REPORT

Nestlé Waters Canada Erin Spring Site

2018 Annual Monitoring Report

Submitted to:

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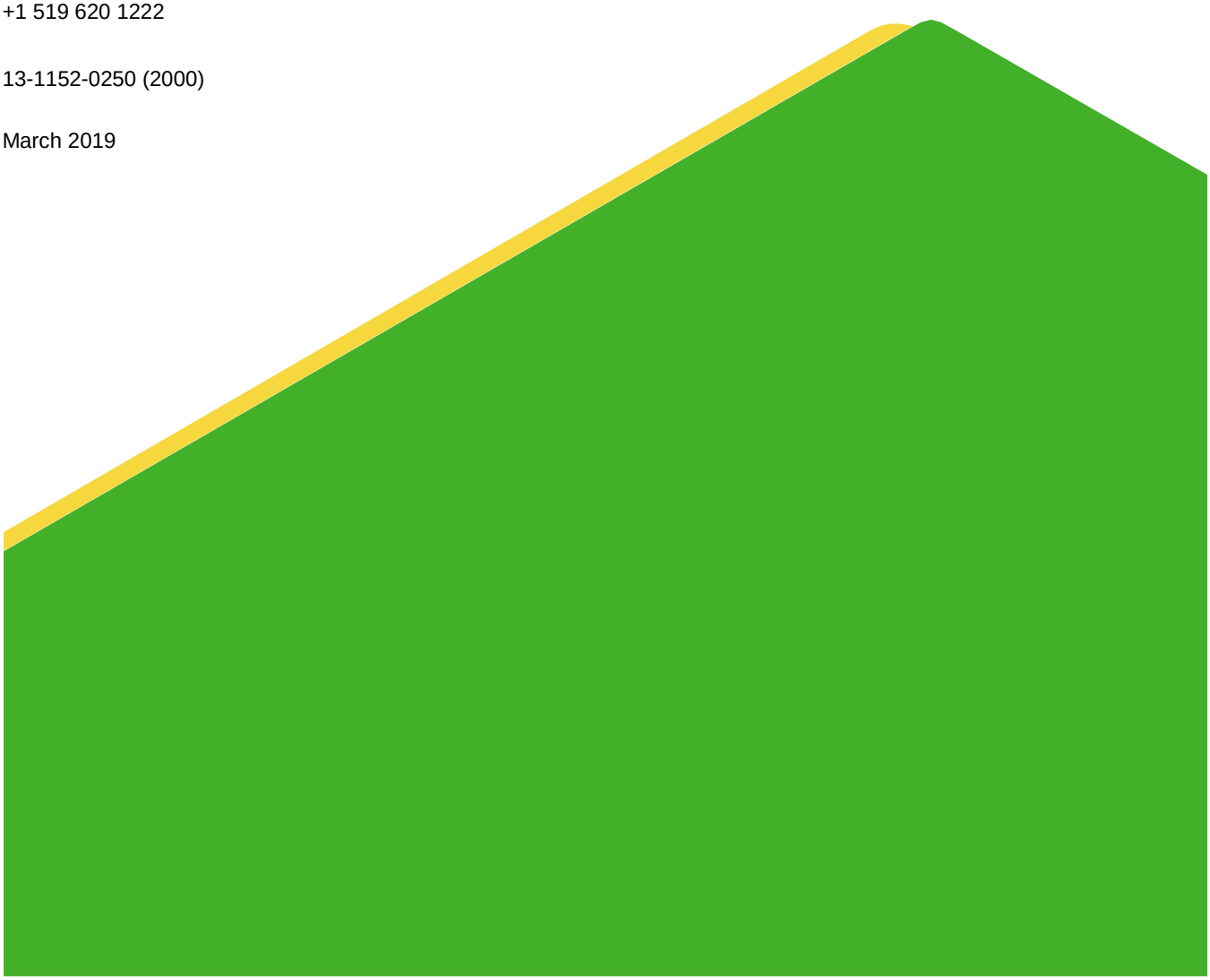

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Key Facts for 2018 Operations at Erin

Key facts for the 2018 operations at Erin include:

1) Well TW1-88 continued to operate under the terms of Permit to Take Water 3716-8UZMCU. Nestlé submitted an application for renewal of the permit to the Ministry of the Environment, Conservation and Parks (MECP), formerly the Ministry of the Environment and Climate Change (MOECC), in May 2017, prior to the expiration of the permit on August 31, 2017. In accordance with the Ontario Water Resources Act, Section 34.1 (6), Nestlé has continued to legally operate under the existing permit until a decision is made regarding the renewal of the permit.

2) Nestlé has complied with all of the conditions in the existing permit for the Erin well TW1 88.

3) The daily water takings at TW1-88 ranged from 0 L/day to 519,131 L/day. The average daily water taking was 190,152 L/day. The maximum daily taking corresponded to 47% of the permitted maximum daily taking. The total volume of water taken in 2018 from TW1-88 was 69,405,417 L, approximately 17% of the permitted volume. The “spike rates”, representing maximum rates at which TW1-88 can be pumped briefly, were not used in 2018.

4) The monthly water takings in 2018 from TW1-88 ranged from 2,817,935 L or 8% of the permitted taking in March 2018 to 7,850,713 L or 23% of the permitted taking in August 2018. The monthly water takings in 2018 were relatively consistent over the year.

5) The Grand River Low Water Response Team declared a Level 1 Low Water Condition for the entire Grand River Watershed, including the Eramosa River, on July 12, 2018. The Level 1 Low Water Condition was removed on September 13, 2018. Nestlé Waters Canada complied with the request by the Grand River Conservation Authority for all water-users in the Grand River watershed to voluntarily commit to limiting water takings to 90% of their monthly maximum permitted volume during the Level 1 Condition.

6) 93.5 percent of the water pumped from TW1-88 was transported by tanker to the Nestlé Waters Canada bottling facility at 101 Brock Road South in Guelph, Ontario. The water was transferred into 500 mL plastic bottles. 0.5 percent of the pumped water was transported by tanker to Delta Beverages where it was transferred into 1 L containers. The remaining 6 percent of the pumped water was used as flush water (from the water storage silo to a pond located at the loading station) or used for CIP (clean in place) water. Flushing was completed to prevent the water from becoming stagnant during periods of low water use.

7) Per Conditions 4.9, 5.1 and 5.2, Nestlé reports that no well interference complaints arising from the taking of water authorized under this PTTW were received in 2018.

8) The average 2018 water levels in TW1-88 were relatively stable; water levels fluctuate at TW1-88 due to pumping.

9) Water levels measured within the bedrock aquifer in 2018 were similar to those measured over the past five years. There is no long-term increasing or decreasing trend in the water levels.

10) Water levels measured within the overburden in 2018 were within the range measured over the past five years (with the exception of MW6B-05). Overall, the similarity in water level trends, regardless of distance from TW1-88, indicates that water level fluctuations are not due to pumping TW1-88, but due to natural seasonal changes and recharge. There is no significant interaction between the bedrock and overburden aquifers at the current rate of taking.

11) The flows recorded at all stations along surface water features are influenced by precipitation and/or melt events. The flows do not appear to be influenced by pumping at TW1-88.

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1.0 INTRODUCTION

Nestlé Waters Canada (Nestlé) has retained Golder Associates Ltd. (Golder) to conduct the annual monitoring program and report preparation for the Nestlé Erin Springs Site, as required by Permit To Take Water (PTTW) Number 3716-8UZMCU issued by the Ministry of the Environment, Conservation and Parks (MECP), formerly the Ministry of the Environment and Climate Change (MOECC). The PTTW is included in Appendix A. The current PTTW was issued on September 28, 2012. The PTTW renewal application was submitted to the MECP in May 2017. The current PTTW expired on August 31, 2017, but in accordance with the Ontario Water Resources Act, Section 34.1 (6), Nestlé can continue to legally operate TW1-88 under the terms of the existing PTTW until a decision is made regarding the renewal. The location of the Erin Springs Site (the Site) is shown on Figure 1.1.

The PTTW authorizes water taking from one On-Site bedrock well located on Lot 24, Concession 7, Geographic Township of Erin, County of Wellington, Ontario. Water from well TW1-88 is taken for the purpose of bottling water.

A summary of the PTTW Conditions and where the information can be found in this report are outlined in Table 1:

Table 1: Permit To Take Water Conditions

Condition Number	Condition Description	Report Section
3.2, 3.3, 3.4, 3.5	Identifies use, rates, time and total takings allowed.	3.1.1, 4.1, Appendix C
4.1, 4.2	Establish the specified groundwater and surface water monitoring programs including monitoring requirements and monitoring timing.	3.1.2, 3.1.3
4.3	Condition for plotting gradient data and assessing hydraulic connection of the groundwater with the surface water.	4.3.1
4.4	Notify the Director of monitoring locations that become inaccessible or abandoned and provide a recommendation for replacement.	3.1.4
4.5	Maintain a daily record of all water takings including date, volume of water taken and rate at which it was taken.	Appendix C
4.6	Prepare and submit an annual monitoring report to the Director which presents and interprets the data collected under the conditions of the PTTW.	This report
4.7	Submit a letter to the Director and Town of Erin when the “spike rates” are used.	4.1
4.8	Submit details of the bottling operations to the Director.	4.1
5.1	Notify the local District Office of any complaint arising from the taking of water and proposed action to rectify the complaint.	4.1
5.2	Supply water to anyone with a water supply (in effect prior to this taking) that has been negatively impacted.	Not applicable

Golder began monitoring at the Site in May 2014. Prior to that, monitoring was performed by Conestoga Rovers and Associates (CRA) and Nestlé. The MECP has requested that the reporting follow the same outline and presentation as previous reports. Additional reporting is also being prepared separately to satisfy the new hydrogeological study requirements (MECP, 2017) issued since the submission of the application for renewal of the PTTW.

The report is structured as follows:

- Section 1.0: Introduction including site location, history, and construction details for supply well TW1–88.
- Section 2.0: Regional setting including a description of topography, drainage, physiography, geology and hydrogeology.
- Section 3.0: Summary of 2018 field investigations including a description of field activities conducted in 2018.
- Section 4.0: Monitoring program results including a summary and analysis of the data collected in 2018.
- Section 5.0: Conclusions from the 2018 monitoring program.
- Section 6.0: Recommendations from the 2018 monitoring program.

1.1 Historical Summary

TW1-88 was constructed in August 1988 for a party other than Nestlé. In 1989, water was permitted to be taken from the well for a 10-year period at a maximum withdrawal rate of 1,112,860.8 L/day. However, the well was only used one day during this initial 10-year period.

In 1999, further testing was completed at TW1-88 and the well was re-permitted by the original owner. Nestlé purchased the property and began pumping for commercial purposes in March 2000; the well has been permitted continuously since that time. The current permit allows for water taking for bottling water purposes at a maximum pumping rate of 773 L/min and a maximum daily withdrawal rate of 1,113,000 L over the year. The current PTTW also allows for a maximum instantaneous rate of 946 L/min and a daily withdrawal of 1,362,240 L from April 1 to September 30, provided that the average daily taking in any month does not exceed 1,113,000 L.

