249	248	10.1569	4.7669
250	249	10.1505	4.7605
251	250	10.1599	4.7699
252	251	10.1568	4.7668
253	252	10.1546	4.7646
254	253	10.1621	4.7721
255	254	10.162	4.772
256	255	10.1598	4.7698
257	256	10.1559	4.7659
258	257	10.1746	4.7846
259	258	10.1636	4.7736
260	259	10.1667	4.7767

	Time [min]	Water Level [m]	Drawdown [m]
261	260	10.1733	4.7833
262	261	10.1603	4.7703
263	262	10.1699	4.7799
264	263	10.1767	4.7867
265	264	10.1763	4.7863
266	265	10.1719	4.7819
267	266	10.1695	4.7795
268	267	10.1752	4.7852
269	268	10.1751	4.7851
270	269	10.1777	4.7877
271	270	10.1852	4.7952
272	271	10.178	4.788
273	272	10.1845	4.7945
274	273	10.1869	4.7969
275	274	10.1762	4.7862
276	275	10.1826	4.7926
277	276	10.1834	4.7934
278	277	10.1942	4.8042
279	278	10.1951	4.8051
280	279	10.1904	4.8004
281	280	10.1909	4.8009
282	281	10.1947	4.8047
283	282	10.1975	4.8075
284	283	10.1935	4.8035
285	284	10.2055	4.8155
286	285	10.1912	4.8012
287	286	10.1955	4.8055
288	287	10.2077	4.8177
289	288	10.2046	4.8146
290	289	10.2059	4.8159
291	290	10.2037	4.8137
292	291	10.2031	4.8131
293	292	10.2186	4.8286
294	293	10.2063	4.8163
295	294	10.2109	4.8209
296	295	10.2146	4.8246
297	296	10.2164	4.8264
298	297	10.2178	4.8278
299	298	10.2144	4.8244
300	299	10.2254	4.8354
301	300	10.213	4.823
302	301	10.2189	4.8289
303	302	10.2233	4.8333
304	303	10.2172	4.8272
305	304	10.2174	4.8274
306	305	10.2237	4.8337
307	306	10.2188	4.8288
308	307	10.2166	4.8266
309	308	10.2257	4.8357
310	309	10.2281	4.8381
311	310	10.2326	4.8426
312	311	10.2243	4.8343
313	312	10.2259	4.8359

	Time [min]	Water Level [m]	Drawdown [m]
314	313	10.228	4.838
315	314	10.2389	4.8489
316	315	10.2356	4.8456
317	316	10.2379	4.8479
318	317	10.23	4.84
319	318	10.2331	4.8431
320	319	10.2394	4.8494
321	320	10.2323	4.8423
322	321	10.2352	4.8452
323	322	10.2321	4.8421
324	323	10.2383	4.8483
325	324	10.243	4.853
326	325	10.2447	4.8547
327	326	10.2421	4.8521
328	327	10.248	4.858
329	328	10.2385	4.8485
330	329	10.2422	4.8522
331	330	10.2346	4.8446
332	331	10.2412	4.8512
333	332	10.2436	4.8536
334	333	10.2448	4.8548
335	334	10.2431	4.8531
336	335	10.2386	4.8486
337	336	10.2506	4.8606
338	337	10.2491	4.8591
339	338	10.244	4.854
340	339	10.2595	4.8695
341	340	10.243	4.853
342	341	10.2509	4.8609
343	342	10.2564	4.8664
344	343	10.257	4.867
345	344	10.2571	4.8671
346	345	10.2606	4.8706
347	346	10.2558	4.8658
348	347	10.2558	4.8658
349	348	10.2616	4.8716
350	349	10.2569	4.8669
351	350	10.2638	4.8738
352	351	10.2576	4.8676
353	352	10.2612	4.8712
354	353	10.2692	4.8792
355	354	10.2662	4.8762
356	355	10.2711	4.8811
357	356	10.2763	4.8863
358	357	10.2705	4.8805
359	358	10.268	4.878
360	359	10.2611	4.8711
361	360	10.1519	4.7619
362	361	9.6599	4.2699
363	362	9.2884	3.8984
364	363	8.9956	3.6056
365	364	8.7588	3.3688
366	365	8.5621	3.1721

	Time [min]	Water Level [m]	Drawdown [m]
367	366	8.3951	3.0051
368	367	8.25	2.86
369	368	8.1245	2.7345
370	369	8.0142	2.6242
371	370	7.9137	2.5237
372	371	7.8244	2.4344
373	372	7.7427	2.3527
374	373	7.6684	2.2784
375	374	7.6015	2.2115
376	375	7.5391	2.1491
377	376	7.4804	2.0904
378	377	7.428	2.038
379	378	7.3776	1.9876
380	379	7.3315	1.9415
381	380	7.2869	1.8969
382	381	7.245	1.855
383	382	7.2069	1.8169
384	383	7.1701	1.7801
385	384	7.1358	1.7458
386	385	7.1028	1.7128
387	386	7.0721	1.6821
388	387	7.043	1.653
389	388	7.0147	1.6247
390	389	6.9885	1.5985
391	390	6.964	1.574
392	391	6.9383	1.5483
393	392	6.9146	1.5246
394	393	6.8923	1.5023
395	394	6.8711	1.4811
396	395	6.8514	1.4614
397	396	6.8304	1.4404
398	397	6.8114	1.4214
399	398	6.7921	1.4021
400	399	6.7769	1.3869
401	400	6.7578	1.3678
402	401	6.7411	1.3511
403	402	6.7245	1.3345
404	403	6.7099	1.3199
405	404	6.6937	1.3037
406	405	6.6791	1.2891
407	406	6.6651	1.2751
408	407	6.6516	1.2616
409	408	6.6384	1.2484
410	409	6.624	1.234
411	410	6.6124	1.2224
412	411	6.5992	1.2092
413	412	6.5876	1.1976
414	413	6.5751	1.1851
415	414	6.5636	1.1736
416	415	6.5534	1.1634
417	416	6.5425	1.1525
418	417	6.5323	1.1423
419	418	6.5206	1.1306

	Time [min]	Water Level [m]	Drawdown [m]
420	419	6.5117	1.1217
421	420	6.5014	1.1114
422	421	6.4616	1.0716
423	422	6.8608	1.4708
424	423	6.9439	1.5539
425	424	6.8202	1.4302
426	425	6.9656	1.5756
427	426	7.0209	1.6309
428	427	6.8584	1.4684
429	428	6.776	1.386
430	429	6.7123	1.3223
431	430	6.6621	1.2721
432	431	6.621	1.231
433	432	6.5857	1.1957
434	433	6.5579	1.1679
435	434	6.5311	1.1411
436	435	6.5082	1.1182
437	436	6.4883	1.0983
438	437	6.4704	1.0804
439	438	6.4549	1.0649
440	439	6.4386	1.0486
441	440	6.4249	1.0349
442	441	6.4118	1.0218
443	442	6.3991	1.0091
444	443	6.3887	0.9987
445	444	6.3772	0.9872
446	445	6.3673	0.9773
447	446	6.3568	0.9668
448	447	6.3473	0.9573
449	448	6.3384	0.9484
450	449	6.33	0.94
451	450	6.3218	0.9318
452	451	6.313	0.923
453	452	6.306	0.916
454	453	6.2984	0.9084
455	454	6.2905	0.9005
456	455	6.2834	0.8934
457	456	6.2769	0.8869
458	457	6.2715	0.8815
459	458	6.2635	0.8735
460	459	6.2575	0.8675
461	460	6.2512	0.8612
462	461	6.246	0.856
463	462	6.239	0.849
464	463	6.2347	0.8447
465	464	6.2298	0.8398
466	465	6.2256	0.8356
467	466	6.2202	0.8302
468	467	6.215	0.825
469	468	6.2098	0.8198
470	469	6.2035	0.8135
471	470	6.1976	0.8076
472	471	6.1947	0.8047

	Time [min]	Water Level [m]	Drawdown [m]
473	472	6.1892	0.7992
474	473	6.1842	0.7942
475	474	6.18	0.79
476	475	6.1763	0.7863
477	476	6.1703	0.7803
478	477	6.1671	0.7771
479	478	6.1628	0.7728
480	479	6.1579	0.7679
481	480	6.1547	0.7647
482	481	6.1502	0.7602
483	482	6.1457	0.7557
484	483	6.1429	0.7529
485	484	6.1401	0.7501
486	485	6.1353	0.7453
487	486	6.1313	0.7413
488	487	6.1277	0.7377
489	488	6.1234	0.7334
490	489	6.1202	0.7302
491	490	6.1155	0.7255
492	491	6.1132	0.7232
493	492	6.1092	0.7192
494	493	6.1055	0.7155
495	494	6.1019	0.7119
496	495	6.0998	0.7098
497	496	6.0961	0.7061
498	497	6.0923	0.7023
499	498	6.0903	0.7003
500	499	6.0862	0.6962
501	500	6.0841	0.6941
502	501	6.0812	0.6912
503	502	6.0779	0.6879
504	503	6.0759	0.6859
505	504	6.0715	0.6815
506	505	6.0698	0.6798
507	506	6.0667	0.6767
508	507	6.0649	0.6749
509	508	6.0616	0.6716
510	509	6.0587	0.6687
511	510	6.0557	0.6657
512	511	6.0538	0.6638
513	512	6.0506	0.6606
514	513	6.0476	0.6576
515	514	6.0458	0.6558
516	515	6.0436	0.6536
517	516	6.0395	0.6495
518	517	6.0382	0.6482
519	518	6.0357	0.6457
520	519	6.0337	0.6437
521	520	6.0306	0.6406
522	521	6.0295	0.6395
523	522	6.0261	0.6361
524	523	6.0245	0.6345
525	524	6.0215	0.6315

	Time [min]	Water Level [m]	Drawdown [m]
526	525	6.0198	0.6298
527	526	6.0164	0.6264
528	527	6.015	0.625
529	528	6.0129	0.6229
530	529	6.0104	0.6204
531	530	6.0089	0.6189
532	531	6.0074	0.6174
533	532	6.0045	0.6145
534	533	6.002	0.612
535	534	6.0005	0.6105
536	535	5.9993	0.6093
537	536	5.997	0.607
538	537	5.9951	0.6051
539	538	5.9921	0.6021
540	539	5.9909	0.6009
541	540	5.9875	0.5975
542	541	5.9869	0.5969
543	542	5.9856	0.5956
544	543	5.9832	0.5932
545	544	5.9816	0.5916
546	545	5.9805	0.5905
547	546	5.9766	0.5866
548	547	5.9754	0.5854
549	548	5.9743	0.5843
550	549	5.9725	0.5825
551	550	5.9701	0.5801
552	551	5.9691	0.5791
553	552	5.9664	0.5764
554	553	5.966	0.576
555	554	5.9623	0.5723
556	555	5.9626	0.5726
557	556	5.9608	0.5708
558	557	5.9589	0.5689
559	558	5.9564	0.5664
560	559	5.9555	0.5655
561	560	5.954	0.564
562	561	5.9517	0.5617
563	562	5.9507	0.5607
564	563	5.9491	0.5591
565	564	5.9474	0.5574
566	565	5.946	0.556
567	566	5.9445	0.5545
568	567	5.9431	0.5531
569	568	5.941	0.551
570	569	5.9393	0.5493
571	570	5.9386	0.5486
572	571	5.9381	0.5481
573	572	5.9364	0.5464
574	573	5.9346	0.5446
575	574	5.9329	0.5429
576	575	5.9307	0.5407
577	576	5.9298	0.5398
578	577	5.9291	0.5391

	Time [min]	Water Level [m]	Drawdown [m]
579	578	5.927	0.537
580	579	5.9256	0.5356
581	580	5.9244	0.5344
582	581	5.9233	0.5333
583	582	5.9227	0.5327
584	583	5.9208	0.5308
585	584	5.9196	0.5296
586	585	5.9177	0.5277
587	586	5.9173	0.5273
588	587	5.9155	0.5255
589	588	5.9143	0.5243
590	589	5.9123	0.5223
591	590	5.9113	0.5213
592	591	5.9104	0.5204
593	592	5.909	0.519
594	593	5.9079	0.5179
595	594	5.9065	0.5165
596	595	5.9061	0.5161
597	596	5.9046	0.5146
598	597	5.9035	0.5135
599	598	5.9017	0.5117
600	599	5.9014	0.5114
601	600	5.8988	0.5088
602	601	5.8984	0.5084
603	602	5.8985	0.5085
604	603	5.8965	0.5065
605	604	5.8945	0.5045
606	605	5.8951	0.5051
607	606	5.8943	0.5043
608	607	5.8922	0.5022
609	608	5.8913	0.5013
610	609	5.8895	0.4995
611	610	5.8889	0.4989
612	611	5.8876	0.4976
613	612	5.8873	0.4973
614	613	5.8865	0.4965
615	614	5.885	0.495
616	615	5.8838	0.4938
617	616	5.8822	0.4922
618	617	5.8811	0.4911
619	618	5.8812	0.4912
620	619	5.8796	0.4896
621	620	5.8796	0.4896
622	621	5.878	0.488
623	622	5.877	0.487
624	623	5.8764	0.4864
625	624	5.8747	0.4847
626	625	5.8744	0.4844
627	626	5.873	0.483
628	627	5.8721	0.4821
629	628	5.8709	0.4809
630	629	5.8705	0.4805
631	630	5.8695	0.4795

	Time [min]	Water Level [m]	Drawdown [m]
632	631	5.8678	0.4778
633	632	5.8674	0.4774
634	633	5.8668	0.4768
635	634	5.8644	0.4744
636	635	5.8647	0.4747
637	636	5.8635	0.4735
638	637	5.8624	0.4724
639	638	5.8624	0.4724
640	639	5.8621	0.4721
641	640	5.8615	0.4715
642	641	5.86	0.47
643	642	5.8601	0.4701
644	643	5.8583	0.4683
645	644	5.8573	0.4673
646	645	5.8565	0.4665
647	646	5.8558	0.4658
648	647	5.8554	0.4654
649	648	5.854	0.464
650	649	5.8531	0.4631
651	650	5.8527	0.4627
652	651	5.8519	0.4619
653	652	5.8513	0.4613
654	653	5.8509	0.4609
655	654	5.8508	0.4608
656	655	5.8485	0.4585
657	656	5.848	0.458
658	657	5.8484	0.4584
659	658	5.847	0.457
660	659	5.8463	0.4563
661	660	5.8448	0.4548
662	661	5.8447	0.4547
663	662	5.8446	0.4546
664	663	5.8428	0.4528
665	664	5.8425	0.4525
666	665	5.8421	0.4521
667	666	5.842	0.452
668	667	5.8404	0.4504
669	668	5.8387	0.4487
670	669	5.8388	0.4488
671	670	5.8387	0.4487
672	671	5.8377	0.4477
673	672	5.8371	0.4471
674	673	5.8361	0.4461
675	674	5.8358	0.4458
676	675	5.8354	0.4454
677	676	5.8356	0.4456
678	677	5.8336	0.4436
679	678	5.8335	0.4435
680	679	5.8327	0.4427
681	680	5.832	0.442
682	681	5.8318	0.4418
683	682	5.8311	0.4411
684	683	5.8293	0.4393

	Time [min]	Water Level [m]	Drawdown [m]
685	684	5.8289	0.4389
686	685	5.8291	0.4391
687	686	5.8282	0.4382
688	687	5.8272	0.4372
689	688	5.8264	0.4364
690	689	5.8267	0.4367
691	690	5.8255	0.4355
692	691	5.8239	0.4339
693	692	5.8257	0.4357
694	693	5.8243	0.4343
695	694	5.824	0.434
696	695	5.8229	0.4329
697	696	5.8224	0.4324
698	697	5.822	0.432
699	698	5.8212	0.4312
700	699	5.8196	0.4296
701	700	5.8201	0.4301
702	701	5.8202	0.4302
703	702	5.8185	0.4285
704	703	5.8188	0.4288
705	704	5.8175	0.4275
706	705	5.8175	0.4275
707	706	5.8168	0.4268
708	707	5.8154	0.4254
709	708	5.8162	0.4262
710	709	5.8151	0.4251
711	710	5.8128	0.4228
712	711	5.8142	0.4242
713	712	5.8145	0.4245
714	713	5.8133	0.4233
715	714	5.8121	0.4221
716	715	5.8123	0.4223
717	716	5.8114	0.4214
718	717	5.8113	0.4213
719	718	5.811	0.421
720	719	5.8106	0.4206
721	720	5.8097	0.4197
722	721	5.8092	0.4192
723	722	5.8082	0.4182
724	723	5.8084	0.4184
725	724	5.8078	0.4178
726	725	5.8065	0.4165
727	726	5.8067	0.4167
728	727	5.8064	0.4164
729	728	5.8048	0.4148
730	729	5.8055	0.4155
731	730	5.8052	0.4152
732	731	5.8047	0.4147
733	732	5.8039	0.4139
734	733	5.8033	0.4133
735	734	5.8027	0.4127
736	735	5.8023	0.4123
737	736	5.8029	0.4129

	Time [min]	Water Level [m]	Drawdown [m]
738	737	5.802	0.412
739	738	5.8015	0.4115
740	739	5.8006	0.4106
741	740	5.7998	0.4098
742	741	5.8002	0.4102
743	742	5.7993	0.4093
744	743	5.7995	0.4095
745	744	5.8001	0.4101
746	745	5.7975	0.4075
747	746	5.7968	0.4068
748	747	5.798	0.408
749	748	5.797	0.407
750	749	5.7969	0.4069
751	750	5.7968	0.4068
752	751	5.796	0.406
753	752	5.7952	0.4052
754	753	5.7948	0.4048
755	754	5.7936	0.4036
756	755	5.794	0.404
757	756	5.7932	0.4032
758	757	5.7928	0.4028
759	758	5.7919	0.4019
760	759	5.7924	0.4024
761	760	5.7921	0.4021
762	761	5.7915	0.4015
763	762	5.7914	0.4014
764	763	5.7906	0.4006
765	764	5.7907	0.4007
766	765	5.789	0.399
767	766	5.7899	0.3999
768	767	5.7899	0.3999
769	768	5.7897	0.3997
770	769	5.7883	0.3983
771	770	5.7876	0.3976
772	771	5.7881	0.3981
773	772	5.7876	0.3976
774	773	5.7875	0.3975
775	774	5.7874	0.3974
776	775	5.787	0.397
777	776	5.7869	0.3969
778	777	5.7867	0.3967
779	778	5.7858	0.3958
780	779	5.7865	0.3965
781	780	5.7852	0.3952
782	781	5.7852	0.3952
783	782	5.7854	0.3954
784	783	5.7857	0.3957
785	784	5.7848	0.3948
786	785	5.7833	0.3933
787	786	5.7835	0.3935
788	787	5.7835	0.3935
789	788	5.783	0.393
790	789	5.7825	0.3925

	Time [min]	Water Level [m]	Drawdown [m]
791	790	5.7827	0.3927
792	791	5.783	0.393
793	792	5.7822	0.3922
794	793	5.7815	0.3915
795	794	5.7816	0.3916
796	795	5.7811	0.3911
797	796	5.7808	0.3908
798	797	5.7801	0.3901
799	798	5.7806	0.3906
800	799	5.7795	0.3895
801	800	5.7807	0.3907
802	801	5.7796	0.3896
803	802	5.779	0.389
804	803	5.7777	0.3877
805	804	5.7785	0.3885
806	805	5.7776	0.3876
807	806	5.7776	0.3876
808	807	5.7769	0.3869
809	808	5.7779	0.3879
810	809	5.7782	0.3882
811	810	5.777	0.387
812	811	5.7769	0.3869
813	812	5.7764	0.3864
814	813	5.7761	0.3861
815	814	5.7761	0.3861
816	815	5.7752	0.3852
817	816	5.7749	0.3849
818	817	5.7752	0.3852
819	818	5.7745	0.3845
820	819	5.7745	0.3845
821	820	5.7735	0.3835
822	821	5.7745	0.3845
823	822	5.7737	0.3837
824	823	5.7722	0.3822
825	824	5.7733	0.3833
826	825	5.7715	0.3815
827	826	5.772	0.382
828	827	5.7726	0.3826
829	828	5.7717	0.3817
830	829	5.771	0.381
831	830	5.7709	0.3809
832	831	5.7702	0.3802
833	832	5.7702	0.3802
834	833	5.7697	0.3797
835	834	5.7701	0.3801
836	835	5.7696	0.3796
837	836	5.7689	0.3789
838	837	5.7683	0.3783
839	838	5.7677	0.3777
840	839	5.7669	0.3769
841	840	5.768	0.378
842	841	5.7675	0.3775
843	842	5.7667	0.3767

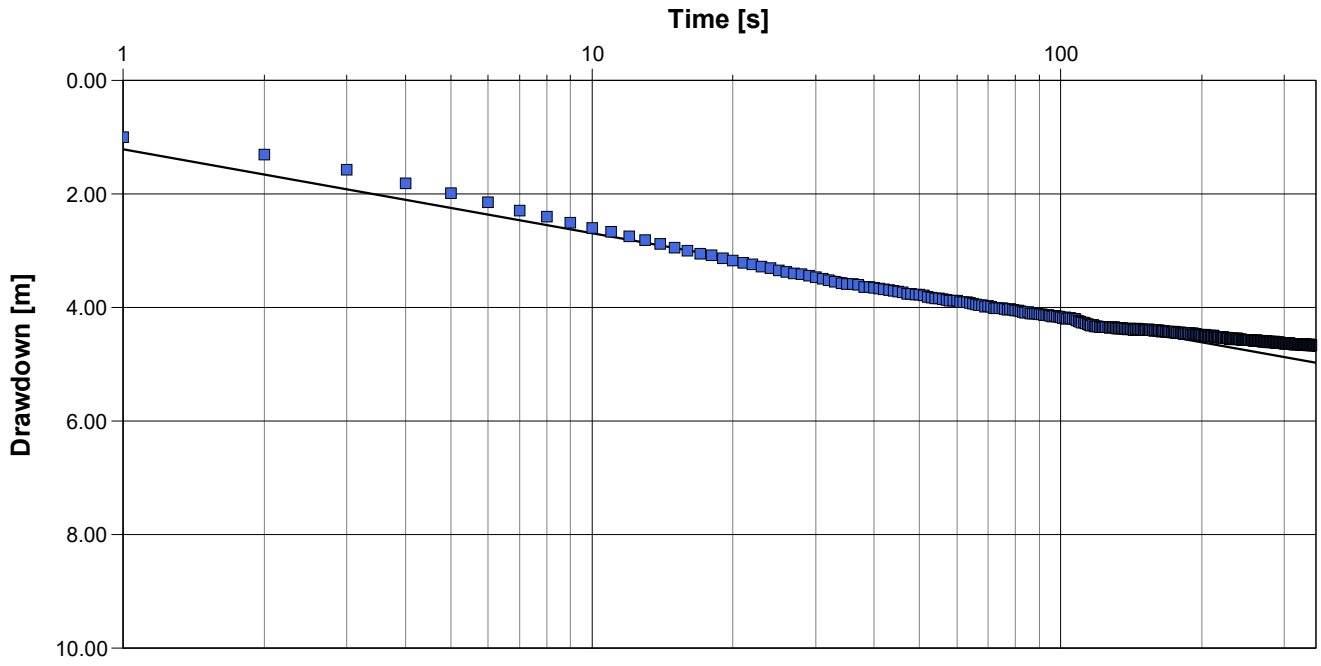
	Time [min]	Water Level [m]	Drawdown [m]
844	843	5.765	0.375
845	844	5.7667	0.3767
846	845	5.7661	0.3761
847	846	5.7666	0.3766
848	847	5.766	0.376
849	848	5.7651	0.3751
850	849	5.7644	0.3744
851	850	5.7644	0.3744
852	851	5.7644	0.3744
853	852	5.764	0.374
854	853	5.7633	0.3733
855	854	5.763	0.373
856	855	5.7627	0.3727
857	856	5.7621	0.3721
858	857	5.7626	0.3726
859	858	5.7615	0.3715
860	859	5.7619	0.3719
861	860	5.7602	0.3702
862	861	5.7601	0.3701
863	862	5.7599	0.3699
864	863	5.7594	0.3694
865	864	5.7604	0.3704
866	865	5.7594	0.3694
867	866	5.7593	0.3693
868	867	5.7584	0.3684
869	868	5.7598	0.3698
870	869	5.7584	0.3684
871	870	5.7583	0.3683
872	871	5.7587	0.3687
873	872	5.7577	0.3677
874	873	5.7583	0.3683
875	874	5.7575	0.3675
876	875	5.7571	0.3671
877	876	5.7573	0.3673
878	877	5.7567	0.3667
879	878	5.7571	0.3671
880	879	5.7567	0.3667
881	880	5.755	0.365
882	881	5.7554	0.3654
883	882	5.7557	0.3657
884	883	5.7551	0.3651
885	884	5.7543	0.3643
886	885	5.755	0.365
887	886	5.7545	0.3645
888	887	5.755	0.365
889	888	5.7538	0.3638
890	889	5.7546	0.3646
891	890	5.7547	0.3647
892	891	5.7523	0.3623
893	892	5.7536	0.3636
894	893	5.7534	0.3634
895	894	5.754	0.364
896	895	5.7527	0.3627

	Time [min]	Water Level [m]	Drawdown [m]
897	896	5.7531	0.3631
898	897	5.7523	0.3623
899	898	5.7537	0.3637
900	899	5.7521	0.3621
901	900	5.7526	0.3626
902	901	5.7524	0.3624
903	902	5.7533	0.3633
904	903	5.751	0.361
905	904	5.7509	0.3609
906	905	5.7508	0.3608
907	906	5.752	0.362
908	907	5.7503	0.3603
909	908	5.7509	0.3609
910	909	5.7504	0.3604
911	910	5.7499	0.3599
912	911	5.7498	0.3598
913	912	5.7501	0.3601
914	913	5.7506	0.3606
915	914	5.7495	0.3595
916	915	5.7493	0.3593
917	916	5.7493	0.3593
918	917	5.7507	0.3607
919	918	5.7492	0.3592
920	919	5.749	0.359
921	920	5.7493	0.3593
922	921	5.7492	0.3592
923	922	5.7488	0.3588
924	923	5.7484	0.3584
925	924	5.7477	0.3577
926	925	5.7478	0.3578
927	926	5.7481	0.3581
928	927	5.7478	0.3578
929	928	5.7479	0.3579
930	929	5.7472	0.3572
931	930	5.7472	0.3572
932	931	5.7473	0.3573
933	932	5.7465	0.3565
934	933	5.7468	0.3568
935	934	5.7472	0.3572
936	935	5.7471	0.3571
937	936	5.7468	0.3568
938	937	5.7468	0.3568
939	938	5.7462	0.3562
940	939	5.7457	0.3557
941	940	5.7455	0.3555
942	941	5.746	0.356
943	942	5.7454	0.3554
944	943	5.746	0.356
945	944	5.7452	0.3552
946	945	5.7452	0.3552
947	946	5.745	0.355
948	947	5.7451	0.3551
949	948	5.7448	0.3548

	Time [min]	Water Level [m]	Drawdown [m]
950	949	5.7449	0.3549
951	950	5.7442	0.3542
952	951	5.7449	0.3549
953	952	5.7444	0.3544
954	953	5.7433	0.3533
955	954	5.7452	0.3552
956	955	5.7442	0.3542
957	956	5.7441	0.3541
958	957	5.7431	0.3531
959	958	5.7436	0.3536
960	959	5.7424	0.3524
961	960	5.7433	0.3533
962	961	5.7435	0.3535
963	962	5.7432	0.3532
964	963	5.743	0.353
965	964	5.7425	0.3525
966	965	5.7428	0.3528
967	966	5.742	0.352
968	967	5.7424	0.3524
969	968	5.7434	0.3534
970	969	5.7415	0.3515
971	970	5.7412	0.3512
972	971	5.7406	0.3506
973	972	5.7423	0.3523
974	973	5.7405	0.3505
975	974	5.7409	0.3509
976	975	5.7413	0.3513
977	976	5.7407	0.3507
978	977	5.7403	0.3503
979	978	5.7402	0.3502
980	979	5.7395	0.3495
981	980	5.7391	0.3491
982	981	5.7394	0.3494
983	982	5.7398	0.3498
984	983	5.7406	0.3506
985	984	5.7391	0.3491

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: TW#2	Pumping Well: TW#2
Test Conducted by: Josh		Test Date: 8/5/2021
Analysis Performed by: Sudhakar Kurli	Cooper & Jacob	Analysis Date: 1/10/2022
Aquifer Thickness: 59.00 m	Discharge Rate: 0.25 [l/s]	



Calculation using COOPER & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Storage coefficient	Radial Distance to PW [m]	
TW#2	2.67×10^{0}	4.53×10^{-2}	4.71×10^{-4}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: TW#2	Pumping Well: TW#2
Test Conducted by: Josh		Test Date: 8/5/2021
Aquifer Thickness: 59.00 m	Discharge Rate: 0.25 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Cooper & Jacob	Sudhakar Kurli	1/10/2022	Cooper & Jacob l	TW#2	2.67×10^{0}	4.53×10^{-2}	4.71×10^{-4}

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 12
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well#2	Pumping Well: TW#2
Test Conducted by: Josh	Test Date: 8/5/2021	Discharge Rate: 0.25 [l/s]
Observation Well: TW#2	Static Water Level [m]: 5.39	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	6.0167	9.6599	4.2699
2	6.0333	9.2884	3.8984
3	6.05	8.9956	3.6056
4	6.0667	8.7588	3.3688
5	6.0833	8.5621	3.1721
6	6.1	8.3951	3.0051
7	6.1167	8.25	2.86
8	6.1333	8.1245	2.7345
9	6.15	8.0142	2.6242
10	6.1667	7.9137	2.5237
11	6.1833	7.8244	2.4344
12	6.2	7.7427	2.3527
13	6.2167	7.6684	2.2784
14	6.2333	7.6015	2.2115
15	6.25	7.5391	2.1491
16	6.2667	7.4804	2.0904
17	6.2833	7.428	2.038
18	6.3	7.3776	1.9876
19	6.3167	7.3315	1.9415
20	6.3333	7.2869	1.8969
21	6.35	7.245	1.855
22	6.3667	7.2069	1.8169
23	6.3833	7.1701	1.7801
24	6.4	7.1358	1.7458
25	6.4167	7.1028	1.7128
26	6.4333	7.0721	1.6821
27	6.45	7.043	1.653
28	6.4667	7.0147	1.6247
29	6.4833	6.9885	1.5985
30	6.5	6.964	1.574
31	6.5167	6.9383	1.5483
32	6.5333	6.9146	1.5246
33	6.55	6.8923	1.5023
34	6.5667	6.8711	1.4811
35	6.5833	6.8514	1.4614
36	6.6	6.8304	1.4404
37	6.6167	6.8114	1.4214
38	6.6333	6.7921	1.4021
39	6.65	6.7769	1.3869
40	6.6667	6.7578	1.3678
41	6.6833	6.7411	1.3511
42	6.7	6.7245	1.3345
43	6.7167	6.7099	1.3199
44	6.7333	6.6937	1.3037
45	6.75	6.6791	1.2891
46	6.7667	6.6651	1.2751
47	6.7833	6.6516	1.2616
48	6.8	6.6384	1.2484

	Time [min]	Water Level [m]	Drawdown [m]
49	6.8167	6.624	1.234
50	6.8333	6.6124	1.2224
51	6.85	6.5992	1.2092
52	6.8667	6.5876	1.1976
53	6.8833	6.5751	1.1851
54	6.9	6.5636	1.1736
55	6.9167	6.5534	1.1634
56	6.9333	6.5425	1.1525
57	6.95	6.5323	1.1423
58	6.9667	6.5206	1.1306
59	6.9833	6.5117	1.1217
60	7	6.5014	1.1114
61	7.0167	6.4616	1.0716
62	7.0333	6.8608	1.4708
63	7.05	6.9439	1.5539
64	7.0667	6.8202	1.4302
65	7.0833	6.9656	1.5756
66	7.1	7.0209	1.6309
67	7.1167	6.8584	1.4684
68	7.1333	6.776	1.386
69	7.15	6.7123	1.3223
70	7.1667	6.6621	1.2721
71	7.1833	6.621	1.231
72	7.2	6.5857	1.1957
73	7.2167	6.5579	1.1679
74	7.2333	6.5311	1.1411
75	7.25	6.5082	1.1182
76	7.2667	6.4883	1.0983
77	7.2833	6.4704	1.0804
78	7.3	6.4549	1.0649
79	7.3167	6.4386	1.0486
80	7.3333	6.4249	1.0349
81	7.35	6.4118	1.0218
82	7.3667	6.3991	1.0091
83	7.3833	6.3887	0.9987
84	7.4	6.3772	0.9872
85	7.4167	6.3673	0.9773
86	7.4333	6.3568	0.9668
87	7.45	6.3473	0.9573
88	7.4667	6.3384	0.9484
89	7.4833	6.33	0.94
90	7.5	6.3218	0.9318
91	7.5167	6.313	0.923
92	7.5333	6.306	0.916
93	7.55	6.2984	0.9084
94	7.5667	6.2905	0.9005
95	7.5833	6.2834	0.8934
96	7.6	6.2769	0.8869
97	7.6167	6.2715	0.8815
98	7.6333	6.2635	0.8735
99	7.65	6.2575	0.8675
100	7.6667	6.2512	0.8612
101	7.6833	6.246	0.856

	Time [min]	Water Level [m]	Drawdown [m]
102	7.7	6.239	0.849
103	7.7167	6.2347	0.8447
104	7.7333	6.2298	0.8398
105	7.75	6.2256	0.8356
106	7.7667	6.2202	0.8302
107	7.7833	6.215	0.825
108	7.8	6.2098	0.8198
109	7.8167	6.2035	0.8135
110	7.8333	6.1976	0.8076
111	7.85	6.1947	0.8047
112	7.8667	6.1892	0.7992
113	7.8833	6.1842	0.7942
114	7.9	6.18	0.79
115	7.9167	6.1763	0.7863
116	7.9333	6.1703	0.7803
117	7.95	6.1671	0.7771
118	7.9667	6.1628	0.7728
119	7.9833	6.1579	0.7679
120	8	6.1547	0.7647
121	8.0167	6.1502	0.7602
122	8.0333	6.1457	0.7557
123	8.05	6.1429	0.7529
124	8.0667	6.1401	0.7501
125	8.0833	6.1353	0.7453
126	8.1	6.1313	0.7413
127	8.1167	6.1277	0.7377
128	8.1333	6.1234	0.7334
129	8.15	6.1202	0.7302
130	8.1667	6.1155	0.7255
131	8.1833	6.1132	0.7232
132	8.2	6.1092	0.7192
133	8.2167	6.1055	0.7155
134	8.2333	6.1019	0.7119
135	8.25	6.0998	0.7098
136	8.2667	6.0961	0.7061
137	8.2833	6.0923	0.7023
138	8.3	6.0903	0.7003
139	8.3167	6.0862	0.6962
140	8.3333	6.0841	0.6941
141	8.35	6.0812	0.6912
142	8.3667	6.0779	0.6879
143	8.3833	6.0759	0.6859
144	8.4	6.0715	0.6815
145	8.4167	6.0698	0.6798
146	8.4333	6.0667	0.6767
147	8.45	6.0649	0.6749
148	8.4667	6.0616	0.6716
149	8.4833	6.0587	0.6687
150	8.5	6.0557	0.6657
151	8.5167	6.0538	0.6638
152	8.5333	6.0506	0.6606
153	8.55	6.0476	0.6576
154	8.5667	6.0458	0.6558