The Erin property is located on a 75.5 hectare parcel approximately 4 km west of the Town of Erin (Figure 1.1), 24 km north-northeast of Guelph, and approximately 35 km north of the Nestlé Aberfoyle bottling facility, where the water is transported for processing. The Erin property consists of a water silo, house, barns, paved access drives, ponds, and open fields with wooded areas and wetlands.

When bottling water operations began at the Site, tankers were originally filled directly from the well. Since the end of 2001, water pumped from TW1-88 has been transferred via pipeline to a 227,305 L stainless steel water storage silo. The silo is used for short-term storage from which highway tanker trucks are filled for transport to the Nestlé Aberfoyle facility and Delta Beverages. TW1-88 is located in the northern portion of the Site and the loading station is situated in the southern portion of the Site.

1.2 Construction Details for Supply Well TW1-88

The borehole log for TW1-88 is provided in Appendix B. TW1-88 is interpreted to be completed within the Guelph Formation limestone and dolostone. The bedrock is overlain by glacial sediments that are 19.5 m thick at TW1-88.

The overburden consists of two general units: the uppermost unit consists of interlayered sand and gravel with varying amounts of silt to a depth of 12.2 m below grade, and the lower unit consists of 7.3 m of sandy silt till/clay till. A 170 mm diameter high-carbon steel casing was drilled through the overburden and into the bedrock, and grouted 1.4 m into the bedrock at a depth of 20.9 m below grade. The well was completed as a 160 mm diameter open borehole in bedrock with a depth of 57.3 m.

In 2010, a downhole video survey revealed that the original high carbon steel casing had some pitting (CRA, 2014). To prevent potential casing failure in the future and to upgrade the well to Nestlé standards, the original casing was overdrilled and removed, and a 200 mm diameter stainless steel casing was installed to a depth of 21.8 m. The new casing was cement grouted in place.

The lower portion of the well was noted to have been completed within a poor production zone (CRA, 2014). The bottom 18.3 m of the well was grouted with cement from 57.3 m to 39 m below grade in 2010. The revised water well record (Well Tag No. A095193) is included in Appendix B, and a schematic of the well is shown on Figure 1.2.

2.0 REGIONAL SETTING

The following sections provide a summary of the regional and local topography, drainage, physiography, and overburden and bedrock geology/hydrogeology for the Site.

2.1 Topography and Drainage

The topography and drainage of the property and surrounding area is shown on Figure 2.1. The regional topography is characterized by knobby hills surrounded by low-lying wetlands and/or streams with overall ground elevations increasing to the northwest. The topography is relatively flat in the northern part of the property, and rolling elsewhere. Ground surface elevations are highest near the middle of the property (450 masl) and decline toward the northwest (430 masl) and southern (410 masl) parts of the property. In general, surface water features occur within the topographic lows.

Well TW1-88 is situated in the Grand River watershed, near the surface water divide with the Credit River watershed (Figure 1.1). Specifically, the TW1-88 is located in the Eramosa River subwatershed of the Grand River. The Eramosa River and its tributaries are generally situated west of the Site.

There are two ponds on the Nestlé property within the Grand River Watershed as shown on Figure 2.1; one pond referred to as the “On-Site Pond” is located approximately 135 m southwest of TW1-88; the other pond, referred to as “Wetland Pond”, is located approximately 265 m south southeast of TW1-88. The ponds discharge to an unnamed perennial tributary of the Eramosa River that flows in a southwest direction.

Within the Credit River Watershed, the Erin Branch of the Credit River is located east of the Site and flows in a general southeasterly direction and ultimately discharges to the Credit River. At its closest point, the creek is located approximately 470 m from TW1-88. Off-site there are three large on-line ponds located along the Erin Branch of the Credit River. Another large surface water body, referred to as Roman Lake, is located about 1.2 km southeast of TW1-88 also located within the Credit River Watershed.

2.2 Physiography

The area is situated between the physiographic regions described by Chapman and Putnam (1984) as the Guelph Drumlin Field (to the south) and the Hillsburgh Sandhills (to the north). Chapman and Putman (1984) characterize the Guelph Drumlin Field as drumlins fringed by gravel terraces and separated by swampy valleys in which flow sluggish tributaries of the Grand River. The drumlins are made up of glacial till. Chapman and Putnam (1984) characterize the Hillsburgh Sandhills as a glacial spillway with knobby hills. Surficial soils are generally sandy with swampy valleys.

2.3 Geology and Hydrogeology

The geology in the area has been interpreted based on published mapping, water well records and detailed stratigraphic logging (CRA, 2014).

2.3.1 Overburden Geology

The regional Quaternary geology in the area of the Site is shown on Figure 2.2 (Cowan, 1976). The surficial overburden at the Site is characterized by the following units:

- Organic deposits;
- Glaciofluvial sandy deposits;
- Ice-contact stratified deposits; and
- Silty to sandy till.

The area to the south, southeast and east of the Site generally contains silty to sandy till at surface, with ice contact stratified drift and glaciofluvial sand and gravel deposits occurring mainly in the low lying areas. The area west, northwest and north of the Site generally contains ice-contact stratified deposits that make up the surficial soils of the Orangeville Moraine. The Site lies between these features, with till deposits occurring through the middle of the Site where ground elevation is higher and sand and gravel deposits occurring toward the northwest and southeast parts of the property.

As part of previous investigations, CRA developed three cross-sections through the Site (Figures 2.3 through 2.5) with the locations shown on Figure 2.2.

As shown on the cross-sections, two overburden stratigraphic units are present in the vicinity of the Site:

- An upper sand and gravel originating from glaciofluvial outwash or ice-contact stratified drift; and
- A lower sandy silt/clay till.

The sand and gravel unit consists of sand, gravel, or sand and gravel, and generally increases in thickness to the northwest of TW1-88, but is generally absent to the south, southeast, and east of TW1-88. At TW1-88 the thickness of the sand and gravel is approximately 12 m. The sandy silt/clay till is continuous across the Site and is present below the sand and gravel unit or at surface where the sand and gravel unit is not present. Within 1 km of TW1-88 the till typically ranges in thickness from about 5 m to 35 m. The thickness of the till at TW1-88 is 7.3 m. Based on the MECP water well records, sand and gravel deposits are present within the till or directly below the till overlying bedrock.

2.3.2 Bedrock Geology

The regional bedrock geology is shown on Figure 2.6 (Liberty, 1975). The uppermost bedrock unit at the Site consists of dolostone of the Guelph Formation. The rock beneath the Guelph Formation has historically been referred to as dolostone of the Amabel Formation. The Ontario Geological Survey now identifies the rock of the Amabel Formation as comprising the Eramosa, Goat Island, Gasport or Irondequoit Formations (see for example Brunton and Brintnell, 2011). Liberty (1975) describes the Guelph Formation in this area as light brown, fine to medium crystalline sucrosic dolostone. TW1-88 is completed within the Guelph Formation.

2.3.3 Hydrogeology

There are three hydrostratigraphic units present at the Site as follows (from top to bottom):

- Surficial sand and gravel aquifer;
- Sandy silt/clay till aquitard; and
- Dolostone bedrock aquifer (Guelph Formation).

Water levels within the surficial sand and gravel aquifer are typically 1 to 2 m below ground surface (bgs).

The surficial sand and gravel aquifer and bedrock aquifer are separated by a sandy silt/clay till unit. The difference in water levels between the aquifers indicates that the till is acting as an aquitard and that a downward vertical gradient exists under pumping and non-pumping conditions.

The bedrock aquifer does not supply the pond network on the Erin property. The potentiometric surface of the bedrock aquifer is approximately 5 metres below the surface elevation of the On-Site pond. The bedrock aquifer also does not discharge to the tributary of the Eramosa River that flows from the wetland to the pond network. The tributary is supplied almost exclusively by runoff from surrounding topography and precipitation on the wetlands and pond.

The carbonate units of the Guelph Formation are a regional aquifer, utilized by residential, commercial, and municipal water supplies. The bedrock aquifer is the main water supply aquifer in the vicinity of the property for both the Nestlé supply and private wells.

The potentiometric surface prior to pumping (January 24, 2000) is shown on Figure 2.7. Groundwater flow in the absence of pumping is to the south-southeast with a horizontal gradient of about 0.015 m/m. CRA (2014) noted that static water levels typically ranged from 6 to 16 m bgs at the Site, and the static water level at TW1-88 was about 10 m bgs (i.e., elevation of 424.3 masl).

Since pumping for commercial purposes commenced in March 2000, monitoring was conducted under static or near-static conditions on June 13, 2001 after TW1-88 was shutdown for 36 hours and on November 3, 2005 after TW1-88 was shutdown for 12.5 hours (CRA, 2014). Based on interpretation of the 2005 data, in the area north of TW1-88, groundwater flow is to the southeast with a horizontal gradient of about 0.017 m/m and similar to pre-pumping data for January 2000 (CRA, 2014). The water level elevation at TW1-88 was 423.5 masl on November 3, 2005 and was within 0.8 m of the January 2000 static water elevation of 424.3 masl (CRA, 2014).

A map showing the interpreted drawdown in the bedrock aquifer on June 15, 2001, after 18 hours of pumping at 773 L/min, is included on Figure 2.8 (CRA, 2014). The map shows that the zone of influence at this pumping rate (based on a drawdown of 0.1 m) extended approximately 1,000 m from TW1-88 to the west, north and east; and to

the south and southwest. To the west the zone of influence is inferred to exceed 700 m, although there are limited available data in that direction. At TW1-88, the drawdown was approximately 8.1 m.

It is noted that Golder previously developed a groundwater flow model for Wellington County in 2005, which indicated that pumping from TW1-88 at 1,113,000 L/day does not interfere with the Wellhead Protection Area designated for the two Hillsburgh municipal wells (Golder, 2006). The closest Hillsburgh municipal well is located approximately 1.5 km north-northeast of TW1-88 and is beyond the 0.1 m drawdown contour (Figure 2.8) located approximately 1 km from TW1-88.

2.4 Source Water Protection

With the passing of the Clean Water Act (2006), municipalities in Ontario are required to develop source protection plans to protect their municipal sources of drinking water. These plans identify risks to local drinking water sources and develop strategies to reduce or eliminate these risks. Potential and existing risks for a municipal source are identified within wellhead protection areas (WHPA). A WHPA is an area projected to ground surface that reflects the zone in an aquifer where groundwater is flowing to a municipal drinking water source (pumping well). Nestlé well TW1-88 is located more than 1.4 km from the closest WHPAs, which include the Hillsburgh WHPA to the north and the Erin WHPA to the east.

In addition to protecting water quality, water quantity is also a concern and is being considered under Water Quantity Protection Plans. The Water Quantity assessment is completed to ensure that future water needs of a community can be met. It identifies existing water quantity threats and future activities that may limit the supplies for municipal water supplies. Based on the results of modeling conducted for the Tier Three Water Budget Study, the Erin property has been identified as lying within the upper end of a Water Quantity Intake Protection Zone (IPZ-Q) for the City of Guelph Eramosa Intake on the Eramosa River, which has been assigned a significant risk level (Matrix Solutions, 2017). The IPZ-Q was assigned a significant risk level because of interconnection through the City of Guelph Arkell Water System. The next steps of the Source Protection Committee are to look closely at all existing water takings within the IPZ-Q to evaluate their contribution to water quantity stress in the area and undertake a Risk Management Measures Evaluation Process. The threat ranking for IPZ-Q has not been completed yet. The Water Quantity assessment was completed using the Guelph Tier 3 Model. It is not anticipated that the water taking from TW1-88 will be an issue to the surface water features given that investigations to date have not shown any significant interaction with the surface water.

3.0 SUMMARY OF 2018 FIELD PROGRAM

This section describes the field activities performed in 2018 associated with PTTW Number 3716-8UZMCU (for TW1-88).

3.1 Groundwater and Surface Water Monitoring Program

The field activities included completion of a monitoring program including maintaining a record of water taking and measurement of groundwater levels, mini-piezometer levels, surface water levels and surface water flow. Monitoring events were conducted during the third week of each month by Golder. The monitoring program includes the following instrumentation:

- Groundwater levels and water takings in the production well (TW1-88);

- Groundwater levels in 15 monitors at 9 locations;
- Shallow groundwater levels in 7 piezometer nests with a total of 14 monitors (shallow and deep pair);
- Surface water levels at 6 stations;
- Surface water flow at 3 stations; and
- Water levels at 13 private wells on 9 properties (monitoring of 3 of the 13 wells stopped in 2014 due to access restrictions; see Table 4 for more details).

The monitoring locations are shown on Figures 3.1 through 3.3.

3.1.1 Water Taking

Water taking from TW1-88 in 2018 was measured using an Endress & Hauser Promag magnetic flow meter connected to an Allen-Bradley industrial Programmable Logic Controller. The instantaneous flow (USgpm) and cumulative volume pumped (USgal) are recorded. The flow meter was calibrated on November 5, 2018 by Endress+Hauser.

The daily volumes taken from supply well TW1-88 in 2018 are provided in Appendix C.

3.1.2 Groundwater Monitoring Program

Groundwater levels have been measured at various locations for varying periods of time since a monthly water level monitoring program was initiated in January 2000. Modifications to the monitoring program have been made over time as wells have become inaccessible. In 2014, some homeowners requested that monitoring be discontinued at their well (see Section 3.1.4). During the 2018 monitoring period, none of the wells required as part of the monitoring program became inaccessible. Previous wells that have been decommissioned or are no longer part of the monitoring program are shown on Figure 3.4. All of the existing monitoring locations and the decommissioned or unused wells are shown on Figure 3.5.

The monitoring locations for the 2018 groundwater monitoring program are shown on Figures 3.1 and 3.2 for the bedrock and overburden wells, respectively, and are summarized as follows:

Overburden Monitors

- TW1/99, MW2, MW3A/B, MW5B, MW6B, MW11B-08, MW12B-08, D2B, D26C, D36A, D27, D7B

Bedrock Monitors

- TW1-88, MW5A, MW6A, MW11A-08, MW12A-08, D2A, D3, D36B, D19, D24A, D24B, D26A, D26B, D8, D15, D32

Where required by the PTTW, dataloggers are used to record water levels at 60-minute intervals. Water levels were measured and dataloggers downloaded at all locations during the third week of each month in 2018. The groundwater levels measured in 2018 are presented in Appendix D.

3.1.2.1 Missing Data

The following table provides a list and description of missing data from the 2018 monitoring. A manual water level could not be measured at D26B during the January and April monitoring events as the concrete lid was frozen shut. A transducer was previously installed in the well (when it was not frozen) to obtain a water level during conditions

when the well lid is frozen. The issue was temporary and has been resolved. A water level could not be measured in D26A in April as the well was buried under snow and ice.

Table 2: Missing Groundwater Data from the 2018 Monitoring

Monitoring Location	Missing Data	Comment
D26A	Manual water level in April	Buried under snow and ice.
D26B	Manual water level in January and April	Frozen (water level taken from transducer data)

3.1.3 Surface Water Monitoring Program

The surface water monitoring program includes the following components:

- Surface water levels;
- Stream flow; and
- Water levels in nested mini-piezometers.

Surface water levels and flow have also been measured since a monitoring program was initiated in January 2000. The 2018 surface water monitoring locations are shown on Figure 3.3 and summarized below:

Surface Water Levels

- ST03-05, SW1, SW3, SW4, SW5, SW7

Water levels were measured at all locations during the third week of each month using a water level meter. Dataloggers are used to record water levels at 60-minute intervals, which are also downloaded once a month. The surface water levels for 2018 are presented in Appendix E.

A new station (SW7B) was established in the Erin Branch of the Credit River by D7B in May 2016. The site was chosen at a location with more favourable hydraulics (i.e., single channel, stable conditions and no backwater). This station will eventually replace SW7, which is located in an area with changing stream conditions and flooding.

Stream Flows

- SW1, SW3, SW7 and SW7B

Stream flow was measured at four locations during the third week of each month. The streamflow monitoring at SW7B is not mandated under the terms of the PTTW. Stream flow velocities were measured using a Valeport electromagnetic flow meter and the surface water flows were calculated using the cross-sectional area-velocity method. The surface water flow measurements for 2018 are presented in Appendix F.

In addition, the monthly surface water elevations (“stage”) and stream flow measurements (“discharge”) collected in 2018 were used to update the stage-discharge relationships (rating curves) at SW1, SW7 and SW7B. The rating curves were used to calculate stream flow from the continuous water level measurements at these stations. A stage-discharge curve was not developed for SW3 as flow at SW3 is measured on a continuous basis using a Stingray Flow Meter.

Mini-Piezometers

- P1A/B-07, P3A/B-05, P6A/B-07, P10A/B-05, P11A/B-05, P12A/B-07, P13A/B-07

In 2018, water levels were measured in mini-piezometers at seven locations, each containing a shallow and a deep monitor installed beneath the stream to assess water levels in the shallow sediments. Dataloggers are used to record water levels at 60-minute intervals. Water levels were measured and dataloggers downloaded at all locations during the third week of each month. The water levels measured in 2018 are presented in Appendix E.

3.1.3.1 Missing Data

The following table provides descriptions of missing data from the 2018 monitoring, including an indication of when stations were frozen. The water levels in the mini-piezometers are close to surface and can become frozen in the winter. Slow moving water can also become frozen in the winter. Transducer dataloggers occasionally stop working and need to be replaced. When a transducer stops working, it is replaced with a new transducer. Transducer data can be missing for up to one month depending on when the failure occurs between monitoring events. Transducers failed at P13B-07, SW3 and SW4 and were replaced. The transducer at SW7 was out of the water and then in mud as the creek channel shifted. The issues were temporary and have been resolved.

Table 3: Missing Surface Water Data from the 2018 Monitoring

Monitoring Location	Missing Data	Comment
P03A/B-05	Not missing but frozen	Frozen in March
P06A/B-07	Not missing but frozen	Frozen in January and November
P10A/B-05	Not missing but frozen	Frozen in January, February, March and December (A only)
P11A-05	Not missing but frozen	Frozen in January
P12A/B-07	Not missing but frozen	Frozen in January, November (A only) and December (A only)
SW3	Not missing but frozen	Frozen in January
SW3	Transducer water levels becoming ‘noisy’ in June	Transducer issue (failing), replaced
SW4	Not missing but frozen	Frozen in November
SW4	Transducer water levels becoming ‘noisy’ in June	Transducer issue (failing), replaced
SW5	Not missing but frozen	Frozen in January, March, November and December
SW7	Not missing but frozen	Frozen in November and December

3.1.4 Notification Regarding Locations Which Become Inaccessible

A list of the wells that homeowners requested be removed from the monitoring program, along with replacements that were recommended, are provided in the following table.

Table 4: Inaccessible Monitors

Monitoring Location	Reason for Inaccessibility	Recommendation	Documented in Letter to MECP
D19	In October 2014, the resident notified Nestlé that they would no longer like their well monitored.	No additional wells to be monitored in place of D19.	October 10, 2014
D2A	In December 2014, the resident notified Nestlé that they would no longer like their well monitored.	Install a monitoring well on a neighbouring property (see Recommendations Section).	December 2, 2014
D2B	In December 2014, the resident notified Nestlé that they would no longer like their well monitored.	No additional wells will be monitored in place of D2B.	December 2, 2014

3.2 Surveying

No surveying needed to be conducted in 2018.

3.3 Precipitation

A record of precipitation in 2018 was compiled from the Fergus Shand Dam meteorological station. Prior to 2016, the record of precipitation was compiled from the Orangeville meteorological station, with missing data obtained from the Fergus Shand Dam Station. However, data are no longer available from the Orangeville station. The following table provides a summary of the annual precipitation. The annual average (1981-2010) precipitation from the Fergus Shand Dam Station is 945.7 mm and 901.5 mm at the Orangeville Station. The total precipitation measured in 2018 was 953.3 mm, which is close to the 30-year average. More than 10% below average precipitation occurred in 2012 and 2015 with over 20% above average precipitation occurring in 2008 and 2010. Following a couple of years of above-average precipitation, the total precipitation in 2018 was near the 30-year average (the total precipitation in 2018 was about 14% lower than in 2017). Annual precipitation is also shown graphically on Figure 3.6 along with the 30-year average. The precipitation record is included to evaluate if there is a response in water levels that correlates to changes in precipitation.

Table 5: Annual Precipitation

Year	Precipitation (mm)	% Difference from Average
2008	1444.8 (Orangeville)	60.3
2009	1044.9 (Orangeville)	15.9

Year	Precipitation (mm)	% Difference from Average
2010	1113 (Orangeville)	23.5
2011	1077.7 (Orangeville)	19.5
2012	803 (Orangeville)	-10.5
2013	1035.7 (Orangeville)	14.9
2014	954.5 (Orangeville)	5.9
2015	783.1 (Orangeville)	-13.1
2016	1032 (Shand Dam)	9.1
2017	1109.6 (Shand Dam)	17.3
2018	953.3 (Shand Dam)	0.8
Average (1981-2010)	901.5 (Orangeville), 945.7 (Fergus Shand Dam)	

The monthly precipitation for 2018 is presented in the following table. In 2018 below average precipitation was recorded in March and the five months from May to September. Above average precipitation was recorded at the beginning and end of the year.

Table 6: Monthly Precipitation in 2018

Month	Precipitation (mm)	Average (mm)	% Difference from Average
January	105.6	67.9	55.5
February	89.8	55.9	60.6
March	35.4	59.6	-40.6
April	108.6	74.1	46.6
May	58.5	86.9	-32.7
June	52.1	83.8	-37.8
July	58.9	89.2	-34.0
August	87.3	96.6	-9.6
September	57.0	93.1	-38.8

Month	Precipitation (mm)	Average (mm)	% Difference from Average
October	87.0	77.2	12.7
November	116.1	93.0	24.8
December	97.0	68.6	41.4

4.0 MONITORING PROGRAM RESULTS

4.1 Water Taking for TW1-88

Water taking at the Nestlé Erin Springs Site in 2018 continues to be governed by PTTW 3716-8UZMCU, which permits water to be taken from one well as outlined in the table below.