	Time [min]	Water Level [m]	Drawdown [m]
155	8.5833	6.0436	0.6536
156	8.6	6.0395	0.6495
157	8.6167	6.0382	0.6482
158	8.6333	6.0357	0.6457
159	8.65	6.0337	0.6437
160	8.6667	6.0306	0.6406
161	8.6833	6.0295	0.6395
162	8.7	6.0261	0.6361
163	8.7167	6.0245	0.6345
164	8.7333	6.0215	0.6315
165	8.75	6.0198	0.6298
166	8.7667	6.0164	0.6264
167	8.7833	6.015	0.625
168	8.8	6.0129	0.6229
169	8.8167	6.0104	0.6204
170	8.8333	6.0089	0.6189
171	8.85	6.0074	0.6174
172	8.8667	6.0045	0.6145
173	8.8833	6.002	0.612
174	8.9	6.0005	0.6105
175	8.9167	5.9993	0.6093
176	8.9333	5.997	0.607
177	8.95	5.9951	0.6051
178	8.9667	5.9921	0.6021
179	8.9833	5.9909	0.6009
180	9	5.9875	0.5975
181	9.0167	5.9869	0.5969
182	9.0333	5.9856	0.5956
183	9.05	5.9832	0.5932
184	9.0667	5.9816	0.5916
185	9.0833	5.9805	0.5905
186	9.1	5.9766	0.5866
187	9.1167	5.9754	0.5854
188	9.1333	5.9743	0.5843
189	9.15	5.9725	0.5825
190	9.1667	5.9701	0.5801
191	9.1833	5.9691	0.5791
192	9.2	5.9664	0.5764
193	9.2167	5.966	0.576
194	9.2333	5.9623	0.5723
195	9.25	5.9626	0.5726
196	9.2667	5.9608	0.5708
197	9.2833	5.9589	0.5689
198	9.3	5.9564	0.5664
199	9.3167	5.9555	0.5655
200	9.3333	5.954	0.564
201	9.35	5.9517	0.5617
202	9.3667	5.9507	0.5607
203	9.3833	5.9491	0.5591
204	9.4	5.9474	0.5574
205	9.4167	5.946	0.556
206	9.4333	5.9445	0.5545
207	9.45	5.9431	0.5531

	Time [min]	Water Level [m]	Drawdown [m]
208	9.4667	5.941	0.551
209	9.4833	5.9393	0.5493
210	9.5	5.9386	0.5486
211	9.5167	5.9381	0.5481
212	9.5333	5.9364	0.5464
213	9.55	5.9346	0.5446
214	9.5667	5.9329	0.5429
215	9.5833	5.9307	0.5407
216	9.6	5.9298	0.5398
217	9.6167	5.9291	0.5391
218	9.6333	5.927	0.537
219	9.65	5.9256	0.5356
220	9.6667	5.9244	0.5344
221	9.6833	5.9233	0.5333
222	9.7	5.9227	0.5327
223	9.7167	5.9208	0.5308
224	9.7333	5.9196	0.5296
225	9.75	5.9177	0.5277
226	9.7667	5.9173	0.5273
227	9.7833	5.9155	0.5255
228	9.8	5.9143	0.5243
229	9.8167	5.9123	0.5223
230	9.8333	5.9113	0.5213
231	9.85	5.9104	0.5204
232	9.8667	5.909	0.519
233	9.8833	5.9079	0.5179
234	9.9	5.9065	0.5165
235	9.9167	5.9061	0.5161
236	9.9333	5.9046	0.5146
237	9.95	5.9035	0.5135
238	9.9667	5.9017	0.5117
239	9.9833	5.9014	0.5114
240	10	5.8988	0.5088
241	10.0167	5.8984	0.5084
242	10.0333	5.8985	0.5085
243	10.05	5.8965	0.5065
244	10.0667	5.8945	0.5045
245	10.0833	5.8951	0.5051
246	10.1	5.8943	0.5043
247	10.1167	5.8922	0.5022
248	10.1333	5.8913	0.5013
249	10.15	5.8895	0.4995
250	10.1667	5.8889	0.4989
251	10.1833	5.8876	0.4976
252	10.2	5.8873	0.4973
253	10.2167	5.8865	0.4965
254	10.2333	5.885	0.495
255	10.25	5.8838	0.4938
256	10.2667	5.8822	0.4922
257	10.2833	5.8811	0.4911
258	10.3	5.8812	0.4912
259	10.3167	5.8796	0.4896
260	10.3333	5.8796	0.4896

	Time [min]	Water Level [m]	Drawdown [m]
261	10.35	5.878	0.488
262	10.3667	5.877	0.487
263	10.3833	5.8764	0.4864
264	10.4	5.8747	0.4847
265	10.4167	5.8744	0.4844
266	10.4333	5.873	0.483
267	10.45	5.8721	0.4821
268	10.4667	5.8709	0.4809
269	10.4833	5.8705	0.4805
270	10.5	5.8695	0.4795
271	10.5167	5.8678	0.4778
272	10.5333	5.8674	0.4774
273	10.55	5.8668	0.4768
274	10.5667	5.8644	0.4744
275	10.5833	5.8647	0.4747
276	10.6	5.8635	0.4735
277	10.6167	5.8624	0.4724
278	10.6333	5.8624	0.4724
279	10.65	5.8621	0.4721
280	10.6667	5.8615	0.4715
281	10.6833	5.86	0.47
282	10.7	5.8601	0.4701
283	10.7167	5.8583	0.4683
284	10.7333	5.8573	0.4673
285	10.75	5.8565	0.4665
286	10.7667	5.8558	0.4658
287	10.7833	5.8554	0.4654
288	10.8	5.854	0.464
289	10.8167	5.8531	0.4631
290	10.8333	5.8527	0.4627
291	10.85	5.8519	0.4619
292	10.8667	5.8513	0.4613
293	10.8833	5.8509	0.4609
294	10.9	5.8508	0.4608
295	10.9167	5.8485	0.4585
296	10.9333	5.848	0.458
297	10.95	5.8484	0.4584
298	10.9667	5.847	0.457
299	10.9833	5.8463	0.4563
300	11	5.8448	0.4548
301	11.0167	5.8447	0.4547
302	11.0333	5.8446	0.4546
303	11.05	5.8428	0.4528
304	11.0667	5.8425	0.4525
305	11.0833	5.8421	0.4521
306	11.1	5.842	0.452
307	11.1167	5.8404	0.4504
308	11.1333	5.8387	0.4487
309	11.15	5.8388	0.4488
310	11.1667	5.8387	0.4487
311	11.1833	5.8377	0.4477
312	11.2	5.8371	0.4471
313	11.2167	5.8361	0.4461

	Time [min]	Water Level [m]	Drawdown [m]
314	11.2333	5.8358	0.4458
315	11.25	5.8354	0.4454
316	11.2667	5.8356	0.4456
317	11.2833	5.8336	0.4436
318	11.3	5.8335	0.4435
319	11.3167	5.8327	0.4427
320	11.3333	5.832	0.442
321	11.35	5.8318	0.4418
322	11.3667	5.8311	0.4411
323	11.3833	5.8293	0.4393
324	11.4	5.8289	0.4389
325	11.4167	5.8291	0.4391
326	11.4333	5.8282	0.4382
327	11.45	5.8272	0.4372
328	11.4667	5.8264	0.4364
329	11.4833	5.8267	0.4367
330	11.5	5.8255	0.4355
331	11.5167	5.8239	0.4339
332	11.5333	5.8257	0.4357
333	11.55	5.8243	0.4343
334	11.5667	5.824	0.434
335	11.5833	5.8229	0.4329
336	11.6	5.8224	0.4324
337	11.6167	5.822	0.432
338	11.6333	5.8212	0.4312
339	11.65	5.8196	0.4296
340	11.6667	5.8201	0.4301
341	11.6833	5.8202	0.4302
342	11.7	5.8185	0.4285
343	11.7167	5.8188	0.4288
344	11.7333	5.8175	0.4275
345	11.75	5.8175	0.4275
346	11.7667	5.8168	0.4268
347	11.7833	5.8154	0.4254
348	11.8	5.8162	0.4262
349	11.8167	5.8151	0.4251
350	11.8333	5.8128	0.4228
351	11.85	5.8142	0.4242
352	11.8667	5.8145	0.4245
353	11.8833	5.8133	0.4233
354	11.9	5.8121	0.4221
355	11.9167	5.8123	0.4223
356	11.9333	5.8114	0.4214
357	11.95	5.8113	0.4213
358	11.9667	5.811	0.421
359	11.9833	5.8106	0.4206
360	12	5.8097	0.4197
361	12.0167	5.8092	0.4192
362	12.0333	5.8082	0.4182
363	12.05	5.8084	0.4184
364	12.0667	5.8078	0.4178
365	12.0833	5.8065	0.4165
366	12.1	5.8067	0.4167

	Time [min]	Water Level [m]	Drawdown [m]
367	12.1167	5.8064	0.4164
368	12.1333	5.8048	0.4148
369	12.15	5.8055	0.4155
370	12.1667	5.8052	0.4152
371	12.1833	5.8047	0.4147
372	12.2	5.8039	0.4139
373	12.2167	5.8033	0.4133
374	12.2333	5.8027	0.4127
375	12.25	5.8023	0.4123
376	12.2667	5.8029	0.4129
377	12.2833	5.802	0.412
378	12.3	5.8015	0.4115
379	12.3167	5.8006	0.4106
380	12.3333	5.7998	0.4098
381	12.35	5.8002	0.4102
382	12.3667	5.7993	0.4093
383	12.3833	5.7995	0.4095
384	12.4	5.8001	0.4101
385	12.4167	5.7975	0.4075
386	12.4333	5.7968	0.4068
387	12.45	5.798	0.408
388	12.4667	5.797	0.407
389	12.4833	5.7969	0.4069
390	12.5	5.7968	0.4068
391	12.5167	5.796	0.406
392	12.5333	5.7952	0.4052
393	12.55	5.7948	0.4048
394	12.5667	5.7936	0.4036
395	12.5833	5.794	0.404
396	12.6	5.7932	0.4032
397	12.6167	5.7928	0.4028
398	12.6333	5.7919	0.4019
399	12.65	5.7924	0.4024
400	12.6667	5.7921	0.4021
401	12.6833	5.7915	0.4015
402	12.7	5.7914	0.4014
403	12.7167	5.7906	0.4006
404	12.7333	5.7907	0.4007
405	12.75	5.789	0.399
406	12.7667	5.7899	0.3999
407	12.7833	5.7899	0.3999
408	12.8	5.7897	0.3997
409	12.8167	5.7883	0.3983
410	12.8333	5.7876	0.3976
411	12.85	5.7881	0.3981
412	12.8667	5.7876	0.3976
413	12.8833	5.7875	0.3975
414	12.9	5.7874	0.3974
415	12.9167	5.787	0.397
416	12.9333	5.7869	0.3969
417	12.95	5.7867	0.3967
418	12.9667	5.7858	0.3958
419	12.9833	5.7865	0.3965

	Time [min]	Water Level [m]	Drawdown [m]
420	13	5.7852	0.3952
421	13.0167	5.7852	0.3952
422	13.0333	5.7854	0.3954
423	13.05	5.7857	0.3957
424	13.0667	5.7848	0.3948
425	13.0833	5.7833	0.3933
426	13.1	5.7835	0.3935
427	13.1167	5.7835	0.3935
428	13.1333	5.783	0.393
429	13.15	5.7825	0.3925
430	13.1667	5.7827	0.3927
431	13.1833	5.783	0.393
432	13.2	5.7822	0.3922
433	13.2167	5.7815	0.3915
434	13.2333	5.7816	0.3916
435	13.25	5.7811	0.3911
436	13.2667	5.7808	0.3908
437	13.2833	5.7801	0.3901
438	13.3	5.7806	0.3906
439	13.3167	5.7795	0.3895
440	13.3333	5.7807	0.3907
441	13.35	5.7796	0.3896
442	13.3667	5.779	0.389
443	13.3833	5.7777	0.3877
444	13.4	5.7785	0.3885
445	13.4167	5.7776	0.3876
446	13.4333	5.7776	0.3876
447	13.45	5.7769	0.3869
448	13.4667	5.7779	0.3879
449	13.4833	5.7782	0.3882
450	13.5	5.777	0.387
451	13.5167	5.7769	0.3869
452	13.5333	5.7764	0.3864
453	13.55	5.7761	0.3861
454	13.5667	5.7761	0.3861
455	13.5833	5.7752	0.3852
456	13.6	5.7749	0.3849
457	13.6167	5.7752	0.3852
458	13.6333	5.7745	0.3845
459	13.65	5.7745	0.3845
460	13.6667	5.7735	0.3835
461	13.6833	5.7745	0.3845
462	13.7	5.7737	0.3837
463	13.7167	5.7722	0.3822
464	13.7333	5.7733	0.3833
465	13.75	5.7715	0.3815
466	13.7667	5.772	0.382
467	13.7833	5.7726	0.3826
468	13.8	5.7717	0.3817
469	13.8167	5.771	0.381
470	13.8333	5.7709	0.3809
471	13.85	5.7702	0.3802
472	13.8667	5.7702	0.3802

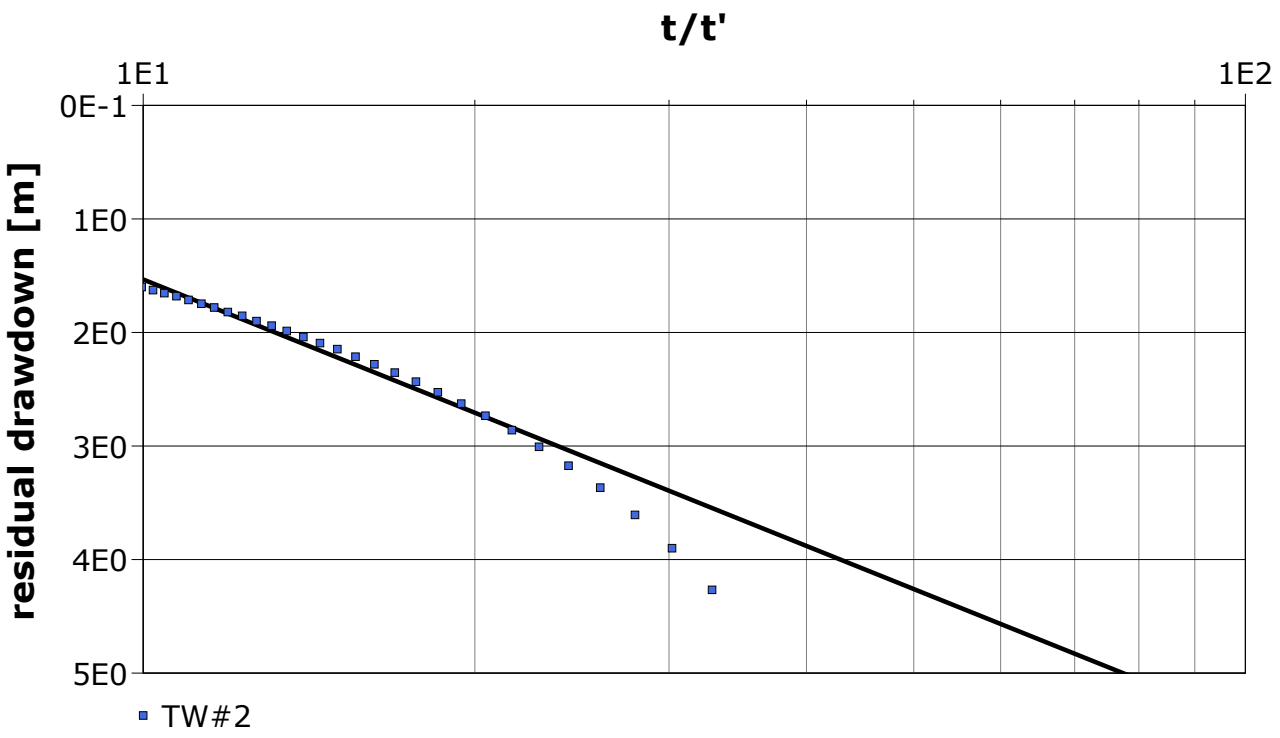
	Time [min]	Water Level [m]	Drawdown [m]
473	13.8833	5.7697	0.3797
474	13.9	5.7701	0.3801
475	13.9167	5.7696	0.3796
476	13.9333	5.7689	0.3789
477	13.95	5.7683	0.3783
478	13.9667	5.7677	0.3777
479	13.9833	5.7669	0.3769
480	14	5.768	0.378
481	14.0167	5.7675	0.3775
482	14.0333	5.7667	0.3767
483	14.05	5.765	0.375
484	14.0667	5.7667	0.3767
485	14.0833	5.7661	0.3761
486	14.1	5.7666	0.3766
487	14.1167	5.766	0.376
488	14.1333	5.7651	0.3751
489	14.15	5.7644	0.3744
490	14.1667	5.7644	0.3744
491	14.1833	5.7644	0.3744
492	14.2	5.764	0.374
493	14.2167	5.7633	0.3733
494	14.2333	5.763	0.373
495	14.25	5.7627	0.3727
496	14.2667	5.7621	0.3721
497	14.2833	5.7626	0.3726
498	14.3	5.7615	0.3715
499	14.3167	5.7619	0.3719
500	14.3333	5.7602	0.3702
501	14.35	5.7601	0.3701
502	14.3667	5.7599	0.3699
503	14.3833	5.7594	0.3694
504	14.4	5.7604	0.3704
505	14.4167	5.7594	0.3694
506	14.4333	5.7593	0.3693
507	14.45	5.7584	0.3684
508	14.4667	5.7598	0.3698
509	14.4833	5.7584	0.3684
510	14.5	5.7583	0.3683
511	14.5167	5.7587	0.3687
512	14.5333	5.7577	0.3677
513	14.55	5.7583	0.3683
514	14.5667	5.7575	0.3675
515	14.5833	5.7571	0.3671
516	14.6	5.7573	0.3673
517	14.6167	5.7567	0.3667
518	14.6333	5.7571	0.3671
519	14.65	5.7567	0.3667
520	14.6667	5.755	0.365
521	14.6833	5.7554	0.3654
522	14.7	5.7557	0.3657
523	14.7167	5.7551	0.3651
524	14.7333	5.7543	0.3643
525	14.75	5.755	0.365