Table 7: Permitted Water Takings at Erin Springs

Source	Maximum Rate	Maximum Number of Hours of Water Taking per Day	Maximum Daily Water Taking	Maximum Number of Days of Water Taking per Year
TW1-88	773 L/min	24	1,113,000 L/day	365

Condition 3.3 of the PTTW indicates that the instantaneous rate and amount of taking may increase up to a maximum of 946 L/min and 1,362,240 L/day ("spike rate") in each month between April 1 and September 30; however, the average daily taking in any month between April 1 and September 30 shall not exceed 1,113,000 L/day.

The daily water takings for 2018 are tabulated in Table C1 in Appendix C. The daily water takings at TW1-88 ranged from 0 L/day to 519,131 L/day or 47% of the permitted taking and was less than the daily amount allowed on the PTTW. The average daily water taking was 190,152 L/day. The "spike rates" were not used in 2018.

The total volume of water taken in 2018 from TW1-88 was 69,405,417 L. The total volume of water taken each year from 2000 to 2018 is presented on Figure 4.1. In 2018, the total volume taken accounted for approximately 17% of the permitted volume.

The monthly water takings in 2018 from TW1-88 ranged from 2,817,935 L or 8% of the permitted taking in March to 7,850,713 L or 23% of the permitted taking in August. The monthly water takings for the past five years are presented on Figure 4.2. In 2018, the monthly water takings generally increased during the first part of the year, with the peak water taking in August, and then decreased during the remainder of the year. Water takings during the first four months of the year were less than the water takings during the last four months of the year.

During 2018, the takings were less than allowed under the conditions of the PTTW.

The Grand River Low Water Response Team declared a Level 1 Low Water Condition for the entire Grand River Watershed, including Eramosa River, on July 12, 2018. The Level 1 Low Water Condition was removed on

September 13, 2018. Nestlé Waters Canada complied with the request by the Grand River Conservation Authority for all water-users in the Grand River watershed to voluntarily limit water takings to 90% of their monthly maximum permitted volume during the Level 1 Condition. Note that this is also a condition of the PTTW. Nestlé's water takings were below 50% of the permitted daily amount during the low water condition.

Condition 4.8 of the PTTW requires details of the bottling operations such as location and name of facilities where water is delivered in bulk containers, if bulk water is containerized at the receiving location, the size of the containers into which the water is transferred and total volume of water transported in bulk to each remote facility. The groundwater pumped from Erin Springs in 2018 was distributed as follows:

- 64,909,283 L (or 93.5 percent) was transported by tanker to the Nestlé Waters Canada bottling facility at 101 Brock Road South in Guelph, Ontario. The water was transferred into 500 mL plastic bottles.
- 361,122 L (or 0.5 percent) was transported by tanker to Delta Beverages, 21 Marycroft Avenue, Woodbridge, Ontario and transferred into 1 L containers.
- The remaining 4,135,012 L (or 6 percent) was used as flush water (from the water storage silo to a pond located at the loading station) or used for CIP (clean in place) water. Flushing was completed to prevent the water from becoming stagnant during periods of low water use.

As per Conditions 4.9, 5.1 and 5.2, Nestlé has indicated that no well interference complaints arising from the taking of water authorized under this PTTW were received in 2018.

4.2 Groundwater Monitoring Program

The groundwater levels measured in 2018 at the monitoring wells are tabulated in Appendix D and the hydrographs of the water levels are presented. The hydrographs also include the daily pumping volumes at TW1-88 and daily precipitation as recorded at the Orangeville (prior to 2016) and Shand Dam (2016 – 2018) meteorological stations.

4.2.1 TW1-88

Water levels and average daily pumping rates for TW1-88, along with daily precipitation, from 2014 through 2018 are shown on Figure D1.

High water levels measured in 2018 were generally between 422.6 masl to 423.5 masl under non-pumping conditions (partially recovered conditions following temporary cessation of pumping). CRA (2014) indicates that, based on historical data, static water levels are in the range of 423.5 masl to 424.5 masl. In 2018, water levels increased approximately 0.5 m from the beginning of the year to May, declined approximately 0.7 m from May through July, remained relatively constant and then increased in December.

During 2018, water levels were generally between 416 masl and 417 masl from January through April and between 417 masl and 419 masl for the remainder of the year under pumping conditions (equivalent to a drawdown of 5 m to 8 m based from a static water level of 424 masl). The decrease in drawdown is due to a change in operation of the well; TW1-88 is now pumped at lower rates for longer periods.

The water levels in the spring of 2018 are similar to those in the spring of the past four years. Since the water taking at TW1-88 decreased in mid-2014, the water levels at TW1-88 have increased an average of approximately 0.5 m. Since pumping has decreased, the seasonal fluctuations in water levels are more evident. The 2018 water levels, along with the historical water levels, shown on Figure D1 appear to be relatively stable under both pumping and

non-pumping conditions. The groundwater taking at TW1-88 does not appear to have caused a long-term decline in water levels at TW1-88.

4.2.2 Bedrock Aquifer

Hydrographs for the other wells completed in the bedrock aquifer are included on Figures D2 through D12 in Appendix D.

A review of the hydrographs of wells completed in the bedrock aquifer indicates the following:

- Water levels measured within this aquifer in 2018 are similar to those measured over the past five years. There is no long-term increasing or decreasing trend in the water levels.
- As shown on Figure 2.8 (from CRA, 2014), the drawdown in MW12A-08 and private well D15 on June 15, 2001, after pumping at 773 L/min for 18 hours, was less than 0.3 m. For the purpose of this study, the wells are used to represent background conditions. It is appropriate to use the wells to interpret background conditions despite the fact that the wells do respond to TW1-88 pumping because the responses are small. Water levels are measured on a monthly basis in these wells (a transducer was installed in MW12A-08 in October) and the measurements show only small water level fluctuations over the past five years, with no long-term trends. In 2017, the water levels fluctuated almost 0.6 m in D15 and MW12A-08. The water levels generally increased until May and then decreased until August/September, were relatively constant and then increased in December (see Figure D2). There is no long-term increasing or decreasing trend in the water levels.
- The amount of influence that pumping TW1-88 has on water levels in other wells varies based on distance away from TW1-88 (e.g., more pronounced in MW5A-05 compared to MW12A-08). The drawdown cone from pumping TW1-88 is localized, especially with the change to more continuous pumping at a lower rate that is currently occurring.
- The closest monitoring well in the same aquifer as TW1-88 is MW5A-05, located approximately 70 m southwest of TW1-88. MW5A-05 is interpreted to be downgradient of TW1-88. In 2018, the high-water levels (partially recovered condition following stoppages in pumping) ranged from approximately 423.3 masl to 424.1 masl (see Figure D3). The difference between the high and low water levels (influence of pumping in the aquifer) at MW5A-05 was approximately 4 m during the beginning of the year and approximately 3.2 m following the change in pumping operation. The water levels fluctuate but there are not long-term trends.
- The influence of pumping TW1-88 is also evident at monitoring well MW6A-05 and private wells D3 and D2A (D2A is no longer monitored). The difference between high and low water levels (influence of pumping in the aquifer) at MW6A-05, located approximately 450 m southeast of TW1-88, was approximately 0.7 m in 2018 (see Figure D4). At D3, located approximately 220 m northwest of TW1-88, the water levels respond to pumping at both TW1-88 and D3. The well (D3) appears to be used as part of a heat pump system during the winter months when the combined pumping of TW1-88 and D3 results in a difference between the high and low water levels of approximately 2 m to 4 m (see Figure D5). During the other months, the difference between the high and low water level was less than 2 m with the exception of July and August. During July and August additional drawdown of up to 4 m was observed, which is interpreted to be due to the pumping of D3. The water levels are stable and increased slightly in mid-2014.

- Another On-Site monitoring well, MW11A-08, is located approximately 470 m east-northeast of TW1-88. Water levels in the monitoring well generally follow the same patterns as the water levels in the background wells, MW12A-08 and D15 (see Figure D9). Similar to the low water levels observed in other wells during the late summer and fall, the lowest water level at MW11A-08 was measured in September. A transducer was installed in the well in December to record a near continuous record of water levels.
- Water levels in the south-east part of the Site (D32 and D36B, Figures D12 and D7, respectively), more than 900 m away from TW1-88, exhibited responses similar to the other water levels measured at the Site, with higher water levels observed in the spring and lower water levels observed in the summer and/or fall. In 2016, there was a decline in water levels in this area not related to pumping from TW1-88 but likely related to the below-average precipitation recorded during the summer of 2016. Water levels in this area continue to fluctuate seasonally but remain slightly lower than those observed prior to 2016, which is due to the below normal precipitation recorded during the summer and fall of the past three years (2016 – 2018).
- Monitoring well MW11-08 along the northeastern part of the property did not show any response to pumping. The lack of response to pumping suggests that groundwater taking from TW1-88 does not affect the Hillsburgh municipal wells, located further north-northeast of TW1-88.
- Water levels in the other private wells may be influenced by pumping at TW1-88; however, fluctuations are mainly due to pumping at the private wells. Water levels in well D8 appear to respond to pumping in the well itself to a greater extent, prior to 2017, when it was used for heating purposes (see Figure D9). The water levels are stable at the other private wells (D8, D24A, D24B, D26A and D26B).

The highest monthly pumping volume during the summer occurred in the month of August, with four months of below-average precipitation occurring from May to August. To review the groundwater flow patterns under the highest pumping conditions and below normal precipitation during the summer, a potentiometric surface of the bedrock aquifer was prepared (Figure 4.3) based on the water levels measured during the monthly monitoring event (August 24, 2018). A review of the potentiometric surface on August 24, 2018, indicates groundwater flow is to the south with influence from pumping around TW1-88.

4.2.3 Overburden (Water Table) Aquifer

Hydrographs for wells completed in the overburden are included on Figures D13 through D16 in Appendix D.

A review of the hydrographs completed in the overburden indicates the following:

- Water levels measured within the overburden in 2018 are within the range measured over the past five years. The sole exception is MW6B-05, where the lowest water levels within the past five years were recorded in July and August following below average precipitation since May.
- The overall water levels responses were similar, with fluctuating water levels from January through March, followed by increasing water levels to May and a decrease in water levels into the fall followed by an increase to the end of the year. Some low water levels were observed in March, when water levels are typically higher, which correlate with the below-average precipitation recorded during the same month. The timing of the high and low water levels can vary by a month or two from well to well. This may be due to the time for recharge to the aquifer to occur, which is expected to vary across the Site based on the variations in surficial geology (i.e., sand and gravel versus glacial till) and topography. The exception to this trend is at well D7B, which has had a relatively consistent water level over the years with little to no fluctuation.

- A response to precipitation or melt events (i.e., increase in water levels) is evident in the wells recording near continuous water levels with a transducer datalogger.
- Overall, the similarity in water level trends, regardless of distance from TW1-88, indicates that water level fluctuations are not due to pumping TW1-88 but due to natural seasonal changes and recharge.
- In 2018, water levels in the wells completed in the northern part of the study area fluctuated by approximately 0.7 m or less, whereas wells completed in the southern part of the study area fluctuated by approximately 0.5 m to 3.8 m. This is in response to how quickly water moves through the different aquifers following recharge and reflects their positions in the groundwater flow system, where greater variations in water levels occur at the higher topographic elevations (i.e., recharge areas) compared to the low-lying areas (i.e., discharge areas).
- Water levels in the overburden are influenced by seasonal factors and not the pumping at TW1-88.