	Time [min]	Water Level [m]	Drawdown [m]
526	14.7667	5.7545	0.3645
527	14.7833	5.755	0.365
528	14.8	5.7538	0.3638
529	14.8167	5.7546	0.3646
530	14.8333	5.7547	0.3647
531	14.85	5.7523	0.3623
532	14.8667	5.7536	0.3636
533	14.8833	5.7534	0.3634
534	14.9	5.754	0.364
535	14.9167	5.7527	0.3627
536	14.9333	5.7531	0.3631
537	14.95	5.7523	0.3623
538	14.9667	5.7537	0.3637
539	14.9833	5.7521	0.3621
540	15	5.7526	0.3626
541	15.0167	5.7524	0.3624
542	15.0333	5.7533	0.3633
543	15.05	5.751	0.361
544	15.0667	5.7509	0.3609
545	15.0833	5.7508	0.3608
546	15.1	5.752	0.362
547	15.1167	5.7503	0.3603
548	15.1333	5.7509	0.3609
549	15.15	5.7504	0.3604
550	15.1667	5.7499	0.3599
551	15.1833	5.7498	0.3598
552	15.2	5.7501	0.3601
553	15.2167	5.7506	0.3606
554	15.2333	5.7495	0.3595
555	15.25	5.7493	0.3593
556	15.2667	5.7493	0.3593
557	15.2833	5.7507	0.3607
558	15.3	5.7492	0.3592
559	15.3167	5.749	0.359
560	15.3333	5.7493	0.3593
561	15.35	5.7492	0.3592
562	15.3667	5.7488	0.3588
563	15.3833	5.7484	0.3584
564	15.4	5.7477	0.3577
565	15.4167	5.7478	0.3578
566	15.4333	5.7481	0.3581
567	15.45	5.7478	0.3578
568	15.4667	5.7479	0.3579
569	15.4833	5.7472	0.3572
570	15.5	5.7472	0.3572
571	15.5167	5.7473	0.3573
572	15.5333	5.7465	0.3565
573	15.55	5.7468	0.3568
574	15.5667	5.7472	0.3572
575	15.5833	5.7471	0.3571
576	15.6	5.7468	0.3568
577	15.6167	5.7468	0.3568
578	15.6333	5.7462	0.3562

	Time [min]	Water Level [m]	Drawdown [m]
579	15.65	5.7457	0.3557
580	15.6667	5.7455	0.3555
581	15.6833	5.746	0.356
582	15.7	5.7454	0.3554
583	15.7167	5.746	0.356
584	15.7333	5.7452	0.3552
585	15.75	5.7452	0.3552
586	15.7667	5.745	0.355
587	15.7833	5.7451	0.3551
588	15.8	5.7448	0.3548
589	15.8167	5.7449	0.3549
590	15.8333	5.7442	0.3542
591	15.85	5.7449	0.3549
592	15.8667	5.7444	0.3544
593	15.8833	5.7433	0.3533
594	15.9	5.7452	0.3552
595	15.9167	5.7442	0.3542
596	15.9333	5.7441	0.3541
597	15.95	5.7431	0.3531
598	15.9667	5.7436	0.3536
599	15.9833	5.7424	0.3524
600	16	5.7433	0.3533
601	16.0167	5.7435	0.3535
602	16.0333	5.7432	0.3532
603	16.05	5.743	0.353
604	16.0667	5.7425	0.3525
605	16.0833	5.7428	0.3528
606	16.1	5.742	0.352
607	16.1167	5.7424	0.3524
608	16.1333	5.7434	0.3534
609	16.15	5.7415	0.3515
610	16.1667	5.7412	0.3512
611	16.1833	5.7406	0.3506
612	16.2	5.7423	0.3523
613	16.2167	5.7405	0.3505
614	16.2333	5.7409	0.3509
615	16.25	5.7413	0.3513
616	16.2667	5.7407	0.3507
617	16.2833	5.7403	0.3503
618	16.3	5.7402	0.3502
619	16.3167	5.7395	0.3495
620	16.3333	5.7391	0.3491
621	16.35	5.7394	0.3494
622	16.3667	5.7398	0.3498
623	16.3833	5.7406	0.3506
624	16.4	5.7391	0.3491

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well#2	Pumping Well: TW#2
Test Conducted by: Josh		Test Date: 8/5/2021
Analysis Performed by: Sudhakar Kurli	Theis Recovery	Analysis Date: 1/10/2022
Aquifer Thickness: 59.00 m	Discharge Rate: 0.25 [l/s]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Radial Distance to PW [m]	
TW#2	1.01×10^{0}	1.72×10^{-2}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well#2	Pumping Well: TW#2
Test Conducted by: Josh		Test Date: 8/5/2021
Aquifer Thickness: 59.00 m	Discharge Rate: 0.25 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Theis Recovery	Sudhakar Kurli	1/10/2022	Theis Recovery	TW#2	1.01×10^{0}	1.72×10^{-2}	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 15
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #3	Pumping Well: TW#3
Test Conducted by:	Test Date: 8/10/2021	Discharge Rate: 0.25 [l/s]
Observation Well: TW#3	Static Water Level [m]: 8.44	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	0	8.44	0.00
2	1	8.6305	0.1905
3	2	8.7757	0.3357
4	3	9.0347	0.5947
5	4	9.3784	0.9384
6	5	9.6387	1.1987
7	6	9.8386	1.3986
8	7	10.0009	1.5609
9	8	10.125	1.685
10	9	10.2339	1.7939
11	10	10.3171	1.8771
12	11	10.3833	1.9433
13	12	10.4661	2.0261
14	13	10.5004	2.0604
15	14	10.5441	2.1041
16	15	10.6064	2.1664
17	16	10.6398	2.1998
18	17	10.6862	2.2462
19	18	10.7323	2.2923
20	19	10.7516	2.3116
21	20	10.7793	2.3393
22	21	10.8049	2.3649
23	22	10.8404	2.4004
24	23	10.8644	2.4244
25	24	10.885	2.445
26	25	10.9056	2.4656
27	26	10.9265	2.4865
28	27	10.9482	2.5082
29	28	10.9769	2.5369
30	29	10.991	2.551
31	30	11.0039	2.5639
32	31	11.0209	2.5809
33	32	11.0473	2.6073
34	33	11.0586	2.6186
35	34	11.0835	2.6435
36	35	11.103	2.663
37	36	11.1048	2.6648
38	37	11.1196	2.6796
39	38	11.1417	2.7017
40	39	11.1657	2.7257
41	40	11.1672	2.7272
42	41	11.1927	2.7527
43	42	11.2082	2.7682
44	43	11.1996	2.7596
45	44	11.2326	2.7926
46	45	11.2503	2.8103
47	46	11.2653	2.8253
48	47	11.2614	2.8214

	Time [min]	Water Level [m]	Drawdown [m]
49	48	11.2809	2.8409
50	49	11.3032	2.8632
51	50	11.3045	2.8645
52	51	11.3107	2.8707
53	52	11.3234	2.8834
54	53	11.3471	2.9071
55	54	11.3533	2.9133
56	55	11.3652	2.9252
57	56	11.3822	2.9422
58	57	11.4026	2.9626
59	58	11.4025	2.9625
60	59	11.4148	2.9748
61	60	11.4217	2.9817
62	61	11.4299	2.9899
63	62	11.4449	3.0049
64	63	11.4752	3.0352
65	64	11.4726	3.0326
66	65	11.4719	3.0319
67	66	11.4735	3.0335
68	67	11.4967	3.0567
69	68	11.4976	3.0576
70	69	11.5191	3.0791
71	70	11.5143	3.0743
72	71	11.5413	3.1013
73	72	11.5464	3.1064
74	73	11.55	3.11
75	74	11.557	3.117
76	75	11.5829	3.1429
77	76	11.587	3.147
78	77	11.5934	3.1534
79	78	11.608	3.168
80	79	11.6128	3.1728
81	80	11.6136	3.1736
82	81	11.6341	3.1941
83	82	11.6261	3.1861
84	83	11.6362	3.1962
85	84	11.6405	3.2005
86	85	11.6505	3.2105
87	86	11.6643	3.2243
88	87	11.6733	3.2333
89	88	11.6741	3.2341
90	89	11.6892	3.2492
91	90	11.699	3.259
92	91	11.7172	3.2772
93	92	11.7151	3.2751
94	93	11.724	3.284
95	94	11.7268	3.2868
96	95	11.7398	3.2998
97	96	11.7319	3.2919
98	97	11.7585	3.3185
99	98	11.7669	3.3269
100	99	11.7671	3.3271
101	100	11.7717	3.3317

	Time [min]	Water Level [m]	Drawdown [m]
102	101	11.7799	3.3399
103	102	11.7906	3.3506
104	103	11.7983	3.3583
105	104	11.8237	3.3837
106	105	11.8236	3.3836
107	106	11.8255	3.3855
108	107	11.8264	3.3864
109	108	11.8495	3.4095
110	109	11.8532	3.4132
111	110	11.8439	3.4039
112	111	11.8555	3.4155
113	112	11.8732	3.4332
114	113	11.8652	3.4252
115	114	11.8874	3.4474
116	115	11.8773	3.4373
117	116	11.8918	3.4518
118	117	11.8961	3.4561
119	118	11.9019	3.4619
120	119	11.9102	3.4702
121	120	11.9204	3.4804
122	121	11.9329	3.4929
123	122	11.9355	3.4955
124	123	11.9341	3.4941
125	124	11.9452	3.5052
126	125	11.9633	3.5233
127	126	11.9486	3.5086
128	127	11.9604	3.5204
129	128	11.9644	3.5244
130	129	11.9761	3.5361
131	130	11.9763	3.5363
132	131	11.9964	3.5564
133	132	11.9915	3.5515
134	133	12.0046	3.5646
135	134	12.0136	3.5736
136	135	12.0029	3.5629
137	136	12.0135	3.5735
138	137	12.0217	3.5817
139	138	12.0195	3.5795
140	139	12.0476	3.6076
141	140	12.0324	3.5924
142	141	12.0424	3.6024
143	142	12.0366	3.5966
144	143	12.0625	3.6225
145	144	12.0586	3.6186
146	145	12.0634	3.6234
147	146	12.0605	3.6205
148	147	12.0666	3.6266
149	148	12.083	3.643
150	149	12.089	3.649
151	150	12.0955	3.6555
152	151	12.1132	3.6732
153	152	12.0987	3.6587
154	153	12.1098	3.6698

	Time [min]	Water Level [m]	Drawdown [m]
155	154	12.1196	3.6796
156	155	12.1261	3.6861
157	156	12.1183	3.6783
158	157	12.1407	3.7007
159	158	12.1366	3.6966
160	159	12.133	3.693
161	160	12.1378	3.6978
162	161	12.1399	3.6999
163	162	12.1453	3.7053
164	163	12.1653	3.7253
165	164	12.167	3.727
166	165	12.1649	3.7249
167	166	12.1813	3.7413
168	167	12.1861	3.7461
169	168	12.1835	3.7435
170	169	12.1819	3.7419
171	170	12.1926	3.7526
172	171	12.1914	3.7514
173	172	12.2167	3.7767
174	173	12.2068	3.7668
175	174	12.2149	3.7749
176	175	12.2064	3.7664
177	176	12.2122	3.7722
178	177	12.2335	3.7935
179	178	12.2218	3.7818
180	179	12.2316	3.7916
181	180	12.2492	3.8092
182	181	12.2506	3.8106
183	182	12.2383	3.7983
184	183	12.2406	3.8006
185	184	12.2612	3.8212
186	185	12.2675	3.8275
187	186	12.27	3.83
188	187	12.2601	3.8201
189	188	12.2685	3.8285
190	189	12.2759	3.8359
191	190	12.279	3.839
192	191	12.2945	3.8545
193	192	12.2928	3.8528
194	193	12.2977	3.8577
195	194	12.2933	3.8533
196	195	12.3027	3.8627
197	196	12.3069	3.8669
198	197	12.3011	3.8611
199	198	12.3103	3.8703
200	199	12.3134	3.8734
201	200	12.3119	3.8719
202	201	12.3335	3.8935
203	202	12.3363	3.8963
204	203	12.3487	3.9087
205	204	12.3441	3.9041
206	205	12.3386	3.8986
207	206	12.3402	3.9002

	Time [min]	Water Level [m]	Drawdown [m]
208	207	12.3625	3.9225
209	208	12.3548	3.9148
210	209	12.3543	3.9143
211	210	12.3695	3.9295
212	211	12.3683	3.9283
213	212	12.3771	3.9371
214	213	12.3791	3.9391
215	214	12.3775	3.9375
216	215	12.3725	3.9325
217	216	12.3869	3.9469
218	217	12.3871	3.9471
219	218	12.3853	3.9453
220	219	12.3849	3.9449
221	220	12.3947	3.9547
222	221	12.3949	3.9549
223	222	12.3973	3.9573
224	223	12.4137	3.9737
225	224	12.4044	3.9644
226	225	12.4069	3.9669
227	226	12.4178	3.9778
228	227	12.4276	3.9876
229	228	12.4128	3.9728
230	229	12.4377	3.9977
231	230	12.4285	3.9885
232	231	12.4391	3.9991
233	232	12.4368	3.9968
234	233	12.4422	4.0022
235	234	12.4385	3.9985
236	235	12.4417	4.0017
237	236	12.4601	4.0201
238	237	12.4571	4.0171
239	238	12.455	4.015
240	239	12.4601	4.0201
241	240	12.462	4.022
242	241	12.4673	4.0273
243	242	12.4702	4.0302
244	243	12.4636	4.0236
245	244	12.4787	4.0387
246	245	12.4705	4.0305
247	246	12.488	4.048
248	247	12.4868	4.0468
249	248	12.4929	4.0529
250	249	12.4915	4.0515
251	250	12.5045	4.0645
252	251	12.5002	4.0602
253	252	12.5057	4.0657
254	253	12.5094	4.0694
255	254	12.5132	4.0732
256	255	12.5135	4.0735
257	256	12.522	4.082
258	257	12.5225	4.0825
259	258	12.5205	4.0805
260	259	12.5354	4.0954

	Time [min]	Water Level [m]	Drawdown [m]
261	260	12.5277	4.0877
262	261	12.5319	4.0919
263	262	12.5424	4.1024
264	263	12.5429	4.1029
265	264	12.5374	4.0974
266	265	12.5384	4.0984
267	266	12.5555	4.1155
268	267	12.5476	4.1076
269	268	12.5631	4.1231
270	269	12.5573	4.1173
271	270	12.5484	4.1084
272	271	12.5578	4.1178
273	272	12.5684	4.1284
274	273	12.5769	4.1369
275	274	12.5639	4.1239
276	275	12.571	4.131
277	276	12.5759	4.1359
278	277	12.5828	4.1428
279	278	12.5789	4.1389
280	279	12.5752	4.1352
281	280	12.5871	4.1471
282	281	12.5879	4.1479
283	282	12.5871	4.1471
284	283	12.5832	4.1432
285	284	12.5978	4.1578
286	285	12.5903	4.1503
287	286	12.5996	4.1596
288	287	12.6065	4.1665
289	288	12.6024	4.1624
290	289	12.6157	4.1757
291	290	12.6141	4.1741
292	291	12.6107	4.1707
293	292	12.6202	4.1802
294	293	12.6211	4.1811
295	294	12.6141	4.1741
296	295	12.6185	4.1785
297	296	12.628	4.188
298	297	12.6315	4.1915
299	298	12.6298	4.1898
300	299	12.6354	4.1954
301	300	12.6309	4.1909
302	301	12.6438	4.2038
303	302	12.642	4.202
304	303	12.6356	4.1956
305	304	12.6428	4.2028
306	305	12.6431	4.2031
307	306	12.6574	4.2174
308	307	12.6402	4.2002
309	308	12.6634	4.2234
310	309	12.6519	4.2119
311	310	12.657	4.217
312	311	12.6748	4.2348
313	312	12.6583	4.2183

	Time [min]	Water Level [m]	Drawdown [m]
314	313	12.6806	4.2406
315	314	12.679	4.239
316	315	12.6699	4.2299
317	316	12.6797	4.2397
318	317	12.6805	4.2405
319	318	12.6831	4.2431
320	319	12.6778	4.2378
321	320	12.6795	4.2395
322	321	12.691	4.251
323	322	12.6943	4.2543
324	323	12.7003	4.2603
325	324	12.6892	4.2492
326	325	12.6908	4.2508
327	326	12.6962	4.2562
328	327	12.7007	4.2607
329	328	12.70	4.26
330	329	12.7011	4.2611
331	330	12.7118	4.2718
332	331	12.6996	4.2596
333	332	12.7147	4.2747
334	333	12.7222	4.2822
335	334	12.7131	4.2731
336	335	12.7136	4.2736
337	336	12.7191	4.2791
338	337	12.7216	4.2816
339	338	12.7321	4.2921
340	339	12.7258	4.2858
341	340	12.7316	4.2916
342	341	12.7362	4.2962
343	342	12.7297	4.2897
344	343	12.7501	4.3101
345	344	12.7393	4.2993
346	345	12.7483	4.3083
347	346	12.7436	4.3036
348	347	12.7425	4.3025
349	348	12.7511	4.3111
350	349	12.7523	4.3123
351	350	12.755	4.315
352	351	12.7466	4.3066
353	352	12.7547	4.3147
354	353	12.7697	4.3297
355	354	12.7548	4.3148
356	355	12.7531	4.3131
357	356	12.7659	4.3259
358	357	12.7656	4.3256
359	358	12.7703	4.3303
360	359	12.7631	4.3231
361	360	12.3614	3.9214
362	361	11.5185	3.0785
363	362	10.9413	2.5013
364	363	10.5713	2.1313
365	364	10.3521	1.9121
366	365	10.2306	1.7906