4.2.4 Vertical Gradients

4.2.4.1 Between Overburden and Bedrock

Vertical gradients between the overburden and bedrock at monitoring well nests (MW5-05, MW6-05, MW11-08 and MW12-08) are plotted on Figures D17 through D20 in Appendix D.

Note that a positive gradient is calculated when the water level in the upper aquifer exceeds the level in the lower aquifer. Under these conditions, the hydraulic gradient is positive and groundwater flow is downwards.

A review of the vertical gradient graphs indicates the following:

- A positive vertical gradient (potential downward flow) is present at all of the monitoring well nests between the overburden and bedrock.
- The vertical gradients fluctuate due to changes in the bedrock water levels that respond to pumping TW1-88 (i.e., a decrease in the bedrock water level) or changes in the overburden water levels that respond to recharge events, but the overall trends remain stable.
- The gradients at MW5-05 and MW6-05 vary in response to pumping TW1-88 and are due to the water level fluctuations in the bedrock aquifer at these sites. The change in pumping operation of TW1-88 reduces the vertical gradient at MW5-05 with no change observed at MW6-05. The positive gradient at MW11-08 (potential downward flow) decreased slightly from 2013 through 2017 and is more variable in 2018 with no influence from pumping. The variability in the gradient at MW11-08 in 2018 is due to higher water levels observed in the overburden in February and lower water levels observed in the bedrock in the late summer and early fall. The gradient at MW12-08 increases in the spring and then decreases through the summer (no influence from pumping). The increase in gradient in the spring is due to a rise in the water levels in the overburden during the spring melt.
- There does not appear to be a measurable hydraulic response in the overburden water levels from pumping the bedrock aquifer at the current rate of water taking.
- In 2018, vertical gradients at the two wells closest to TW1-88 range from approximately 0.4 m/m to 0.75 m/m at MW5-05 and approximately 0.4 m/m to 0.45 m/m at MW6-05. On average, the vertical gradients at the other two wells that are monitored monthly are about 0.15 m/m at MW11-08 and 0.25 m/m at MW12-08. The

increase in the positive vertical gradient (downward flow) at MW12-08 is due to the spring recharge to the overburden groundwater system, increasing water levels in the overburden and subsequently declining into the summer months.

4.2.4.2 In Shallow Overburden

Vertical gradients in the shallow overburden at MW3-00 are shown on Figure D21 in Appendix D. During most of 2018 there was a negative vertical gradient (potential upward flow) in the shallow overburden at MW3-00 with potential discharge to the On-Site pond. During spring melt and/or some precipitation events, the vertical gradient is reversed to downward flow. The vertical gradients at MW3-00 are consistent with those recorded in the past and are not related to TW1-88 withdrawals.

4.3 Surface Water Monitoring Program

The surface water monitoring program includes measurement of mini-piezometer and surface water levels, and surface water flow. The surface water levels measured in 2018 are tabulated in Appendix E where hydrographs of the water levels are also presented. The surface water flow data are tabulated and graphed in Appendix F. The hydrographs also include the daily pumping volumes at TW1-88 and daily precipitation as recorded at the Orangeville (prior to 2016) and Shand Dam (2016 – 2018) meteorological stations.

4.3.1 Mini-Piezometer Water Levels and Vertical Gradients

Hydrographs for the mini-piezometer locations are presented on Figures E1 through E7 in Appendix E with “a” figures including data for the past 5 years (2014 to 2018) and “b” figures including data only for 2018. The graphs also include the average daily pumpage at TW1-88, precipitation as recorded at the Orangeville and Shand Dam stations and vertical hydraulic gradients. Upward flow (negative gradient) indicates that groundwater is discharging to the surface water body, while downward flow (positive gradient) indicates the surface water body is recharging the groundwater.

A review of the hydrographs for the mini-piezometers indicates the following:

- Water levels measured in the mini-piezometers in 2018 are within the ranges measured over the past five years with the following exceptions. Some of the highest water levels were observed at P3-05 and P6-07 in the spring and some of the lowest water levels were observed at P11-05 and P13-07 in the summer.
- There is no effect of pumping TW1-88 on vertical gradients in the shallow overburden near surface water features.
- The vertical gradients in 2018 are similar to those observed in the past. Any slight reversals in gradients are not related to pumping at TW1-88 since total pumping over the past four and a half years is lower than previous years and a change in gradient was not observed during this change in pumping (i.e., vertical hydraulic gradients were not influenced by the lower daily pumping). P11-05 shows a change in gradient around the same time that pumping decreases at TW1-88, however, this change in gradient is not observed during previous changes in pumping. The negative gradient at P12-07 has decreased due to the rise in water levels caused by the creation of a beaver dam in 2017.
- Water level fluctuations and vertical gradients in the mini-piezometers are summarized as follows for 2018:
  - P3A/B-05 (east side of On-Site pond) – water levels in 2018 fluctuated almost 0.3 m (similar to water levels in the pond). The water levels were stable through the winter and then rose in the spring and then

declined into the summer and were stable through the fall with an increase at the end of the year. There was generally no gradient at the site in 2018. In the past, there has been a weak negative gradient (upward flow) exists that has occasionally reversed to a positive gradient. Some changes in water levels are sometimes due to blockages and removal of debris from the outlet of the pond.

- P6A/B-07 (west side of On-Site pond) – water levels in 2018 fluctuated almost 0.3 m (similar to water levels in the pond). The water levels were stable through the winter and then rose in the spring and then declined into the summer and were stable through the fall with an increase at the end of the year. A weak positive gradient (downward flow) exists that has occasionally reversed in the past. Some changes in water levels are sometimes due to blockages and removal of debris from the outlet of the pond.
- P1A/B-07 (stream channel downstream of On-Site pond) – water levels in 2018 fluctuated approximately 0.1 m with the exception of two short-term increases in January and February related to precipitation and/or melt events. The water levels in stream show less fluctuation than the water levels in the pond. A weak negative gradient (upward flow) was observed in 2018, with a reversal to a weak positive gradient (downward flow) in August. The reversal in gradient is observed in the historical records.
- P11A/B-05 (further downstream from P1-07 at 6th Line) – water levels in 2018 fluctuated approximately 0.1 m. Similar to P1-07, there are two short-term increases in water levels in January and February related to precipitation and/or melt events. Water levels at this location follow a similar trend to P1-07. A weak negative gradient (upward flow) was observed with the occasional positive gradient spikes during some precipitation events.
- P10A/B-05 (upgradient side of the wetland pond) – water levels fluctuated approximately 0.6 m in 2018 which is similar to the fluctuation observed in 2016 (also during a time of low water conditions in the watershed). The water levels generally follow a seasonal trend with increased through the spring followed by a decrease through the summer and stabilization or increase through the fall. The gradient reversed between positive (downward flow) and negative (upward flow) in 2018.
- P12A/B-07 (stream flowing into Roman Lake) – water levels fluctuated approximately 0.2 m in 2018 and remained higher at P12B-07 due to the construction of a beaver dam in 2017. Water levels at this site are generally higher than previous years. A weak negative gradient (upward flow) exists at the site after the construction of the beaver dam.
- P13A/B-07 (Erin Branch of Credit River) – water levels in 2018 fluctuated approximately 0.3 m and generally declined during the entire year. The vertical gradient was positive (downward flow) with some minor reversals. With the exception of P10-05 (wetland pond), the vertical gradient at P13-07 shows greater fluctuation than the other sites. Water levels may be influenced by fluctuations in water levels in the Hillsburgh reservoir.

4.3.2 Surface Water Levels

Hydrographs for the surface water level monitoring locations are included on Figures E8 through E11 in Appendix E with “a” figures including data for the last 5 years (2014 to 2018) and “b” figures including data for the current year (2018).

A review of the hydrographs for the surface water level monitoring locations indicates the following:

- Pumping at TW1-88 does not influence the water levels in the surface water features.
- Water levels in the surface water features are summarized as follows:
  - SW3 (On-Site pond) – water levels at SW3 fluctuated by approximately 0.3 m in 2018. The water levels were stable during the first three months of the year and then increased in March followed by a decrease through June and July. The water levels then increased in August, were stable through September and October and increased during the remainder of the year. The historical changes in water levels are sometimes partially due to the outlet being partially obstructed and then cleared when the debris is removed.
  - SW1 (creek downstream of On-Site pond) – water levels at SW1 fluctuated by over 0.1 m in 2018 and included some short-term increases. Some of the lowest water levels were recorded during the summer of 2018 when the GRCA declaration of low-water conditions was in effect.
  - SW7 (Erin Branch of Credit River) – water levels at SW7 fluctuated approximately 0.1 m in 2018 with some greater fluctuations in December. The water levels have generally been on a declining trend over the past five years with the lowest water levels in the summer of 2018. This may be due to changing stream conditions. Some changes in water levels in the past may also be due to upstream work or changes in the Hillsburgh reservoir level. Due to the changing stream conditions at SW7, a new station (SW7A-16) was installed in May 2016. Water levels in the creek at SW7A-16 showed minimal fluctuation in 2018 with no increasing or decreasing trend.
  - SW4 (stream flowing into Roman Lake) and SW5 (Roman Lake) – since the beaver activity in July 2017 the changes in water level trends have been different at the two stations showing less seasonal changes and more variability. For example, the water level at SW5 increased over 0.2 m in July and then declined and increased the same amount in August. Water levels are generally higher at these two stations compared to previous years.

4.3.3 Surface Water Flow

The monthly stream flow data collected in 2018 are summarized in Appendix F. Surface water flow is measured at three stations in accordance with the PTTW; SW1 (creek downgradient of On-Site pond and wetland), SW3 (outlet from On-Site pond) and SW7 (Erin Branch of Credit River). Surface water flows are also measured at SW7A. The surface water flows for the four stations are shown on Figure F1 through F3 in Appendix F.

Flow from the On-Site pond (SW3) is similar to previous years. The surface water flow increased through the spring and then decreased through the summer and was stable through the fall before increasing in December. The spring flows were typically between 10 L/s and 25 L/s, while the summer low flows were between 5 L/s and 10 L/s. There were some higher flows during some precipitation events and spring melt.

Stage-discharge curves were updated in 2018 for SW1 and SW7, which show the relationship between surface water elevation (stage) and stream flow (discharge) based on the manual measurements taken monthly. The stage-discharge curves for both SW1 and SW7 were re-evaluated in an attempt to more accurately reflect the 2018 monitoring data using the same methods as in 2014 through 2017, which involve using stream characteristics. The revised stage-discharge curves for SW1 and SW7 are shown on Figures F4 and F5 in Appendix F and have been used to estimate the flow for 2018 at these stations. Both curves for 2018 were adjusted to provide a better fit to the data. The stage-discharge curves were adjusted to reflect changes in downstream hydraulic controls (SW1) or

changing stream conditions due to the area being characterized by multiple channels through the wooded areas, beaver activity and ponds that could potentially change the flow through this part of the stream (SW7).

Monitoring data at SW7A has been collected since May 2016. The data from 2018 was used to update the stage-discharge relationship for this station in 2018 (Figure F6). Water levels at this station remain constant at most stream discharge levels and therefore development of the stage-discharge curve continues to be challenging and may require further stream geometry investigation in 2019.

Surface water flow at SW1 (combined flow from On-Site pond and wetland) was similar to flow observed since 2014, with the exception of the summer low flows, which were similar to 2014 and 2015 and lower than the previous two years (2016 and 2017). Most of the flows fell within the historic range observed at the station; however, a series of events in the winter and early spring exceeded this range. These logger recorded values are suspected to be influenced by ice conditions and are reported with a lower confidence. Stream flow during the spring was approximately 10 L/s to 90 L/s with some flows more than 100 L/s. During the summer, stream flow was generally less than 10 L/s and increasing to between approximately 10 L/s and 30 L/s during the fall. There is no evidence of a decline in stream flow at SW1.

Stream flow at SW7 is typically less than at the other stations, with the exception of some low flows in the summer. In the past, it has been estimated that increases in flow may be related to changes in the Hillsburgh reservoir or potential work upstream. Surface water flow at SW7 is similar to flow measured historically at the station with changes typically due to changing stream conditions. There is no evidence of a decline in stream flow at SW7.

Stream flow at the new station (SW7A) was consistent over the first half of the year between 30 L/s and 40 L/s and increased during the second half of the year with flow up to 60 L/s. The flow at SW7A is approximately 30 L/s to 50 L/s greater than the flow at SW7. This is due to the fact that SW7A is located in a defined channel as opposed to multiple channels at SW7, where only part of the total flow is measured.

Surface water flow at all the stations is influenced by precipitation and/or melt events with the greatest influence at SW1, and does not appear to be influenced by pumping at TW1-88. In the past, surface water flow at SW7 also appeared to be influenced by other factors that may include changes in reservoir level or upstream work.

5.0 CONCLUSIONS

The following conclusions are provided based on the results of the monitoring program to date:

1) Nestlé has complied with all of the conditions in the existing permit for the Erin well TW1-88.

2) The total volume of water taken in 2018 from TW1-88 was 69,405,417 L or 17% of the permitted volume. The daily water taking at TW1-88 in 2018 ranged from 0 L/day to 519,131 L/day or 47% of the permitted rate.

3) The estimated static water levels in TW1-88, which obtains water from the bedrock aquifer, ranged from approximately 422.6 to 423.5 masl and the water levels, under variable pumping conditions, ranged from approximately 416 to 419 masl. The drawdown at the well ranged from approximately 5 to 8 m in 2018.

4) Pumping from TW1-88 causes local declines in the bedrock aquifer groundwater levels in the immediate vicinity of the well, but there is no evidence of long-term declining trends. As with other years there have been no reported well interference complaints.

5) Water levels in the overburden varied within the historical range (with the exception of MW6B-05) and do not appear to be influenced by pumping of TW1-88. The lowest water levels at MW6B-05 occurred in July and August following below average precipitation since May. There is no significant interaction between the bedrock and overburden aquifers at the current rate of taking.

6) Surface water level fluctuations are attributed to seasonal and long-term variations in precipitation and recharge and do not appear to be the result of pumping of TW1-88.

7) Small upward vertical gradients were generally observed within the shallow overburden underlying or adjacent to the surface water bodies in the area, indicating that groundwater is primarily discharging to surface water. Locally where the Erin Branch of the Credit River flows through Hillsburgh, there have historically been downward gradients. There are also downward gradients at the downgradient side of the On-Site pond where water recharges the stream. The vertical gradients have remained relatively stable and do not appear to be influenced by pumping at TW1-88.

8) Based on the monitoring data collected, the 2018 water taking at TW1-88 is sustainable.

6.0 RECOMMENDATIONS

The following recommendations are provided based on the monitoring program to date:

1) The monitoring program has been on-going for more than 17 years and no impacts to private wells or the surrounding aquifer system have been noted. It is noted that the monitoring data from these private wells are often influenced by pumping at the private well itself (especially locations with heat pump systems). Based on this, we suggest that monitoring at some of the private wells be discontinued or replaced with dedicated monitoring wells. The following changes to the monitoring program have been discussed with the MECP and should be implemented within the permit following permit renewal in 2019:

    a. Discontinue monitoring at overburden wells D2B (homeowner does not want well monitored), D7B, D26C and D27, as there are no impacts to the overburden aquifer. On-Site monitoring wells (TW1-99, MW2-00, MW3A/B-00, MW5B-05, MW6B-05, MW11B-08, MW12B-08 and D36A) would still be used for monitoring water levels in the overburden including four nested wells which provide adequate areal coverage.

    b. Discontinue monitoring at D19 as the homeowner does not want the well monitored. Private well D3 is located in the same direction from TW1-88 and is closer to the pumping well allowing for sufficient monitoring in that area.

    c. Discontinue monitoring at D8 and D15 and monitor water levels at new multi-level monitoring well MW01-18 (installed in August 2018) constructed between the two sites. The monitoring well will also provide an additional monitoring well nest between TW1-88 and the Hillsburgh municipal wells.

    d. Discontinue monitoring at D24A and D24B and install a new monitoring well in the same area to monitor groundwater levels to the west of TW1-88.

e. Discontinue monitoring at D26A and D26B and install a new monitoring well in the same area to monitor groundwater levels to the south of TW1-88.

f. Discontinue monitoring at D2A as the homeowner does not want their well monitored and install a new monitoring well across the road to monitor groundwater levels to the southwest of TW1-88.

2) As noted in Section 4.3.3, the observed relationship between water level and stream flow at the existing SW1 and SW7 locations is variable or has deteriorated in recent years due to changes in hydraulic controls or changes in stream conditions (multiple channels, beaver activity and ponds). To achieve a better relationship between water levels and flow (i.e., further development of a stage discharge curve), the current SW1 and SW7 stations should be relocated to areas with more favourable hydraulics (i.e., single channel, stable conditions and no backwater). It is recommended that SW1 be relocated to the northeast side of 6th Line, upstream of the road crossing. A new station has been developed at SW7A in the stream channel by D7B that can be used for flow monitoring. To improve the quality of water level data collected at the On-Site pond, it is also recommended that an additional logger be installed upstream of the pond outlet. This station would improve pond outlet estimates through a stage-discharge relationship. There should be an overlap in the monitoring of the new and existing stations until the stage discharge curves are developed.

3) The remaining groundwater and surface monitoring program should continue as is.

4) The PTTW should be updated with the following additional changes at the time of renewal:

a. MW11B-08 is listed as monthly monitoring under bedrock wells and it should be listed as monthly monitoring under overburden wells.

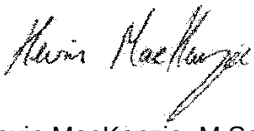
b. MW12B-08 is listed as monthly monitoring under bedrock wells and it should be listed as monthly monitoring under overburden wells.

c. D27 is listed as both continuous and monthly monitoring under overburden wells and it should only be monthly monitoring.

Signature Page

Golder Associates Ltd.

Greg Padusenko, M.Sc., P.Eng., P.Geo.
Hydrogeologist



Kevin MacKenzie, M.Sc., P.Eng.
Senior Hydrologist, Principal

John Piersol, M.Sc., P.Geo.
Senior Hydrogeologist, Associate

GRP/JAP/KM/ll

\\golder.gds\gal\mississauga\active\2013\1152\13-1152-0250 nestle waters ws s. ontario\erin\report\2018 annual report\final report\13-1152-0250 rpt 2019mar18 2018 erin report_as2.docx

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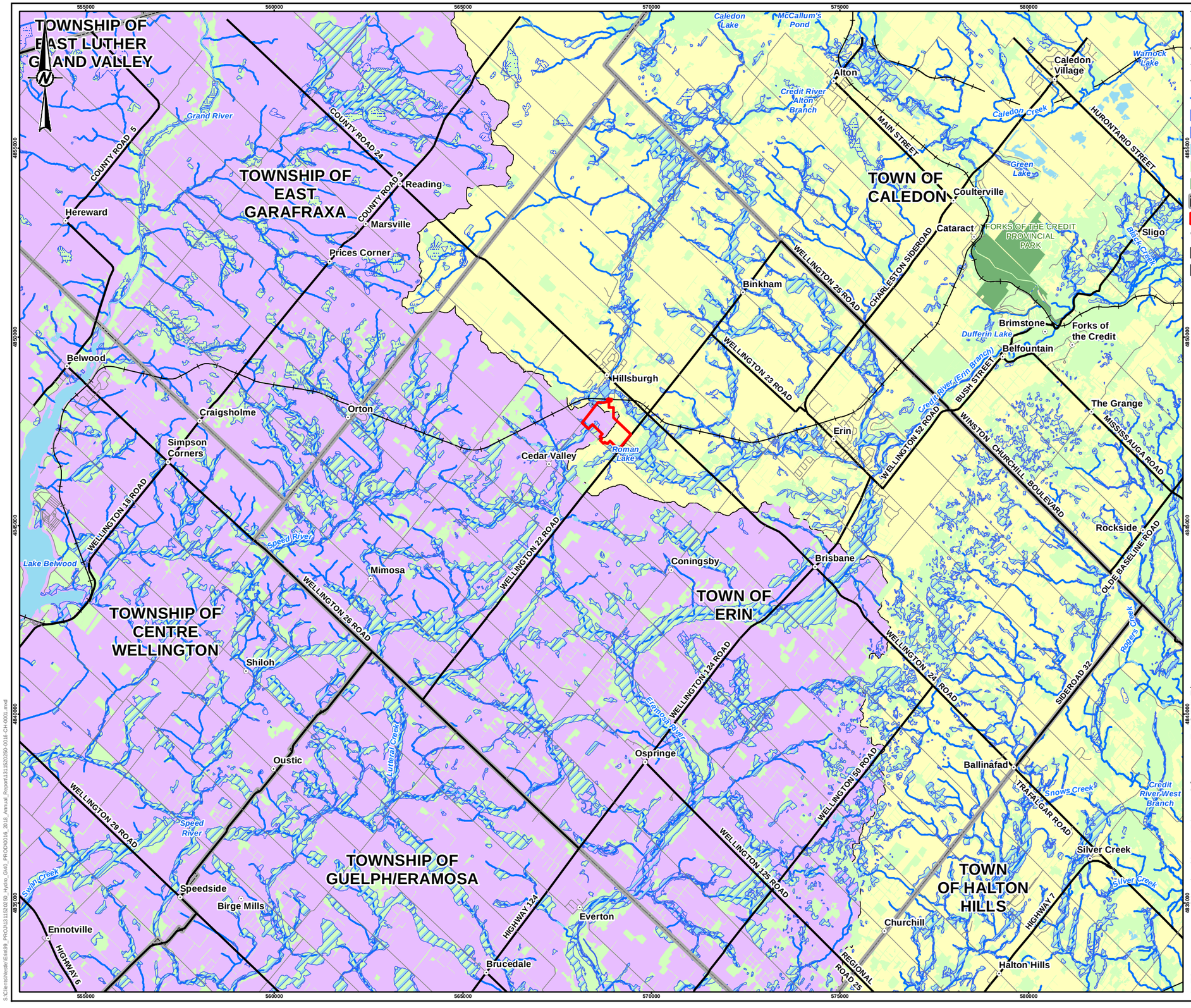
FIGURES