	Time [min]	Water Level [m]	Drawdown [m]
367	366	10.1629	1.7229
368	367	10.1213	1.6813
369	368	10.092	1.652
370	369	10.0668	1.6268
371	370	10.0445	1.6045
372	371	10.0233	1.5833
373	372	10.0032	1.5632
374	373	9.9848	1.5448
375	374	9.9678	1.5278
376	375	9.9502	1.5102
377	376	9.9328	1.4928
378	377	9.9174	1.4774
379	378	9.901	1.461
380	379	9.8845	1.4445
381	380	9.8706	1.4306
382	381	9.8557	1.4157
383	382	9.8384	1.3984
384	383	9.8276	1.3876
385	384	9.8204	1.3804
386	385	9.7995	1.3595
387	386	9.7867	1.3467
388	387	9.8147	1.3747
389	388	9.7942	1.3542
390	389	9.7783	1.3383
391	390	9.7658	1.3258
392	391	9.7534	1.3134
393	392	9.7407	1.3007
394	393	9.7303	1.2903
395	394	9.7177	1.2777
396	395	9.7063	1.2663
397	396	9.6958	1.2558
398	397	9.6833	1.2433
399	398	9.6729	1.2329
400	399	9.6618	1.2218
401	400	9.6521	1.2121
402	401	9.6416	1.2016
403	402	9.6316	1.1916
404	403	9.6231	1.1831
405	404	9.6102	1.1702
406	405	9.6006	1.1606
407	406	9.5911	1.1511
408	407	9.5817	1.1417
409	408	9.5727	1.1327
410	409	9.5637	1.1237
411	410	9.5531	1.1131
412	411	9.5453	1.1053
413	412	9.5366	1.0966
414	413	9.5278	1.0878
415	414	9.5187	1.0787
416	415	9.5092	1.0692
417	416	9.5007	1.0607
418	417	9.4917	1.0517
419	418	9.4837	1.0437

	Time [min]	Water Level [m]	Drawdown [m]
420	419	9.4752	1.0352
421	420	9.4686	1.0286
422	421	9.477	1.037
423	422	9.4924	1.0524
424	423	9.5217	1.0817
425	424	9.5688	1.1288
426	425	9.4469	1.0069
427	426	9.5422	1.1022
428	427	9.5068	1.0668
429	428	9.4317	0.9917
430	429	9.5144	1.0744
431	430	10.2204	1.7804
432	431	9.433	0.993
433	432	9.3984	0.9584
434	433	9.3709	0.9309
435	434	9.3596	0.9196
436	435	9.3514	0.9114
437	436	9.3438	0.9038
438	437	9.3336	0.8936
439	438	9.3365	0.8965
440	439	9.3305	0.8905
441	440	9.3219	0.8819
442	441	9.3162	0.8762
443	442	9.3089	0.8689
444	443	9.3034	0.8634
445	444	9.297	0.857
446	445	9.2897	0.8497
447	446	9.2831	0.8431
448	447	9.2775	0.8375
449	448	9.2721	0.8321
450	449	9.2653	0.8253
451	450	9.2586	0.8186
452	451	9.2528	0.8128
453	452	9.2475	0.8075
454	453	9.2404	0.8004
455	454	9.2338	0.7938
456	455	9.2292	0.7892
457	456	9.2238	0.7838
458	457	9.2177	0.7777
459	458	9.2108	0.7708
460	459	9.2058	0.7658
461	460	9.2009	0.7609
462	461	9.1952	0.7552
463	462	9.1899	0.7499
464	463	9.1829	0.7429
465	464	9.1789	0.7389
466	465	9.1735	0.7335
467	466	9.1683	0.7283
468	467	9.1631	0.7231
469	468	9.158	0.718
470	469	9.1536	0.7136
471	470	9.149	0.709
472	471	9.144	0.704

	Time [min]	Water Level [m]	Drawdown [m]
473	472	9.1405	0.7005
474	473	9.134	0.694
475	474	9.1296	0.6896
476	475	9.1235	0.6835
477	476	9.1188	0.6788
478	477	9.1134	0.6734
479	478	9.1095	0.6695
480	479	9.1046	0.6646
481	480	9.1007	0.6607
482	481	9.0962	0.6562
483	482	9.0909	0.6509
484	483	9.0856	0.6456
485	484	9.0818	0.6418
486	485	9.0771	0.6371
487	486	9.0732	0.6332
488	487	9.0686	0.6286
489	488	9.0632	0.6232
490	489	9.059	0.619
491	490	9.0548	0.6148
492	491	9.0511	0.6111
493	492	9.0475	0.6075
494	493	9.041	0.601
495	494	9.0375	0.5975
496	495	9.0336	0.5936
497	496	9.0283	0.5883
498	497	9.0249	0.5849
499	498	9.0207	0.5807
500	499	9.0175	0.5775
501	500	9.0133	0.5733
502	501	9.0089	0.5689
503	502	9.0038	0.5638
504	503	9.0013	0.5613
505	504	8.9967	0.5567
506	505	8.993	0.553
507	506	8.9894	0.5494
508	507	8.9855	0.5455
509	508	8.982	0.542
510	509	8.9778	0.5378
511	510	8.9738	0.5338
512	511	8.9708	0.5308
513	512	8.9667	0.5267
514	513	8.963	0.523
515	514	8.9599	0.5199
516	515	8.9552	0.5152
517	516	8.9528	0.5128
518	517	8.9477	0.5077
519	518	8.9452	0.5052
520	519	8.9416	0.5016
521	520	8.9378	0.4978
522	521	8.9348	0.4948
523	522	8.931	0.491
524	523	8.9285	0.4885
525	524	8.9239	0.4839

	Time [min]	Water Level [m]	Drawdown [m]
526	525	8.9202	0.4802
527	526	8.9174	0.4774
528	527	8.914	0.474
529	528	8.91	0.47
530	529	8.9078	0.4678
531	530	8.904	0.464
532	531	8.9014	0.4614
533	532	8.8984	0.4584
534	533	8.8946	0.4546
535	534	8.8914	0.4514
536	535	8.8873	0.4473
537	536	8.885	0.445
538	537	8.8819	0.4419
539	538	8.8789	0.4389
540	539	8.8749	0.4349
541	540	8.8727	0.4327
542	541	8.8692	0.4292
543	542	8.8664	0.4264
544	543	8.8629	0.4229
545	544	8.8606	0.4206
546	545	8.8564	0.4164
547	546	8.8542	0.4142
548	547	8.8513	0.4113
549	548	8.8491	0.4091
550	549	8.8445	0.4045
551	550	8.8415	0.4015
552	551	8.8391	0.3991
553	552	8.8362	0.3962
554	553	8.8331	0.3931
555	554	8.8299	0.3899
556	555	8.827	0.387
557	556	8.8247	0.3847
558	557	8.822	0.382
559	558	8.8178	0.3778
560	559	8.8162	0.3762
561	560	8.8139	0.3739
562	561	8.8112	0.3712
563	562	8.8076	0.3676
564	563	8.8055	0.3655
565	564	8.8015	0.3615
566	565	8.7982	0.3582
567	566	8.7971	0.3571
568	567	8.7942	0.3542
569	568	8.7909	0.3509
570	569	8.7884	0.3484
571	570	8.7852	0.3452
572	571	8.7832	0.3432
573	572	8.7812	0.3412
574	573	8.7781	0.3381
575	574	8.7767	0.3367
576	575	8.7734	0.3334
577	576	8.7694	0.3294
578	577	8.7678	0.3278

	Time [min]	Water Level [m]	Drawdown [m]
579	578	8.7656	0.3256
580	579	8.7627	0.3227
581	580	8.7605	0.3205
582	581	8.7567	0.3167
583	582	8.7547	0.3147
584	583	8.7522	0.3122
585	584	8.7505	0.3105
586	585	8.7473	0.3073
587	586	8.7456	0.3056
588	587	8.7427	0.3027
589	588	8.7407	0.3007
590	589	8.738	0.298
591	590	8.7365	0.2965
592	591	8.7332	0.2932
593	592	8.7308	0.2908
594	593	8.7277	0.2877
595	594	8.7266	0.2866
596	595	8.7229	0.2829
597	596	8.7223	0.2823
598	597	8.7189	0.2789
599	598	8.7174	0.2774
600	599	8.7133	0.2733
601	600	8.7125	0.2725
602	601	8.7107	0.2707
603	602	8.7075	0.2675
604	603	8.706	0.266
605	604	8.7038	0.2638
606	605	8.7007	0.2607
607	606	8.6988	0.2588
608	607	8.6969	0.2569
609	608	8.6936	0.2536
610	609	8.6919	0.2519
611	610	8.6899	0.2499
612	611	8.6877	0.2477
613	612	8.6867	0.2467
614	613	8.6842	0.2442
615	614	8.6812	0.2412
616	615	8.6793	0.2393
617	616	8.6763	0.2363
618	617	8.674	0.234
619	618	8.6723	0.2323
620	619	8.6712	0.2312
621	620	8.6687	0.2287
622	621	8.6662	0.2262
623	622	8.6646	0.2246
624	623	8.6624	0.2224
625	624	8.6601	0.2201
626	625	8.6577	0.2177
627	626	8.6577	0.2177
628	627	8.6533	0.2133
629	628	8.6527	0.2127
630	629	8.6501	0.2101
631	630	8.6478	0.2078

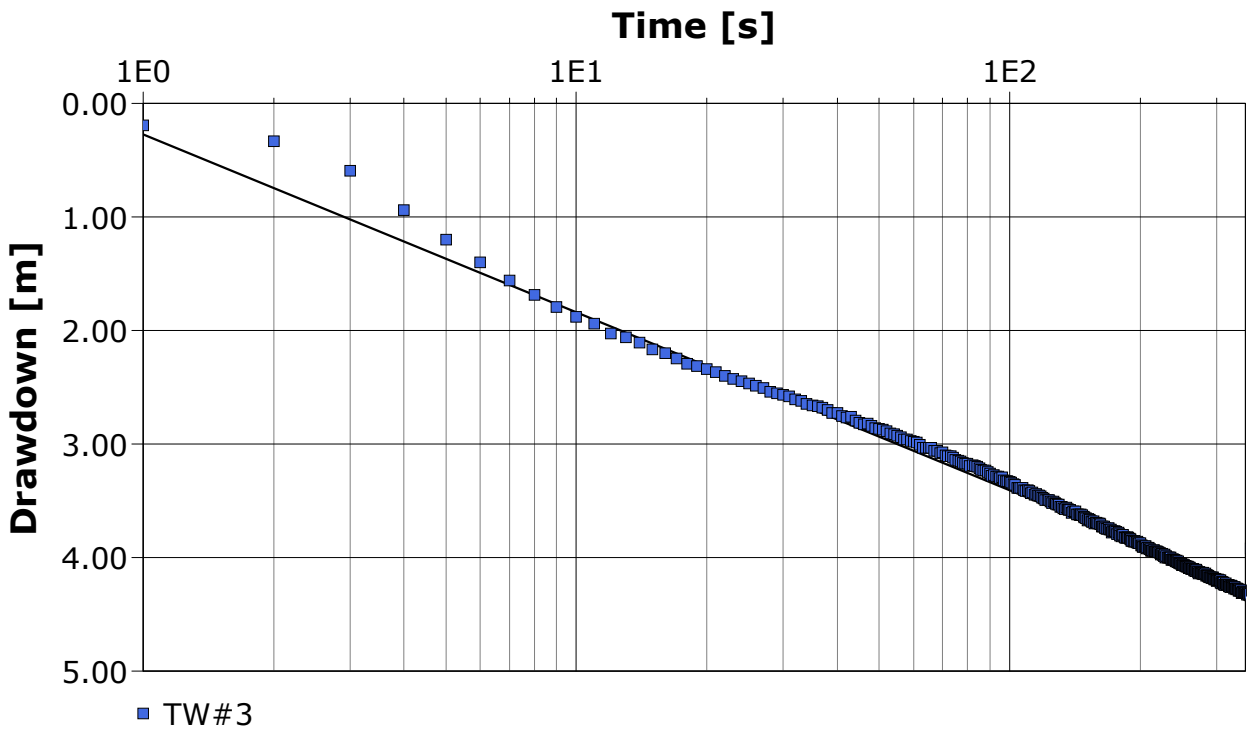
	Time [min]	Water Level [m]	Drawdown [m]
632	631	8.6463	0.2063
633	632	8.6441	0.2041
634	633	8.642	0.202
635	634	8.6404	0.2004
636	635	8.6377	0.1977
637	636	8.6358	0.1958
638	637	8.6337	0.1937
639	638	8.6326	0.1926
640	639	8.6304	0.1904
641	640	8.6278	0.1878
642	641	8.6265	0.1865
643	642	8.6256	0.1856
644	643	8.6221	0.1821
645	644	8.6201	0.1801
646	645	8.6191	0.1791
647	646	8.617	0.177
648	647	8.6152	0.1752
649	648	8.613	0.173
650	649	8.6115	0.1715
651	650	8.6094	0.1694
652	651	8.6073	0.1673
653	652	8.6062	0.1662
654	653	8.6039	0.1639
655	654	8.6023	0.1623
656	655	8.60	0.16
657	656	8.599	0.159
658	657	8.5965	0.1565
659	658	8.5942	0.1542
660	659	8.5935	0.1535
661	660	8.5909	0.1509
662	661	8.5892	0.1492
663	662	8.5883	0.1483
664	663	8.5865	0.1465
665	664	8.5841	0.1441
666	665	8.5819	0.1419
667	666	8.5806	0.1406
668	667	8.5784	0.1384
669	668	8.5759	0.1359
670	669	8.5755	0.1355
671	670	8.5737	0.1337
672	671	8.5709	0.1309
673	672	8.5702	0.1302
674	673	8.569	0.129
675	674	8.5676	0.1276
676	675	8.5651	0.1251
677	676	8.5637	0.1237
678	677	8.5623	0.1223
679	678	8.5598	0.1198
680	679	8.5587	0.1187
681	680	8.5568	0.1168
682	681	8.5548	0.1148
683	682	8.5542	0.1142
684	683	8.5525	0.1125

	Time [min]	Water Level [m]	Drawdown [m]
685	684	8.5512	0.1112
686	685	8.5486	0.1086
687	686	8.5465	0.1065
688	687	8.5459	0.1059
689	688	8.5441	0.1041
690	689	8.5427	0.1027
691	690	8.5416	0.1016
692	691	8.5395	0.0995
693	692	8.5371	0.0971
694	693	8.5367	0.0967
695	694	8.5349	0.0949
696	695	8.5337	0.0937
697	696	8.5321	0.0921
698	697	8.5297	0.0897
699	698	8.5293	0.0893
700	699	8.5277	0.0877
701	700	8.5263	0.0863
702	701	8.5247	0.0847
703	702	8.5228	0.0828
704	703	8.522	0.082
705	704	8.5198	0.0798
706	705	8.5191	0.0791
707	706	8.5165	0.0765
708	707	8.5157	0.0757
709	708	8.5137	0.0737
710	709	8.512	0.072
711	710	8.5105	0.0705
712	711	8.5095	0.0695
713	712	8.5094	0.0694
714	713	8.5064	0.0664
715	714	8.5048	0.0648
716	715	8.5032	0.0632
717	716	8.5028	0.0628
718	717	8.5021	0.0621
719	718	8.4999	0.0599
720	719	8.4974	0.0574
721	720	8.4977	0.0577
722	721	8.4966	0.0566
723	722	8.4941	0.0541
724	723	8.4932	0.0532
725	724	8.4909	0.0509
726	725	8.4894	0.0494
727	726	8.4883	0.0483
728	727	8.4865	0.0465
729	728	8.4863	0.0463
730	729	8.4849	0.0449
731	730	8.4829	0.0429
732	731	8.4826	0.0426
733	732	8.4801	0.0401
734	733	8.4798	0.0398
735	734	8.4777	0.0377
736	735	8.4762	0.0362
737	736	8.4749	0.0349

	Time [min]	Water Level [m]	Drawdown [m]
738	737	8.4743	0.0343
739	738	8.4726	0.0326
740	739	8.4714	0.0314
741	740	8.4691	0.0291
742	741	8.4697	0.0297
743	742	8.4688	0.0288
744	743	8.466	0.026
745	744	8.4652	0.0252
746	745	8.4636	0.0236
747	746	8.4634	0.0234
748	747	8.4607	0.0207
749	748	8.4604	0.0204
750	749	8.4595	0.0195
751	750	8.4577	0.0177
752	751	8.457	0.017
753	752	8.4565	0.0165
754	753	8.4551	0.0151
755	754	8.4531	0.0131
756	755	8.4516	0.0116
757	756	8.4502	0.0102
758	757	8.4492	0.0092
759	758	8.4493	0.0093
760	759	8.4472	0.0072
761	760	8.4467	0.0067
762	761	8.4448	0.0048
763	762	8.4443	0.0043
764	763	8.4426	0.0026
765	764	8.4412	0.0012
766	765	8.4407	0.0007

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #3	Pumping Well: TW#3
Test Conducted by:		Test Date: 8/10/2021
Analysis Performed by: Sudhakar Kurli	Cooper & Jacob	Analysis Date: 1/10/2022
Aquifer Thickness: 62.00 m	Discharge Rate: 0.25 [l/s]	



Calculation using COOPER & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Storage coefficient	Radial Distance to PW [m]	
TW#3	2.52×10^{0}	4.07×10^{-2}	1.96×10^{-3}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #3	Pumping Well: TW#3
Test Conducted by:		Test Date: 8/10/2021
Aquifer Thickness: 62.00 m	Discharge Rate: 0.25 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Cooper & Jacob	Sudhakar Kurli	1/10/2022	Cooper & Jacob l	TW#3	2.52×10^{0}	4.07×10^{-2}	1.96×10^{-3}

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 8
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #3	Pumping Well: TW#3
Test Conducted by:	Test Date: 8/10/2021	Discharge: variable, average rate 0.25 [l/s]
Observation Well: TW#3	Static Water Level [m]: 8.44	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	1	12.7659	4.3259
2	2	12.7656	4.3256
3	3	12.7703	4.3303
4	4	12.7631	4.3231
5	5	12.3614	3.9214
6	6	11.5185	3.0785
7	7	10.9413	2.5013
8	8	10.5713	2.1313
9	9	10.3521	1.9121
10	10	10.2306	1.7906
11	11	10.1629	1.7229
12	12	10.1213	1.6813
13	13	10.092	1.652
14	14	10.0668	1.6268
15	15	10.0445	1.6045
16	16	10.0233	1.5833
17	17	10.0032	1.5632
18	18	9.9848	1.5448
19	19	9.9678	1.5278
20	20	9.9502	1.5102
21	21	9.9328	1.4928
22	22	9.9174	1.4774
23	23	9.901	1.461
24	24	9.8845	1.4445
25	25	9.8706	1.4306
26	26	9.8557	1.4157
27	27	9.8384	1.3984
28	28	9.8276	1.3876
29	29	9.8204	1.3804
30	30	9.7995	1.3595
31	31	9.7867	1.3467
32	32	9.8147	1.3747
33	33	9.7942	1.3542
34	34	9.7783	1.3383
35	35	9.7658	1.3258
36	36	9.7534	1.3134
37	37	9.7407	1.3007
38	38	9.7303	1.2903
39	39	9.7177	1.2777
40	40	9.7063	1.2663
41	41	9.6958	1.2558
42	42	9.6833	1.2433
43	43	9.6729	1.2329
44	44	9.6618	1.2218
45	45	9.6521	1.2121
46	46	9.6416	1.2016
47	47	9.6316	1.1916
48	48	9.6231	1.1831

	Time [min]	Water Level [m]	Drawdown [m]
49	49	9.6102	1.1702
50	50	9.6006	1.1606
51	51	9.5911	1.1511
52	52	9.5817	1.1417
53	53	9.5727	1.1327
54	54	9.5637	1.1237
55	55	9.5531	1.1131
56	56	9.5453	1.1053
57	57	9.5366	1.0966
58	58	9.5278	1.0878
59	59	9.5187	1.0787
60	60	9.5092	1.0692
61	61	9.5007	1.0607
62	62	9.4917	1.0517
63	63	9.4837	1.0437
64	64	9.4752	1.0352
65	65	9.4686	1.0286
66	66	9.477	1.037
67	67	9.4924	1.0524
68	68	9.5217	1.0817
69	69	9.5688	1.1288
70	70	9.4469	1.0069
71	71	9.5422	1.1022
72	72	9.5068	1.0668
73	73	9.4317	0.9917
74	74	9.5144	1.0744
75	76	9.433	0.993
76	77	9.3984	0.9584
77	78	9.3709	0.9309
78	79	9.3596	0.9196
79	80	9.3514	0.9114
80	81	9.3438	0.9038
81	82	9.3336	0.8936
82	83	9.3365	0.8965
83	84	9.3305	0.8905
84	85	9.3219	0.8819
85	86	9.3162	0.8762
86	87	9.3089	0.8689
87	88	9.3034	0.8634
88	89	9.297	0.857
89	90	9.2897	0.8497
90	91	9.2831	0.8431
91	92	9.2775	0.8375
92	93	9.2721	0.8321
93	94	9.2653	0.8253
94	95	9.2586	0.8186
95	96	9.2528	0.8128
96	97	9.2475	0.8075
97	98	9.2404	0.8004
98	99	9.2338	0.7938
99	100	9.2292	0.7892
100	101	9.2238	0.7838
101	102	9.2177	0.7777

	Time [min]	Water Level [m]	Drawdown [m]
102	103	9.2108	0.7708
103	104	9.2058	0.7658
104	105	9.2009	0.7609
105	106	9.1952	0.7552
106	107	9.1899	0.7499
107	108	9.1829	0.7429
108	109	9.1789	0.7389
109	110	9.1735	0.7335
110	111	9.1683	0.7283
111	112	9.1631	0.7231
112	113	9.158	0.718
113	114	9.1536	0.7136
114	115	9.149	0.709
115	116	9.144	0.704
116	117	9.1405	0.7005
117	118	9.134	0.694
118	119	9.1296	0.6896
119	120	9.1235	0.6835
120	121	9.1188	0.6788
121	122	9.1134	0.6734
122	123	9.1095	0.6695
123	124	9.1046	0.6646
124	125	9.1007	0.6607
125	126	9.0962	0.6562
126	127	9.0909	0.6509
127	128	9.0856	0.6456
128	129	9.0818	0.6418
129	130	9.0771	0.6371
130	131	9.0732	0.6332
131	132	9.0686	0.6286
132	133	9.0632	0.6232
133	134	9.059	0.619
134	135	9.0548	0.6148
135	136	9.0511	0.6111
136	137	9.0475	0.6075
137	138	9.041	0.601
138	139	9.0375	0.5975
139	140	9.0336	0.5936
140	141	9.0283	0.5883
141	142	9.0249	0.5849
142	143	9.0207	0.5807
143	144	9.0175	0.5775
144	145	9.0133	0.5733
145	146	9.0089	0.5689
146	147	9.0038	0.5638
147	148	9.0013	0.5613
148	149	8.9967	0.5567
149	150	8.993	0.553
150	151	8.9894	0.5494
151	152	8.9855	0.5455
152	153	8.982	0.542
153	154	8.9778	0.5378
154	155	8.9738	0.5338

	Time [min]	Water Level [m]	Drawdown [m]
155	156	8.9708	0.5308
156	157	8.9667	0.5267
157	158	8.963	0.523
158	159	8.9599	0.5199
159	160	8.9552	0.5152
160	161	8.9528	0.5128
161	162	8.9477	0.5077
162	163	8.9452	0.5052
163	164	8.9416	0.5016
164	165	8.9378	0.4978
165	166	8.9348	0.4948
166	167	8.931	0.491
167	168	8.9285	0.4885
168	169	8.9239	0.4839
169	170	8.9202	0.4802
170	171	8.9174	0.4774
171	172	8.914	0.474
172	173	8.91	0.47
173	174	8.9078	0.4678
174	175	8.904	0.464
175	176	8.9014	0.4614
176	177	8.8984	0.4584
177	178	8.8946	0.4546
178	179	8.8914	0.4514
179	180	8.8873	0.4473
180	181	8.885	0.445
181	182	8.8819	0.4419
182	183	8.8789	0.4389
183	184	8.8749	0.4349
184	185	8.8727	0.4327
185	186	8.8692	0.4292
186	187	8.8664	0.4264
187	188	8.8629	0.4229
188	189	8.8606	0.4206
189	190	8.8564	0.4164
190	191	8.8542	0.4142
191	192	8.8513	0.4113
192	193	8.8491	0.4091
193	194	8.8445	0.4045
194	195	8.8415	0.4015
195	196	8.8391	0.3991
196	197	8.8362	0.3962
197	198	8.8331	0.3931
198	199	8.8299	0.3899
199	200	8.827	0.387
200	201	8.8247	0.3847
201	202	8.822	0.382
202	203	8.8178	0.3778
203	204	8.8162	0.3762
204	205	8.8139	0.3739
205	206	8.8112	0.3712
206	207	8.8076	0.3676
207	208	8.8055	0.3655

	Time [min]	Water Level [m]	Drawdown [m]
208	209	8.8015	0.3615
209	210	8.7982	0.3582
210	211	8.7971	0.3571
211	212	8.7942	0.3542
212	213	8.7909	0.3509
213	214	8.7884	0.3484
214	215	8.7852	0.3452
215	216	8.7832	0.3432
216	217	8.7812	0.3412
217	218	8.7781	0.3381
218	219	8.7767	0.3367
219	220	8.7734	0.3334
220	221	8.7694	0.3294
221	222	8.7678	0.3278
222	223	8.7656	0.3256
223	224	8.7627	0.3227
224	225	8.7605	0.3205
225	226	8.7567	0.3167
226	227	8.7547	0.3147
227	228	8.7522	0.3122
228	229	8.7505	0.3105
229	230	8.7473	0.3073
230	231	8.7456	0.3056
231	232	8.7427	0.3027
232	233	8.7407	0.3007
233	234	8.738	0.298
234	235	8.7365	0.2965
235	236	8.7332	0.2932
236	237	8.7308	0.2908
237	238	8.7277	0.2877
238	239	8.7266	0.2866
239	240	8.7229	0.2829
240	241	8.7223	0.2823
241	242	8.7189	0.2789
242	243	8.7174	0.2774
243	244	8.7133	0.2733
244	245	8.7125	0.2725
245	246	8.7107	0.2707
246	247	8.7075	0.2675
247	248	8.706	0.266
248	249	8.7038	0.2638
249	250	8.7007	0.2607
250	251	8.6988	0.2588
251	252	8.6969	0.2569
252	253	8.6936	0.2536
253	254	8.6919	0.2519
254	255	8.6899	0.2499
255	256	8.6877	0.2477
256	257	8.6867	0.2467
257	258	8.6842	0.2442
258	259	8.6812	0.2412
259	260	8.6793	0.2393
260	261	8.6763	0.2363

	Time [min]	Water Level [m]	Drawdown [m]
261	262	8.674	0.234
262	263	8.6723	0.2323
263	264	8.6712	0.2312
264	265	8.6687	0.2287
265	266	8.6662	0.2262
266	267	8.6646	0.2246
267	268	8.6624	0.2224
268	269	8.6601	0.2201
269	270	8.6577	0.2177
270	271	8.6577	0.2177
271	272	8.6533	0.2133
272	273	8.6527	0.2127
273	274	8.6501	0.2101
274	275	8.6478	0.2078
275	276	8.6463	0.2063
276	277	8.6441	0.2041
277	278	8.642	0.202
278	279	8.6404	0.2004
279	280	8.6377	0.1977
280	281	8.6358	0.1958
281	282	8.6337	0.1937
282	283	8.6326	0.1926
283	284	8.6304	0.1904
284	285	8.6278	0.1878
285	286	8.6265	0.1865
286	287	8.6256	0.1856
287	288	8.6221	0.1821
288	289	8.6201	0.1801
289	290	8.6191	0.1791
290	291	8.617	0.177
291	292	8.6152	0.1752
292	293	8.613	0.173
293	294	8.6115	0.1715
294	295	8.6094	0.1694
295	296	8.6073	0.1673
296	297	8.6062	0.1662
297	298	8.6039	0.1639
298	299	8.6023	0.1623
299	300	8.60	0.16
300	301	8.599	0.159
301	302	8.5965	0.1565
302	303	8.5942	0.1542
303	304	8.5935	0.1535
304	305	8.5909	0.1509
305	306	8.5892	0.1492
306	307	8.5883	0.1483
307	308	8.5865	0.1465
308	309	8.5841	0.1441
309	310	8.5819	0.1419
310	311	8.5806	0.1406
311	312	8.5784	0.1384
312	313	8.5759	0.1359
313	314	8.5755	0.1355

	Time [min	Water Level [m]	Drawdown [m]
314	315	8.5737	0.1337
315	316	8.5709	0.1309
316	317	8.5702	0.1302
317	318	8.569	0.129
318	319	8.5676	0.1276
319	320	8.5651	0.1251
320	321	8.5637	0.1237
321	322	8.5623	0.1223
322	323	8.5598	0.1198
323	324	8.5587	0.1187
324	325	8.5568	0.1168
325	326	8.5548	0.1148
326	327	8.5542	0.1142
327	328	8.5525	0.1125
328	329	8.5512	0.1112
329	330	8.5486	0.1086
330	331	8.5465	0.1065
331	332	8.5459	0.1059
332	333	8.5441	0.1041
333	334	8.5427	0.1027
334	335	8.5416	0.1016
335	336	8.5395	0.0995
336	337	8.5371	0.0971
337	338	8.5367	0.0967
338	339	8.5349	0.0949
339	340	8.5337	0.0937
340	341	8.5321	0.0921
341	342	8.5297	0.0897
342	343	8.5293	0.0893
343	344	8.5277	0.0877
344	345	8.5263	0.0863
345	346	8.5247	0.0847
346	347	8.5228	0.0828
347	348	8.522	0.082
348	349	8.5198	0.0798
349	350	8.5191	0.0791
350	351	8.5165	0.0765
351	352	8.5157	0.0757
352	353	8.5137	0.0737
353	354	8.512	0.072
354	355	8.5105	0.0705
355	356	8.5095	0.0695
356	357	8.5094	0.0694
357	358	8.5064	0.0664
358	359	8.5048	0.0648
359	360	8.5032	0.0632
360	361	8.5028	0.0628
361	362	8.5021	0.0621
362	363	8.4999	0.0599
363	364	8.4974	0.0574
364	365	8.4977	0.0577
365	366	8.4966	0.0566
366	367	8.4941	0.0541

	Time [min]	Water Level [m]	Drawdown [m]
367	368	8.4932	0.0532
368	369	8.4909	0.0509
369	370	8.4894	0.0494
370	371	8.4883	0.0483
371	372	8.4865	0.0465
372	373	8.4863	0.0463
373	374	8.4849	0.0449
374	375	8.4829	0.0429
375	376	8.4826	0.0426
376	377	8.4801	0.0401
377	378	8.4798	0.0398
378	379	8.4777	0.0377
379	380	8.4762	0.0362
380	381	8.4749	0.0349
381	382	8.4743	0.0343
382	383	8.4726	0.0326
383	384	8.4714	0.0314
384	385	8.4691	0.0291
385	386	8.4697	0.0297
386	387	8.4688	0.0288
387	388	8.466	0.026
388	389	8.4652	0.0252
389	390	8.4636	0.0236
390	391	8.4634	0.0234
391	392	8.4607	0.0207
392	393	8.4604	0.0204
393	394	8.4595	0.0195
394	395	8.4577	0.0177
395	396	8.457	0.017
396	397	8.4565	0.0165
397	398	8.4551	0.0151
398	399	8.4531	0.0131
399	400	8.4516	0.0116
400	401	8.4502	0.0102
401	402	8.4492	0.0092
402	403	8.4493	0.0093
403	404	8.4472	0.0072
404	405	8.4467	0.0067
405	406	8.4448	0.0048
406	407	8.4443	0.0043

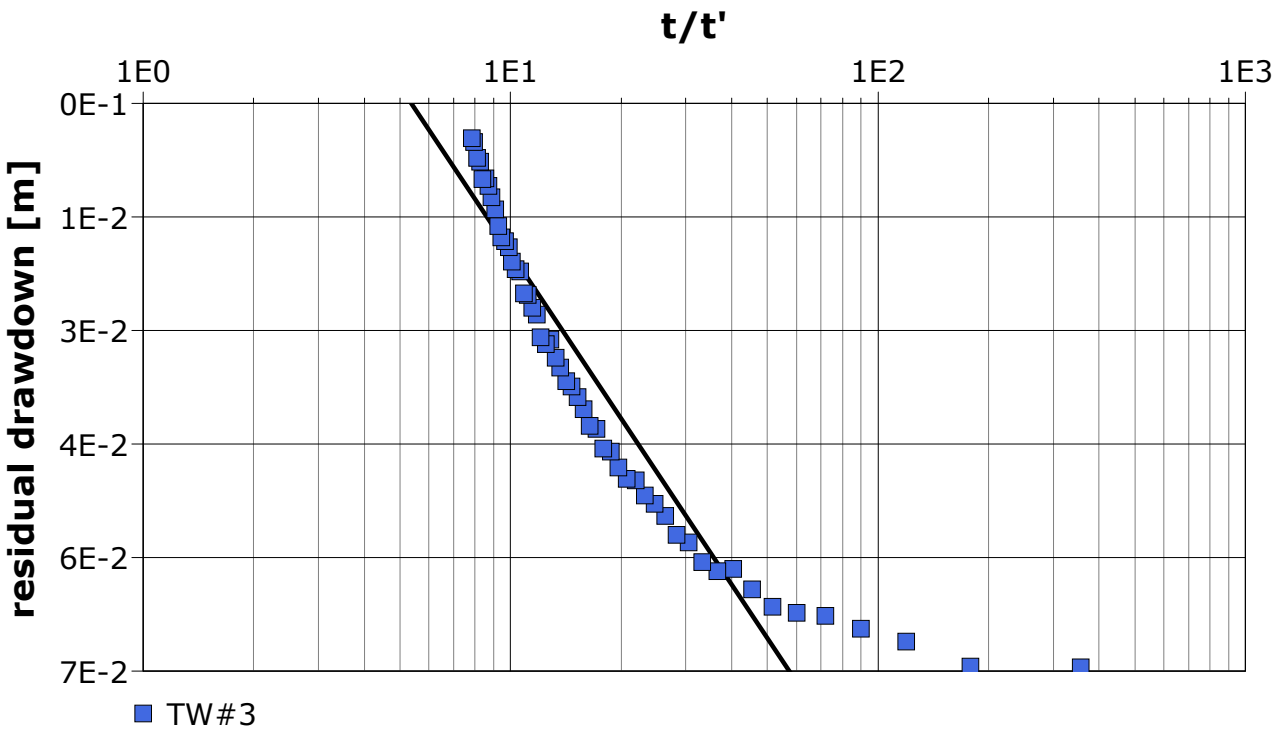
Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Discharge Data**	Page 1 of 1
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #3	Pumping Well: TW#3
Test Conducted by:	Test Date: 8/10/2021	Discharge: variable, average rate 0.25 [l/s]
Observation Well: TW#3		Radial Distance to PW [m]: -

	Time [min]	Discharge [l/s]
1	355	0.25

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #3	Pumping Well: TW#3
Test Conducted by:		Test Date: 8/10/2021
Analysis Performed by: Sudhakar Kurli	Cooper & Jacob	Analysis Date: 1/10/2022
Aquifer Thickness: 62.00 m	Discharge: variable, average rate 0.25 [l/s]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Radial Distance to PW [m]	
TW#3	5.81×10^{1}	9.37×10^{-1}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #3	Pumping Well: TW#3
Test Conducted by:		Test Date: 8/10/2021
Aquifer Thickness: 62.00 m	Discharge: variable, average rate 0.25 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Cooper & Jacob	Sudhakar Kurli	1/10/2022	Theis Recovery	TW#3	5.81×10^{1}	9.37×10^{-1}	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 11
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #4	Pumping Well: TW#4
Test Conducted by: Josh	Test Date: 8/11/2021	Discharge Rate: 0.25 [l/s]
Observation Well: TW#4	Static Water Level [m]: 2.38	Radial Distance to PW [m]: -