LEGEND

- City/Town
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Wooded Area
- Provincial Park
- Municipal Boundary
- Property Boundary

Watersheds

- Credit - 16 Mile
- Upper Grand

0 2 4 6 8

1:100,000 Kilometres

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
SITE LOCATION

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**1.1**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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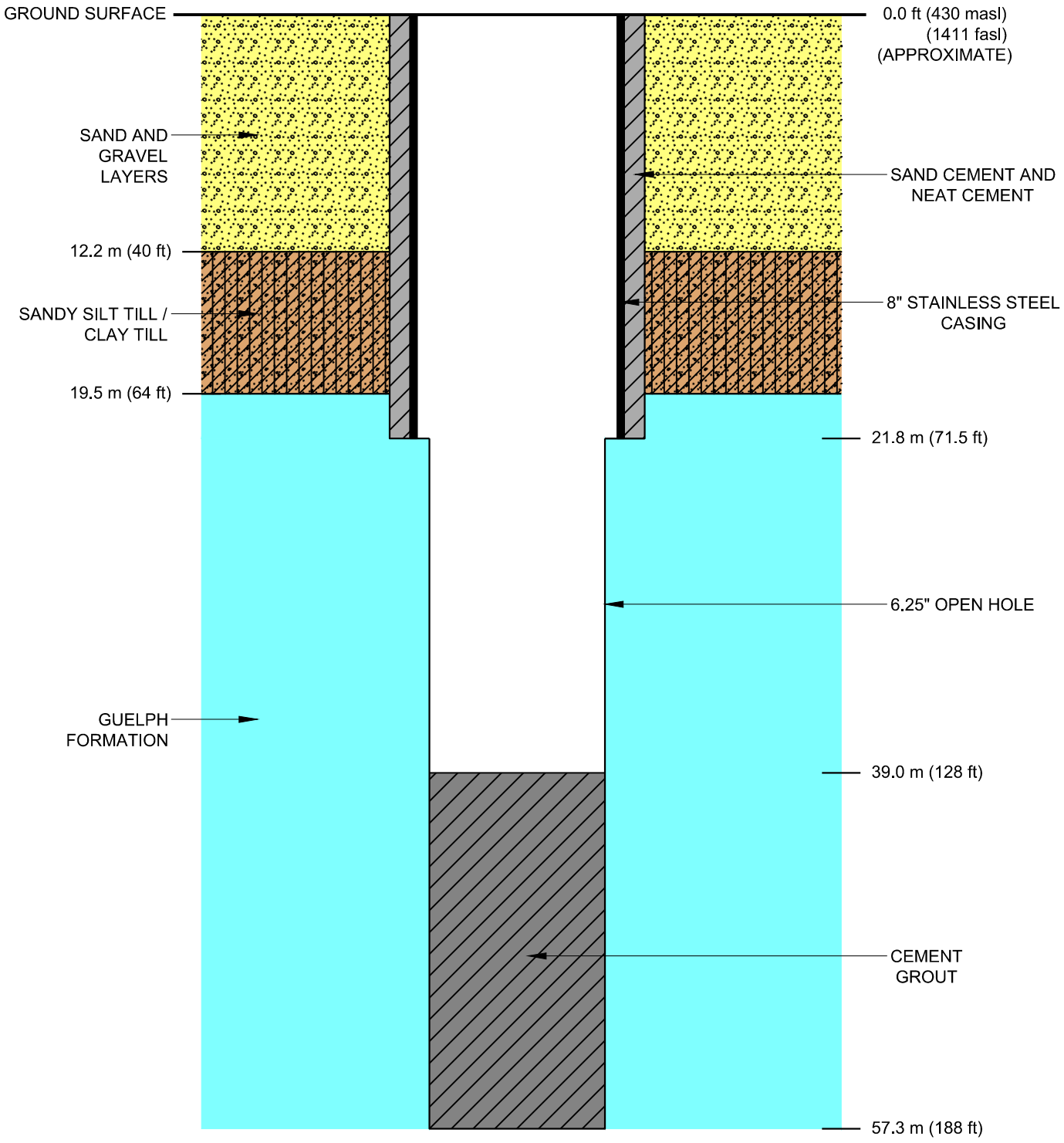


CLIENT
NESTLE WATERS CANADA

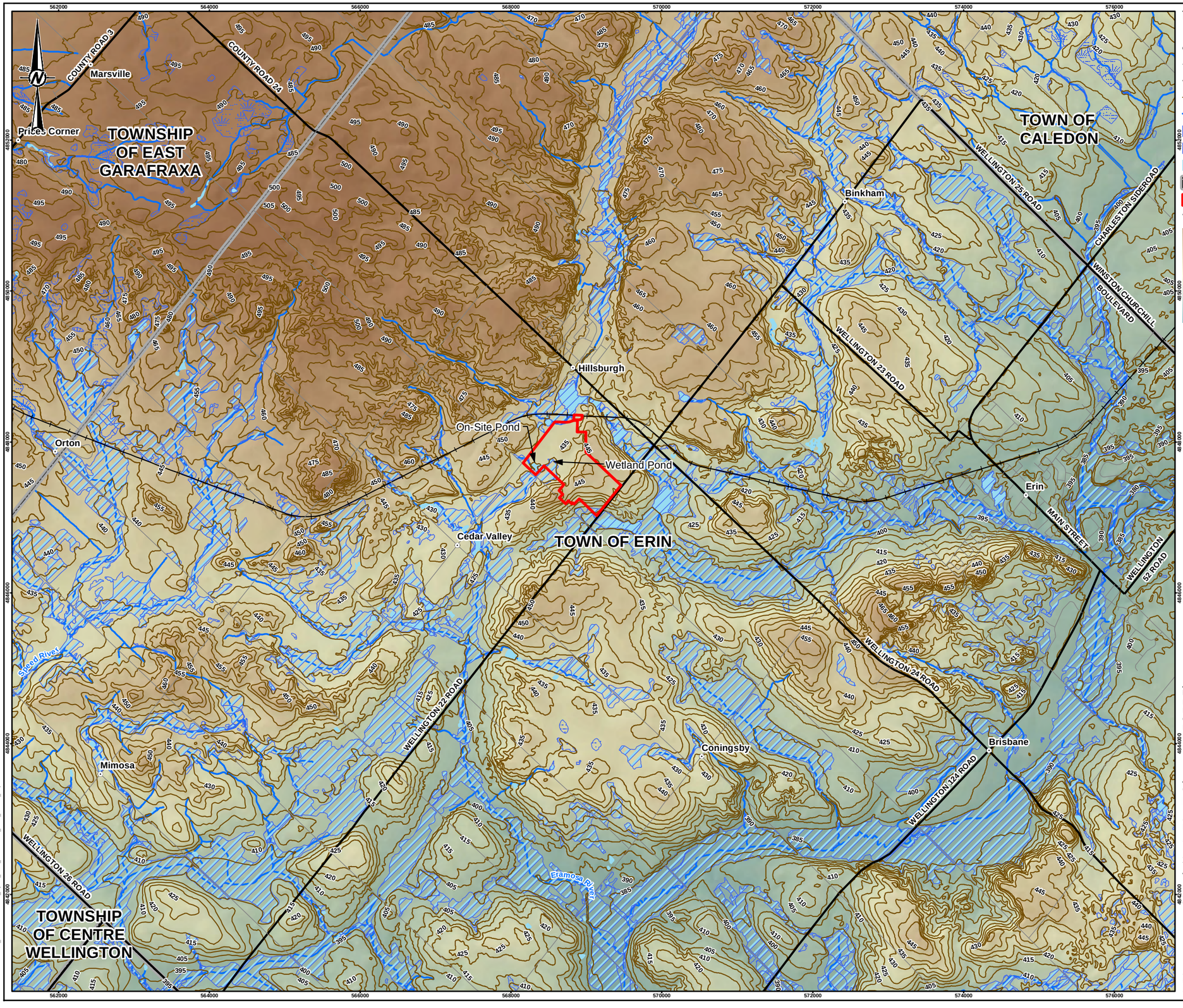
PROJECT
2018 ANNUAL REPORT

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-22
PREPARED	SW
DESIGN	MR
REVIEW	GP
APPROVED	GP

TITLE
ERIN TW1-88

PROJECT No.	PHASE	Rev.	FIGURE
13-1152-0250	2000	A	1.2



LEGEND

- City/Town
- Main Road
- Local Road
- Railway
- Topographic Elevation Contour (masl)
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary

Topographic Elevation (masl)

High : 505

Low : 307

0 1 2 3 4

1:50,000 Kilometres

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
TOPOGRAPHY AND DRAINAGE

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**2.1**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 0 25mm

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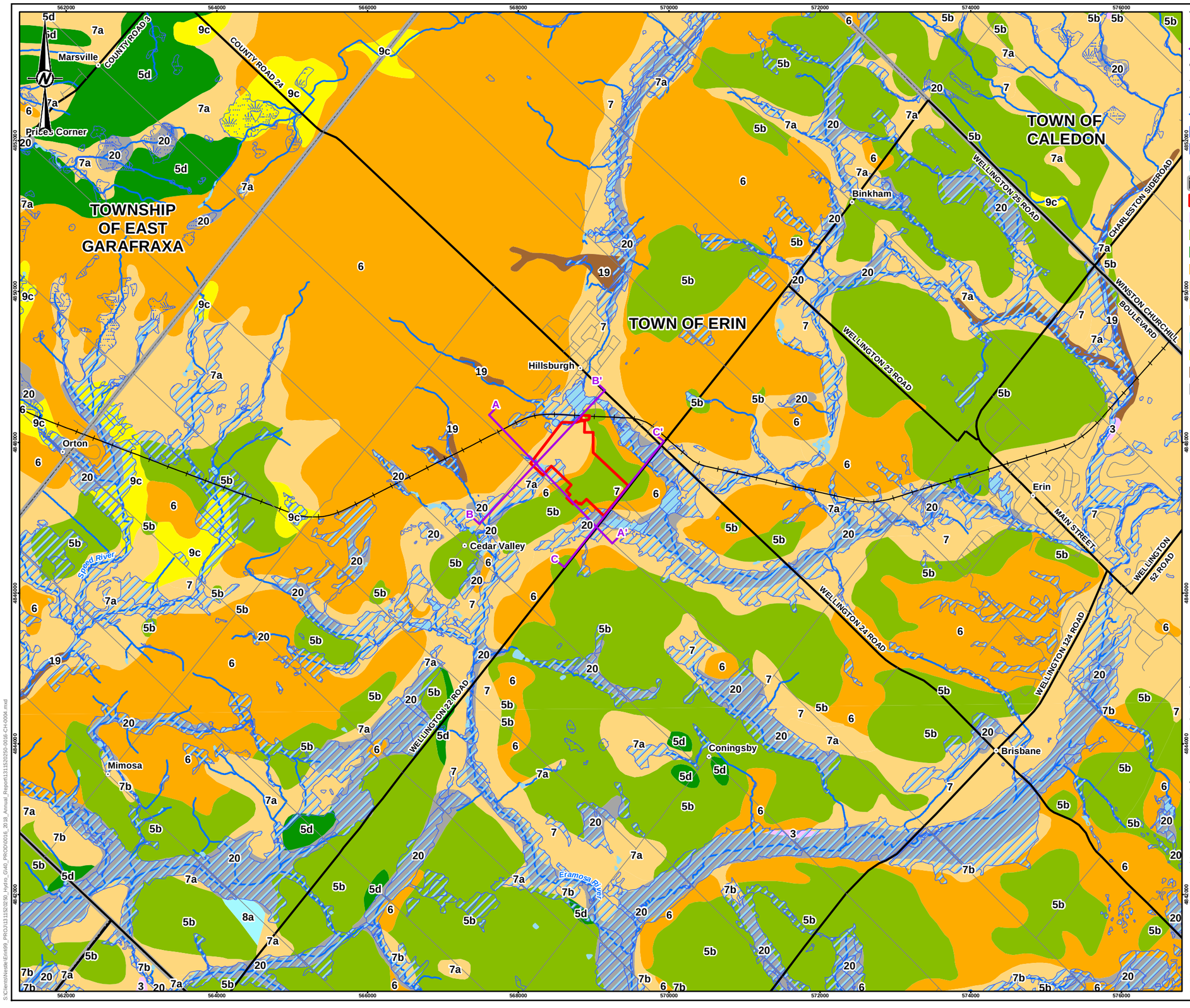