	Time [min]	Water Level [m]	Drawdown [m]
1	1	2.8974	0.5174
2	3	3.1568	0.7768
3	4	3.1853	0.8053
4	5	3.2333	0.8533
5	6	3.269	0.889
6	7	3.3071	0.9271
7	8	3.3432	0.9632
8	9	3.3921	1.0121
9	10	3.4138	1.0338
10	11	3.4442	1.0642
11	12	3.4784	1.0984
12	13	3.5044	1.1244
13	14	3.5225	1.1425
14	15	3.5469	1.1669
15	16	3.5682	1.1882
16	17	3.5882	1.2082
17	18	3.6031	1.2231
18	19	3.6192	1.2392
19	20	3.6437	1.2637
20	21	3.6586	1.2786
21	22	3.6775	1.2975
22	23	3.6896	1.3096
23	24	3.7074	1.3274
24	25	3.713	1.333
25	26	3.7239	1.3439
26	27	3.7442	1.3642
27	28	3.7502	1.3702
28	29	3.7662	1.3862
29	30	3.7753	1.3953
30	31	3.7899	1.4099
31	32	3.7922	1.4122
32	33	3.8002	1.4202
33	34	3.8057	1.4257
34	35	3.8195	1.4395
35	36	3.8207	1.4407
36	37	3.8417	1.4617
37	38	3.8469	1.4669
38	39	3.8404	1.4604
39	40	3.8547	1.4747
40	41	3.8725	1.4925
41	42	3.8703	1.4903
42	43	3.8806	1.5006
43	44	3.8915	1.5115
44	45	3.8974	1.5174
45	46	3.8963	1.5163
46	47	3.9101	1.5301
47	48	3.9187	1.5387
48	49	3.9258	1.5458

	Time [min]	Water Level [m]	Drawdown [m]
49	50	3.9291	1.5491
50	51	3.9369	1.5569
51	52	3.9332	1.5532
52	53	3.9409	1.5609
53	54	3.9509	1.5709
54	55	3.9593	1.5793
55	56	3.9661	1.5861
56	57	3.9733	1.5933
57	58	3.9847	1.6047
58	59	3.9827	1.6027
59	60	3.9922	1.6122
60	61	4.0013	1.6213
61	62	4.0152	1.6352
62	63	4.011	1.631
63	64	4.0196	1.6396
64	65	4.021	1.641
65	66	4.0356	1.6556
66	67	4.0384	1.6584
67	68	4.046	1.666
68	69	4.0498	1.6698
69	70	4.0586	1.6786
70	71	4.0588	1.6788
71	72	4.0617	1.6817
72	73	4.0619	1.6819
73	74	4.0717	1.6917
74	75	4.0753	1.6953
75	76	4.0799	1.6999
76	77	4.0891	1.7091
77	78	4.0889	1.7089
78	79	4.0979	1.7179
79	80	4.0991	1.7191
80	81	4.1022	1.7222
81	82	4.1068	1.7268
82	83	4.1193	1.7393
83	84	4.1178	1.7378
84	85	4.1208	1.7408
85	86	4.1245	1.7445
86	87	4.1296	1.7496
87	88	4.1386	1.7586
88	89	4.1442	1.7642
89	90	4.1457	1.7657
90	91	4.1478	1.7678
91	92	4.1514	1.7714
92	93	4.1513	1.7713
93	94	4.1499	1.7699
94	95	4.1616	1.7816
95	96	4.1743	1.7943
96	97	4.1605	1.7805
97	98	4.1795	1.7995
98	99	4.1801	1.8001
99	100	4.1814	1.8014
100	101	4.1881	1.8081
101	102	4.1961	1.8161

	Time [min]	Water Level [m]	Drawdown [m]
102	103	4.1895	1.8095
103	104	4.1957	1.8157
104	105	4.1978	1.8178
105	106	4.2017	1.8217
106	107	4.2035	1.8235
107	108	4.2015	1.8215
108	109	4.2054	1.8254
109	110	4.2021	1.8221
110	111	4.214	1.834
111	112	4.2153	1.8353
112	113	4.2238	1.8438
113	114	4.2213	1.8413
114	115	4.2261	1.8461
115	116	4.2378	1.8578
116	117	4.2377	1.8577
117	118	4.2359	1.8559
118	119	4.2342	1.8542
119	120	4.2445	1.8645
120	121	4.2452	1.8652
121	122	4.2503	1.8703
122	123	4.2548	1.8748
123	124	4.2619	1.8819
124	125	4.2583	1.8783
125	126	4.2602	1.8802
126	127	4.2661	1.8861
127	128	4.2744	1.8944
128	129	4.2683	1.8883
129	130	4.2798	1.8998
130	131	4.2758	1.8958
131	132	4.2798	1.8998
132	133	4.2763	1.8963
133	134	4.2837	1.9037
134	135	4.2809	1.9009
135	136	4.2907	1.9107
136	137	4.2866	1.9066
137	138	4.292	1.912
138	139	4.2828	1.9028
139	140	4.3023	1.9223
140	141	4.3005	1.9205
141	142	4.3029	1.9229
142	143	4.3084	1.9284
143	144	4.3116	1.9316
144	145	4.3136	1.9336
145	146	4.3149	1.9349
146	147	4.3172	1.9372
147	148	4.3134	1.9334
148	149	4.32	1.94
149	150	4.3281	1.9481
150	151	4.326	1.946
151	152	4.3311	1.9511
152	153	4.335	1.955
153	154	4.3398	1.9598
154	155	4.3423	1.9623

	Time [min]	Water Level [m]	Drawdown [m]
155	156	4.3492	1.9692
156	157	4.3463	1.9663
157	158	4.3475	1.9675
158	159	4.3546	1.9746
159	160	4.3493	1.9693
160	161	4.3582	1.9782
161	162	4.3568	1.9768
162	163	4.3577	1.9777
163	164	4.3635	1.9835
164	165	4.3683	1.9883
165	166	4.3668	1.9868
166	167	4.3709	1.9909
167	168	4.3719	1.9919
168	169	4.3683	1.9883
169	170	4.3768	1.9968
170	171	4.3844	2.0044
171	172	4.3839	2.0039
172	173	4.3834	2.0034
173	174	4.3983	2.0183
174	175	4.3981	2.0181
175	176	4.3969	2.0169
176	177	4.3971	2.0171
177	178	4.4021	2.0221
178	179	4.4083	2.0283
179	180	4.4066	2.0266
180	181	4.4109	2.0309
181	182	4.4162	2.0362
182	183	4.4144	2.0344
183	184	4.4231	2.0431
184	185	4.4188	2.0388
185	186	4.4185	2.0385
186	187	4.4196	2.0396
187	188	4.4206	2.0406
188	189	4.4195	2.0395
189	190	4.424	2.044
190	191	4.4267	2.0467
191	192	4.4307	2.0507
192	193	4.4246	2.0446
193	194	4.4284	2.0484
194	195	4.4305	2.0505
195	196	4.43	2.05
196	197	4.4326	2.0526
197	198	4.4392	2.0592
198	199	4.4401	2.0601
199	200	4.4358	2.0558
200	201	4.4376	2.0576
201	202	4.4387	2.0587
202	203	4.4401	2.0601
203	204	4.4442	2.0642
204	205	4.4426	2.0626
205	206	4.4463	2.0663
206	207	4.4494	2.0694
207	208	4.4483	2.0683

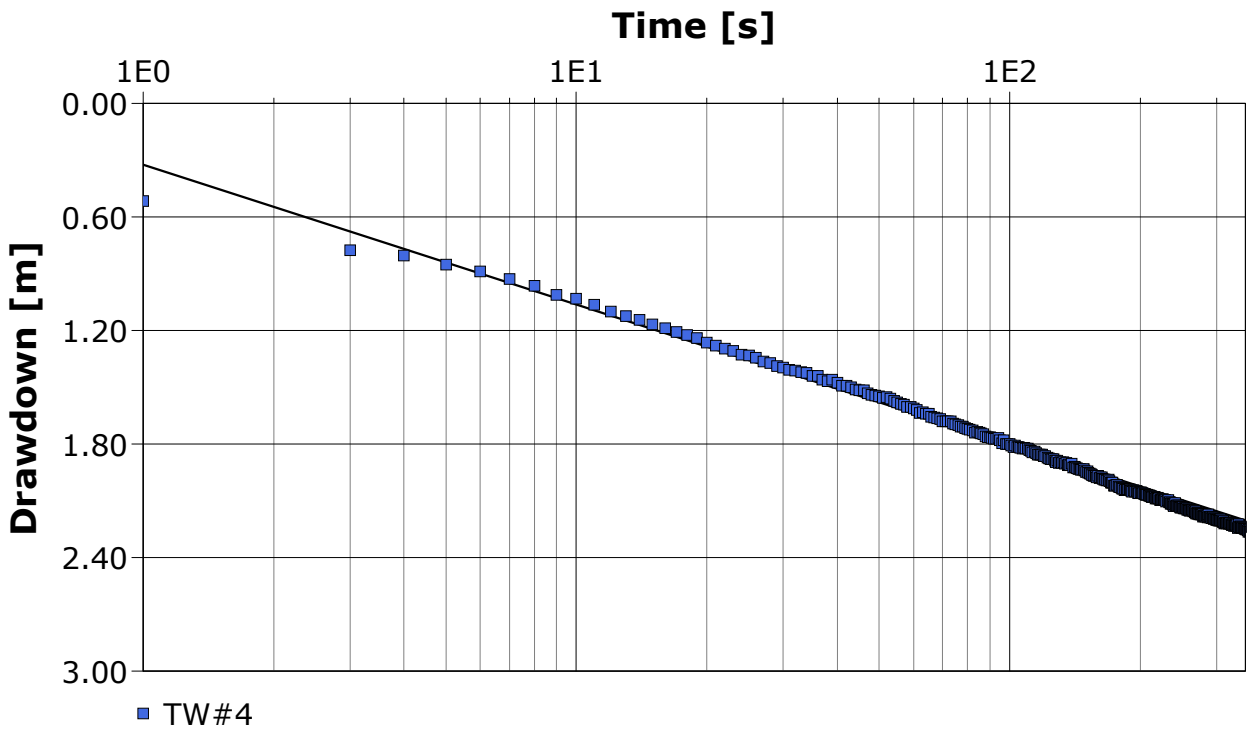
	Time [min]	Water Level [m]	Drawdown [m]
208	209	4.4501	2.0701
209	210	4.4519	2.0719
210	211	4.4569	2.0769
211	212	4.4562	2.0762
212	213	4.4601	2.0801
213	214	4.4598	2.0798
214	215	4.4581	2.0781
215	216	4.4595	2.0795
216	217	4.4671	2.0871
217	218	4.4651	2.0851
218	219	4.4696	2.0896
219	220	4.4635	2.0835
220	221	4.4681	2.0881
221	222	4.4775	2.0975
222	223	4.4746	2.0946
223	224	4.475	2.095
224	225	4.4712	2.0912
225	226	4.4729	2.0929
226	227	4.4744	2.0944
227	228	4.4768	2.0968
228	229	4.4771	2.0971
229	230	4.4836	2.1036
230	231	4.4798	2.0998
231	232	4.4773	2.0973
232	233	4.4895	2.1095
233	234	4.4881	2.1081
234	235	4.4943	2.1143
235	236	4.4917	2.1117
236	237	4.4963	2.1163
237	238	4.4998	2.1198
238	239	4.5062	2.1262
239	240	4.5016	2.1216
240	241	4.4925	2.1125
241	242	4.5064	2.1264
242	243	4.5035	2.1235
243	244	4.509	2.129
244	245	4.5034	2.1234
245	246	4.5087	2.1287
246	247	4.5138	2.1338
247	248	4.5167	2.1367
248	249	4.5152	2.1352
249	250	4.5136	2.1336
250	251	4.5135	2.1335
251	252	4.5182	2.1382
252	253	4.5201	2.1401
253	254	4.5185	2.1385
254	255	4.5182	2.1382
255	256	4.5196	2.1396
256	257	4.5263	2.1463
257	258	4.5238	2.1438
258	259	4.5271	2.1471
259	260	4.5319	2.1519
260	261	4.5302	2.1502

	Time [min]	Water Level [m]	Drawdown [m]
261	262	4.5287	2.1487
262	263	4.5283	2.1483
263	264	4.5286	2.1486
264	265	4.536	2.156
265	266	4.5329	2.1529
266	267	4.539	2.159
267	268	4.5424	2.1624
268	269	4.5376	2.1576
269	270	4.5469	2.1669
270	271	4.5429	2.1629
271	272	4.5492	2.1692
272	273	4.5463	2.1663
273	274	4.5516	2.1716
274	275	4.5483	2.1683
275	276	4.5509	2.1709
276	277	4.5527	2.1727
277	278	4.5526	2.1726
278	279	4.5583	2.1783
279	280	4.5656	2.1856
280	281	4.5585	2.1785
281	282	4.5604	2.1804
282	283	4.5634	2.1834
283	284	4.5562	2.1762
284	285	4.5616	2.1816
285	286	4.5685	2.1885
286	287	4.565	2.185
287	288	4.5523	2.1723
288	289	4.5622	2.1822
289	290	4.5685	2.1885
290	291	4.5635	2.1835
291	292	4.5725	2.1925
292	293	4.5655	2.1855
293	294	4.5697	2.1897
294	295	4.5678	2.1878
295	296	4.575	2.195
296	297	4.5732	2.1932
297	298	4.5761	2.1961
298	299	4.5802	2.2002
299	300	4.5786	2.1986
300	301	4.5801	2.2001
301	302	4.5814	2.2014
302	303	4.5824	2.2024
303	304	4.584	2.204
304	305	4.5824	2.2024
305	306	4.5767	2.1967
306	307	4.5821	2.2021
307	308	4.5835	2.2035
308	309	4.5852	2.2052
309	310	4.5914	2.2114
310	311	4.5922	2.2122
311	312	4.5881	2.2081
312	313	4.5982	2.2182
313	314	4.5959	2.2159

	Time [min]	Water Level [m]	Drawdown [m]
314	315	4.5959	2.2159
315	316	4.5964	2.2164
316	317	4.5982	2.2182
317	318	4.5945	2.2145
318	319	4.5945	2.2145
319	320	4.5984	2.2184
320	321	4.60	2.22
321	322	4.6007	2.2207
322	323	4.598	2.218
323	324	4.6033	2.2233
324	325	4.6024	2.2224
325	326	4.6071	2.2271
326	327	4.6071	2.2271
327	328	4.6039	2.2239
328	329	4.6134	2.2334
329	330	4.6107	2.2307
330	331	4.6065	2.2265
331	332	4.607	2.227
332	333	4.6119	2.2319
333	334	4.6117	2.2317
334	335	4.6044	2.2244
335	336	4.6221	2.2421
336	337	4.6057	2.2257
337	338	4.6161	2.2361
338	339	4.6213	2.2413
339	340	4.6161	2.2361
340	341	4.6176	2.2376
341	342	4.6204	2.2404
342	343	4.6256	2.2456
343	344	4.6259	2.2459
344	345	4.6213	2.2413
345	346	4.6227	2.2427
346	347	4.6246	2.2446
347	348	4.6277	2.2477
348	349	4.6236	2.2436
349	350	4.6266	2.2466
350	351	4.6267	2.2467
351	352	4.6328	2.2528
352	353	4.6272	2.2472
353	354	4.6341	2.2541
354	355	4.6321	2.2521
355	356	4.6422	2.2622
356	357	4.635	2.255
357	358	4.6335	2.2535
358	359	4.6446	2.2646
359	360	4.6395	2.2595
360	361	3.9022	1.5222
361	362	3.508	1.128
362	363	3.2339	0.8539
363	364	3.0295	0.6495
364	365	2.8734	0.4934
365	366	2.7516	0.3716
366	367	2.6528	0.2728

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #4	Pumping Well: TW#4
Test Conducted by: Josh		Test Date: 8/11/2021
Analysis Performed by: Sudhakar Kurli	Cooper & Jacob	Analysis Date: 1/10/2022
Aquifer Thickness: 67.00 m	Discharge Rate: 0.25 [l/s]	



Calculation using COOPER & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Storage coefficient	Radial Distance to PW [m]	
TW#4	5.35×10^{0}	7.98×10^{-2}	2.25×10^{-3}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #4	Pumping Well: TW#4
Test Conducted by: Josh		Test Date: 8/11/2021
Aquifer Thickness: 67.00 m	Discharge Rate: 0.25 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Cooper & Jacob	Sudhakar Kurli	1/10/2022	Cooper & Jacob l	TW#4	5.35×10^{0}	7.98×10^{-2}	2.25×10^{-3}

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Water Level Data**	Page 1 of 7
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #4	Pumping Well: TW#4
Test Conducted by: Josh	Test Date: 8/11/2021	Discharge: variable, average rate 0.43 [l/s]
Observation Well: TW#4	Static Water Level [m]: 2.38	Radial Distance to PW [m]: -

	Time [s]	Water Level [m]	Drawdown [m]
1	1	2.8974	0.5174
2	3	3.1568	0.7768
3	4	3.1853	0.8053
4	5	3.2333	0.8533
5	6	3.269	0.889
6	7	3.3071	0.9271
7	8	3.3432	0.9632
8	9	3.3921	1.0121
9	10	3.4138	1.0338
10	11	3.4442	1.0642
11	12	3.4784	1.0984
12	13	3.5044	1.1244
13	14	3.5225	1.1425
14	15	3.5469	1.1669
15	16	3.5682	1.1882
16	17	3.5882	1.2082
17	18	3.6031	1.2231
18	19	3.6192	1.2392
19	20	3.6437	1.2637
20	21	3.6586	1.2786
21	22	3.6775	1.2975
22	23	3.6896	1.3096
23	24	3.7074	1.3274
24	25	3.713	1.333
25	26	3.7239	1.3439
26	27	3.7442	1.3642
27	28	3.7502	1.3702
28	29	3.7662	1.3862
29	30	3.7753	1.3953
30	31	3.7899	1.4099
31	32	3.7922	1.4122
32	33	3.8002	1.4202
33	34	3.8057	1.4257
34	35	3.8195	1.4395
35	36	3.8207	1.4407
36	37	3.8417	1.4617
37	38	3.8469	1.4669
38	39	3.8404	1.4604
39	40	3.8547	1.4747
40	41	3.8725	1.4925
41	42	3.8703	1.4903
42	43	3.8806	1.5006
43	44	3.8915	1.5115
44	45	3.8974	1.5174
45	46	3.8963	1.5163
46	47	3.9101	1.5301
47	48	3.9187	1.5387
48	49	3.9258	1.5458

	Time [s]	Water Level [m]	Drawdown [m]
49	50	3.9291	1.5491
50	51	3.9369	1.5569
51	52	3.9332	1.5532
52	53	3.9409	1.5609
53	54	3.9509	1.5709
54	55	3.9593	1.5793
55	56	3.9661	1.5861
56	57	3.9733	1.5933
57	58	3.9847	1.6047
58	59	3.9827	1.6027
59	60	3.9922	1.6122
60	61	4.0013	1.6213
61	62	4.0152	1.6352
62	63	4.011	1.631
63	64	4.0196	1.6396
64	65	4.021	1.641
65	66	4.0356	1.6556
66	67	4.0384	1.6584
67	68	4.046	1.666
68	69	4.0498	1.6698
69	70	4.0586	1.6786
70	71	4.0588	1.6788
71	72	4.0617	1.6817
72	73	4.0619	1.6819
73	74	4.0717	1.6917
74	75	4.0753	1.6953
75	76	4.0799	1.6999
76	77	4.0891	1.7091
77	78	4.0889	1.7089
78	79	4.0979	1.7179
79	80	4.0991	1.7191
80	81	4.1022	1.7222
81	82	4.1068	1.7268
82	83	4.1193	1.7393
83	84	4.1178	1.7378
84	85	4.1208	1.7408
85	86	4.1245	1.7445
86	87	4.1296	1.7496
87	88	4.1386	1.7586
88	89	4.1442	1.7642
89	90	4.1457	1.7657
90	91	4.1478	1.7678
91	92	4.1514	1.7714
92	93	4.1513	1.7713
93	94	4.1499	1.7699
94	95	4.1616	1.7816
95	96	4.1743	1.7943
96	97	4.1605	1.7805
97	98	4.1795	1.7995
98	99	4.1801	1.8001
99	100	4.1814	1.8014
100	101	4.1881	1.8081
101	102	4.1961	1.8161

	Time [s]	Water Level [m]	Drawdown [m]
102	103	4.1895	1.8095
103	104	4.1957	1.8157
104	105	4.1978	1.8178
105	106	4.2017	1.8217
106	107	4.2035	1.8235
107	108	4.2015	1.8215
108	109	4.2054	1.8254
109	110	4.2021	1.8221
110	111	4.214	1.834
111	112	4.2153	1.8353
112	113	4.2238	1.8438
113	114	4.2213	1.8413
114	115	4.2261	1.8461
115	116	4.2378	1.8578
116	117	4.2377	1.8577
117	118	4.2359	1.8559
118	119	4.2342	1.8542
119	120	4.2445	1.8645
120	121	4.2452	1.8652
121	122	4.2503	1.8703
122	123	4.2548	1.8748
123	124	4.2619	1.8819
124	125	4.2583	1.8783
125	126	4.2602	1.8802
126	127	4.2661	1.8861
127	128	4.2744	1.8944
128	129	4.2683	1.8883
129	130	4.2798	1.8998
130	131	4.2758	1.8958
131	132	4.2798	1.8998
132	133	4.2763	1.8963
133	134	4.2837	1.9037
134	135	4.2809	1.9009
135	136	4.2907	1.9107
136	137	4.2866	1.9066
137	138	4.292	1.912
138	139	4.2828	1.9028
139	140	4.3023	1.9223
140	141	4.3005	1.9205
141	142	4.3029	1.9229
142	143	4.3084	1.9284
143	144	4.3116	1.9316
144	145	4.3136	1.9336
145	146	4.3149	1.9349
146	147	4.3172	1.9372
147	148	4.3134	1.9334
148	149	4.32	1.94
149	150	4.3281	1.9481
150	151	4.326	1.946
151	152	4.3311	1.9511
152	153	4.335	1.955
153	154	4.3398	1.9598
154	155	4.3423	1.9623

	Time [s]	Water Level [m]	Drawdown [m]
155	156	4.3492	1.9692
156	157	4.3463	1.9663
157	158	4.3475	1.9675
158	159	4.3546	1.9746
159	160	4.3493	1.9693
160	161	4.3582	1.9782
161	162	4.3568	1.9768
162	163	4.3577	1.9777
163	164	4.3635	1.9835
164	165	4.3683	1.9883
165	166	4.3668	1.9868
166	167	4.3709	1.9909
167	168	4.3719	1.9919
168	169	4.3683	1.9883
169	170	4.3768	1.9968
170	171	4.3844	2.0044
171	172	4.3839	2.0039
172	173	4.3834	2.0034
173	174	4.3983	2.0183
174	175	4.3981	2.0181
175	176	4.3969	2.0169
176	177	4.3971	2.0171
177	178	4.4021	2.0221
178	179	4.4083	2.0283
179	180	4.4066	2.0266
180	181	4.4109	2.0309
181	182	4.4162	2.0362
182	183	4.4144	2.0344
183	184	4.4231	2.0431
184	185	4.4188	2.0388
185	186	4.4185	2.0385
186	187	4.4196	2.0396
187	188	4.4206	2.0406
188	189	4.4195	2.0395
189	190	4.424	2.044
190	191	4.4267	2.0467
191	192	4.4307	2.0507
192	193	4.4246	2.0446
193	194	4.4284	2.0484
194	195	4.4305	2.0505
195	196	4.43	2.05
196	197	4.4326	2.0526
197	198	4.4392	2.0592
198	199	4.4401	2.0601
199	200	4.4358	2.0558
200	201	4.4376	2.0576
201	202	4.4387	2.0587
202	203	4.4401	2.0601
203	204	4.4442	2.0642
204	205	4.4426	2.0626
205	206	4.4463	2.0663
206	207	4.4494	2.0694
207	208	4.4483	2.0683

	Time [s]	Water Level [m]	Drawdown [m]
208	209	4.4501	2.0701
209	210	4.4519	2.0719
210	211	4.4569	2.0769
211	212	4.4562	2.0762
212	213	4.4601	2.0801
213	214	4.4598	2.0798
214	215	4.4581	2.0781
215	216	4.4595	2.0795
216	217	4.4671	2.0871
217	218	4.4651	2.0851
218	219	4.4696	2.0896
219	220	4.4635	2.0835
220	221	4.4681	2.0881
221	222	4.4775	2.0975
222	223	4.4746	2.0946
223	224	4.475	2.095
224	225	4.4712	2.0912
225	226	4.4729	2.0929
226	227	4.4744	2.0944
227	228	4.4768	2.0968
228	229	4.4771	2.0971
229	230	4.4836	2.1036
230	231	4.4798	2.0998
231	232	4.4773	2.0973
232	233	4.4895	2.1095
233	234	4.4881	2.1081
234	235	4.4943	2.1143
235	236	4.4917	2.1117
236	237	4.4963	2.1163
237	238	4.4998	2.1198
238	239	4.5062	2.1262
239	240	4.5016	2.1216
240	241	4.4925	2.1125
241	242	4.5064	2.1264
242	243	4.5035	2.1235
243	244	4.509	2.129
244	245	4.5034	2.1234
245	246	4.5087	2.1287
246	247	4.5138	2.1338
247	248	4.5167	2.1367
248	249	4.5152	2.1352
249	250	4.5136	2.1336
250	251	4.5135	2.1335
251	252	4.5182	2.1382
252	253	4.5201	2.1401
253	254	4.5185	2.1385
254	255	4.5182	2.1382
255	256	4.5196	2.1396
256	257	4.5263	2.1463
257	258	4.5238	2.1438
258	259	4.5271	2.1471
259	260	4.5319	2.1519
260	261	4.5302	2.1502

	Time [s]	Water Level [m]	Drawdown [m]
261	262	4.5287	2.1487
262	263	4.5283	2.1483
263	264	4.5286	2.1486
264	265	4.536	2.156
265	266	4.5329	2.1529
266	267	4.539	2.159
267	268	4.5424	2.1624
268	269	4.5376	2.1576
269	270	4.5469	2.1669
270	271	4.5429	2.1629
271	272	4.5492	2.1692
272	273	4.5463	2.1663
273	274	4.5516	2.1716
274	275	4.5483	2.1683
275	276	4.5509	2.1709
276	277	4.5527	2.1727
277	278	4.5526	2.1726
278	279	4.5583	2.1783
279	280	4.5656	2.1856
280	281	4.5585	2.1785
281	282	4.5604	2.1804
282	283	4.5634	2.1834
283	284	4.5562	2.1762
284	285	4.5616	2.1816
285	286	4.5685	2.1885
286	287	4.565	2.185
287	288	4.5523	2.1723
288	289	4.5622	2.1822
289	290	4.5685	2.1885
290	291	4.5635	2.1835
291	292	4.5725	2.1925
292	293	4.5655	2.1855
293	294	4.5697	2.1897
294	295	4.5678	2.1878
295	296	4.575	2.195
296	297	4.5732	2.1932
297	298	4.5761	2.1961
298	299	4.5802	2.2002
299	300	4.5786	2.1986
300	301	4.5801	2.2001
301	302	4.5814	2.2014
302	303	4.5824	2.2024
303	304	4.584	2.204
304	305	4.5824	2.2024
305	306	4.5767	2.1967
306	307	4.5821	2.2021
307	308	4.5835	2.2035
308	309	4.5852	2.2052
309	310	4.5914	2.2114
310	311	4.5922	2.2122
311	312	4.5881	2.2081
312	313	4.5982	2.2182
313	314	4.5959	2.2159

	Time [s]	Water Level [m]	Drawdown [m]
314	315	4.5959	2.2159
315	316	4.5964	2.2164
316	317	4.5982	2.2182
317	318	4.5945	2.2145
318	319	4.5945	2.2145
319	320	4.5984	2.2184
320	321	4.60	2.22
321	322	4.6007	2.2207
322	323	4.598	2.218
323	324	4.6033	2.2233
324	325	4.6024	2.2224
325	326	4.6071	2.2271
326	327	4.6071	2.2271
327	328	4.6039	2.2239
328	329	4.6134	2.2334
329	330	4.6107	2.2307
330	331	4.6065	2.2265
331	332	4.607	2.227
332	333	4.6119	2.2319
333	334	4.6117	2.2317
334	335	4.6044	2.2244
335	336	4.6221	2.2421
336	337	4.6057	2.2257
337	338	4.6161	2.2361
338	339	4.6213	2.2413
339	340	4.6161	2.2361
340	341	4.6176	2.2376
341	342	4.6204	2.2404
342	343	4.6256	2.2456
343	344	4.6259	2.2459
344	345	4.6213	2.2413
345	346	4.6227	2.2427
346	347	4.6246	2.2446
347	348	4.6277	2.2477
348	349	4.6236	2.2436
349	350	4.6266	2.2466
350	351	4.6267	2.2467
351	352	4.6328	2.2528
352	353	4.6272	2.2472
353	354	4.6341	2.2541
354	360	4.6395	2.2595
355	361	3.9022	1.5222
356	362	3.508	1.128
357	363	3.2339	0.8539
358	364	3.0295	0.6495
359	365	2.8734	0.4934
360	366	2.7516	0.3716
361	367	2.6528	0.2728
362	368	2.5701	0.1901
363	369	2.5039	0.1239
364	370	2.4477	0.0677
365	371	2.4025	0.0225

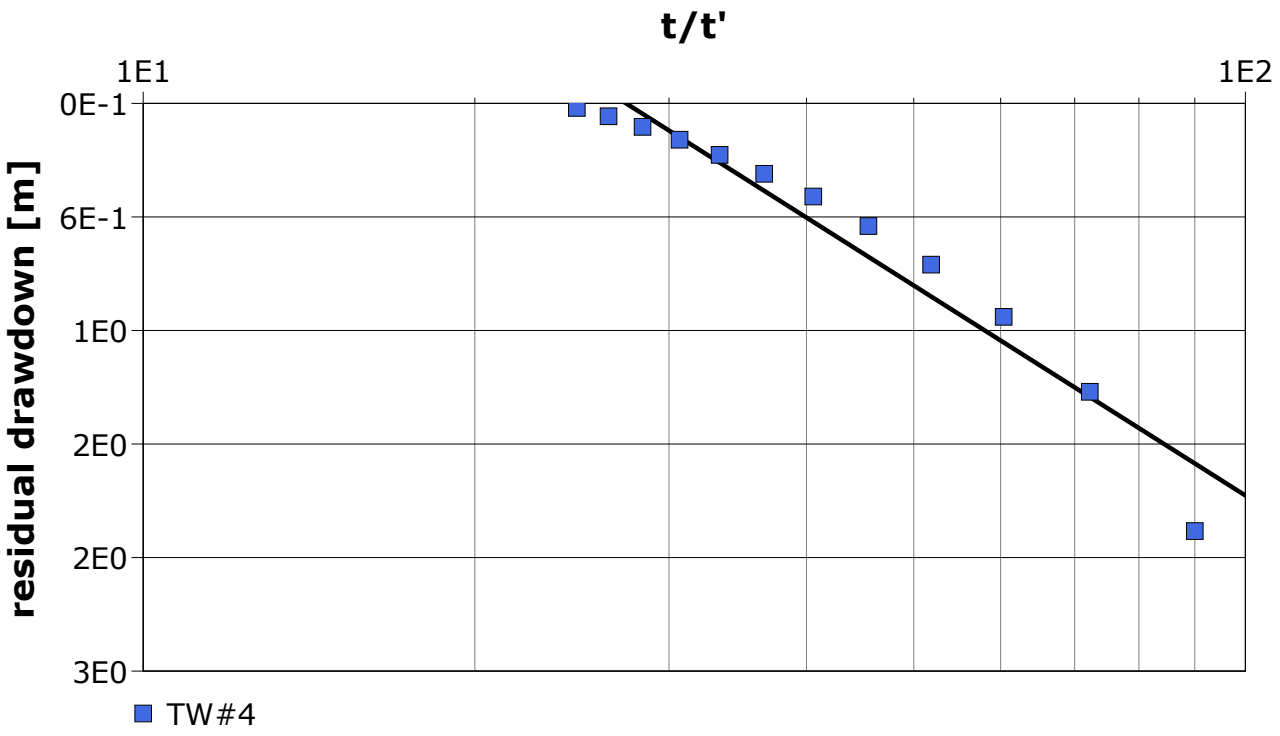
Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test - Discharge Data**	Page 1 of 1
	Project: Hydrogeological Assessment	
	Number: 11849-001	
	Client: Ecostructure Canada	

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #4	Pumping Well: TW#4
Test Conducted by: Josh	Test Date: 8/11/2021	Discharge: variable, average rate 0.43 [l/s]
Observation Well: TW#4		Radial Distance to PW [m]: -

	Time [min]	Discharge [l/s]
1	356	0.43

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #4	Pumping Well: TW#4
Test Conducted by: Josh		Test Date: 8/11/2021
Analysis Performed by: Sudhakar Kurli	Theis Recovery	Analysis Date: 1/10/2022
Aquifer Thickness: 67.00 m	Discharge: variable, average rate 0.43 [l/s]	



Calculation using THEIS & JACOB

Observation Well	Transmissivity [m²/d]	Hydraulic Conductivity [m/d]	Radial Distance to PW [m]	
TW#4	1.85×10^{0}	2.75×10^{-2}	0.15	

Cambium Inc. 135 Bayfield St #102, Barrie, ON L4M 3B3	**Pumping Test Analysis Report**
	Project: Hydrogeological Assessment
	Number: 11849-001
	Client: Ecostructure Canada

Location: Woodcox Rd. Municipality of Hastings	Pumping Test: Test Well #4	Pumping Well: TW#4
Test Conducted by: Josh		Test Date: 8/11/2021
Aquifer Thickness: 67.00 m	Discharge: variable, average rate 0.43 [l/s]	

	Analysis Name	Analysis Performed b	Analysis Date	Method name	Well	T [m²/d]	K [m/d]	S
1	Theis Recovery	Sudhakar Kurli	1/10/2022	Theis Recovery	TW#4	1.85×10^{0}	2.75×10^{-2}	

Appendix F
Water Budget

	THORNTHWAITE-TYPE MONTHLY WATER-BALANCE MODEL												
	modified from Dingman 2001: ex. 7-13, Box 7-3 using ET model of Hamon (1963)												
	Input Data				Computed Values								
Location:	**Combermere, ON**			**Lat. =**	**45.2**	**degree**		***SOILmax* =**		**150**	**mm**		
Climate ID:	**6101820**				0.79	rad							
Declination (deg)	-21.3	-13.3	-2.0	9.8	18.9	23.3	21.3	13.7	3.0	-9.0	-18.6	-23.3	
Declination (rad)	-0.37	-0.23	-0.03	0.17	0.33	0.41	0.37	0.24	0.05	-0.16	-0.32	-0.41	
DayLength (hr)*	8.9	10.2	11.7	13.3	14.7	15.4	15.1	13.9	12.4	10.8	9.4	8.6	
*For lat. > 66.5, replace #NUM! with 24 in summer; 0 in winter.													

			MONTHLY WATER BALANCE DATA										
			Temperatures in C, water-balance terms in mm.										
Month:	**J**	**F**	**M**	**A**	**M**	**J**	**J**	**A**	**S**	**O**	**N**	**D**	**Year**
==========	====	====	====	====	====	====	====	====	====	====	====	====	====
P	66.7	54.1	56.8	76.2	81.2	80.5	64.8	71.7	93.2	76.3	93.2	75.8	891
T	-5.6	-4.3	-0.5	5.9	11.7	16.9	19.9	19.4	15.4	9	3.7	-2	
F	0.00	0.00	0.00	0.98	1.00	1.00	1.00	1.00	1.00	1.00	0.62	0.00	
RAIN	0	0	0	75	81	81	65	72	93	76	57	0	600
SNOW	67	54	57	1	0	0	0	0	0	0	36	76	290
PACK	156	210	267	4	0	0	0	0	0	0	14	89	
MELT	0	0	0	264	4	0	0	0	0	0	22	0	290
INPUT (W_m)	0	0	0	339	86	81	65	72	93	76	80	0	891
PET	0	0	0	41	66	95	111	99	70	41	25	0	546
W_m - PET	0	0	0	298	20	-14	-46	-27	24	36	55	0	
SOIL	150	150	150	150	150	136	100	84	107	143	150	150	
Δ SOIL	0	0	0	0	0	-14	-36	-17	24	36	7	0	
ET	0	0	0	41	66	94	101	88	70	41	25	0	525
SURP=W-ET-Δ SOIL	0	0	0	298	20	0	0	0	0	0	47	0	365
DEFIC=PET-ET	0	0	0	0	0	1	10	11	0	0	0	0	21