LEGEND

- City/Town
- Cross-Section Location
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary
- 3: Paleozoic bedrock
- 5b: Stone-poor, carbonate-derived silty to sandy till
- 5d: Glaciolacustrine-derived silty to clayey till
- 6: Ice-contact stratified deposits
- 7: Glaciofluvial deposits
- 7a: Sandy deposits
- 7b: Gravelly deposits
- 8a: Massive-well laminated
- 9c: Foreshore-basinal deposits
- 19: Modern alluvial deposits
- 20: Organic deposits

0 1 2 3 4

1:50,000

Kilometres

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
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PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
REGIONAL QUATERNARY GEOLOGY

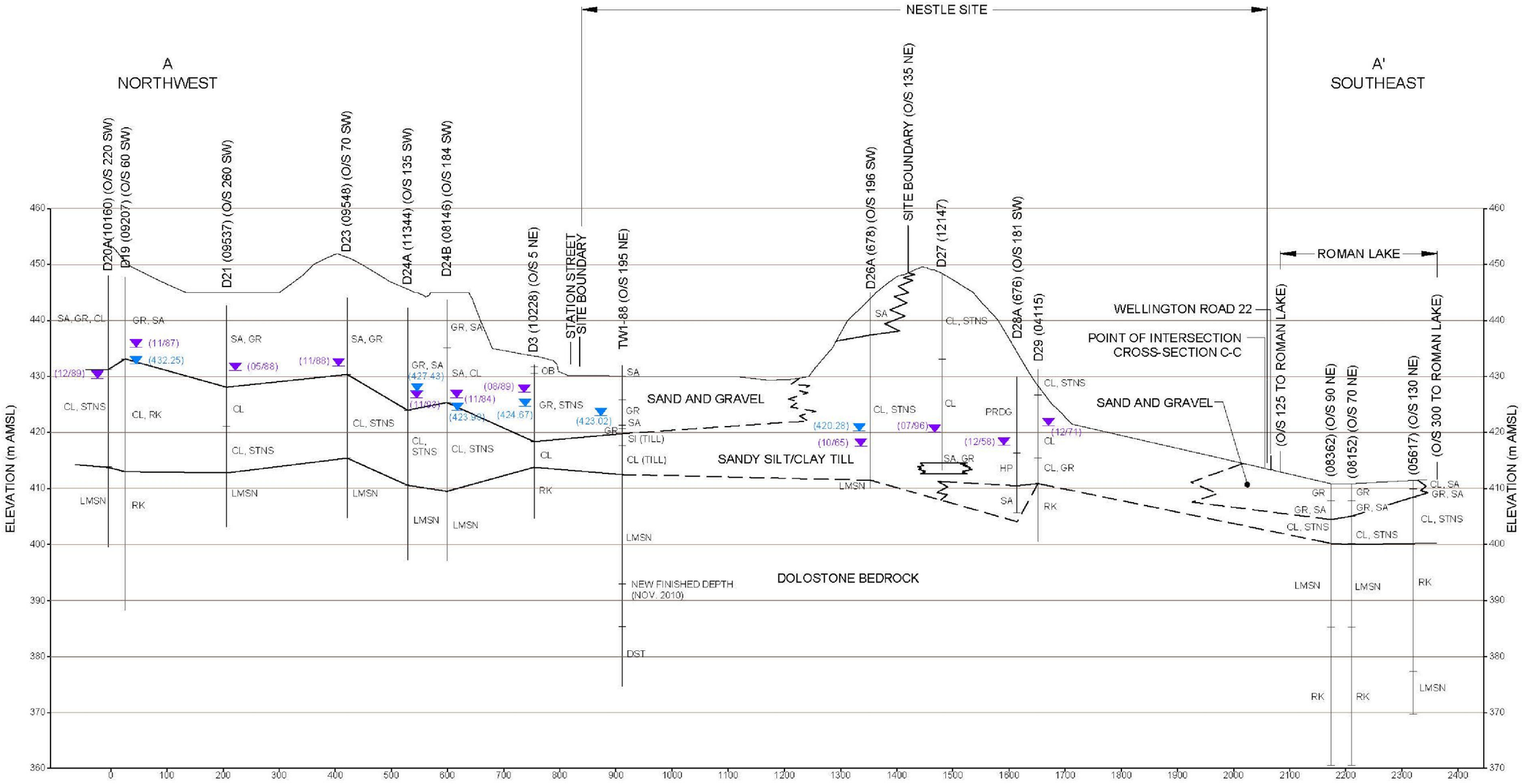
CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**2.2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

S:\Clients\Nestle\Eri\09_PRO\13\13152\02'90_Hydro_G\40_PRO\0\0016_2018_Annual_Report\13115202S0-0016-CH-0004.mxd



VERTICAL TO HORIZONTAL EXAGGERATION: 10:1

LEGEND

D19 (9207) — WELL DESIGNATION
GROUND SURFACE

(11/87) — WATER LEVEL ON WELL COMPLETION (MONTH / YEAR)

(432.25) — STATIC WATER LEVEL (NOV. 3/05)

PRDG	-	PRE DUG
OB	-	OVERBURDEN
CL	-	CLAY
SI	-	SILT
SA	-	SAND
GR	-	GRAVEL
STNS	-	STONES
HP	-	HARDPAN
RK	-	ROCK (BEDROCK)
LMSN	-	LIMESTONE (BEDROCK)
DST	-	DOLOSTONE
CL, SA	-	FIRST COMPONENT IS MOST COMMON MATERIAL

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
HYDROGEOLOGIC CROSS-SECTION A-A'

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**2.3**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm 0

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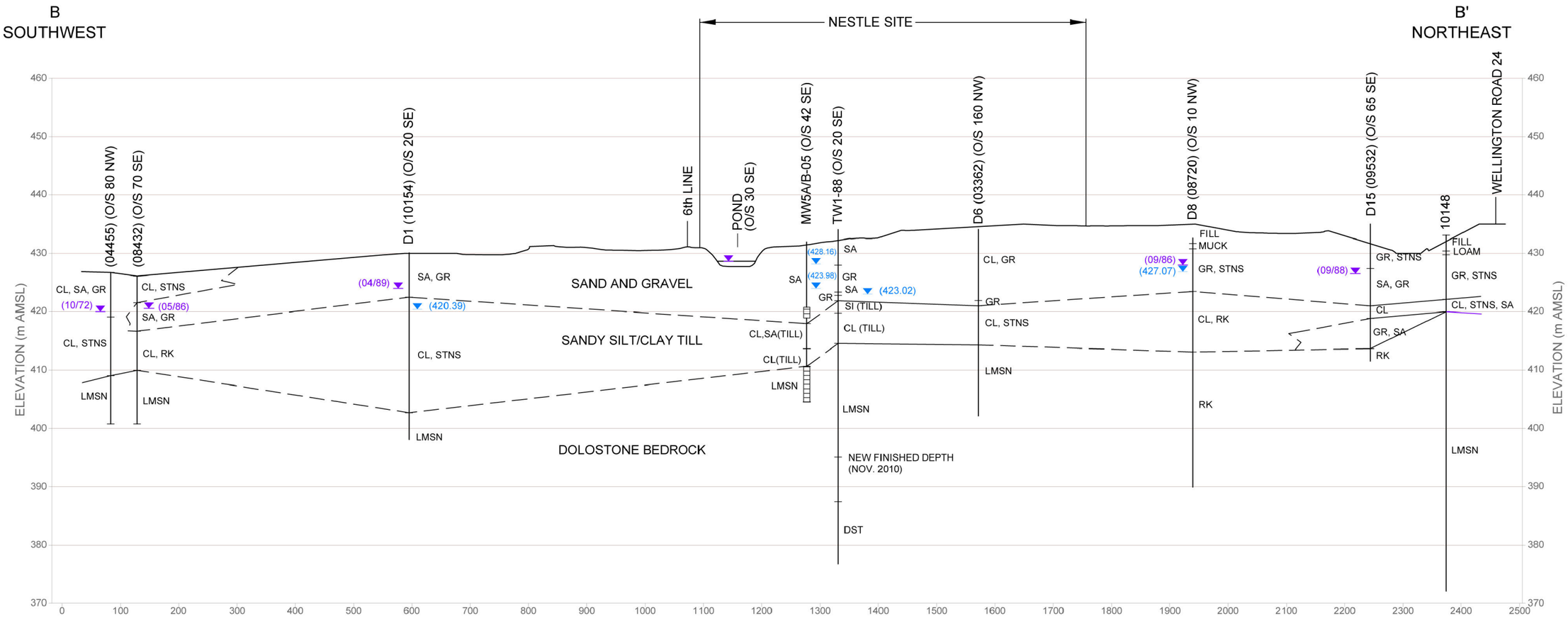


LEGEND

- D8 — WELL DESIGNATION
- GROUND SURFACE
- (09/86) — WATER LEVEL (m AMSL) ON WELL COMPLETION (MONTH / YEAR)
- (427.07) — STATIC WATER LEVEL (NOV. 3/05)

PRDG	-	PRE DUG
CL	-	CLAY
SI	-	SILT
SA	-	SAND
GR	-	GRAVEL
STNS	-	STONES
HP	-	HARDPAN
RK	-	ROCK (BEDROCK)
LMSN	-	LIMESTONE (BEDROCK)
DST	-	DOLOSTONE
CL, SA	-	FIRST COMPONENT IS MOST COMMON MATERIAL

REFERENCE(S)
BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
HYDROGEOLOGIC CROSS-SECTION B-B'

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

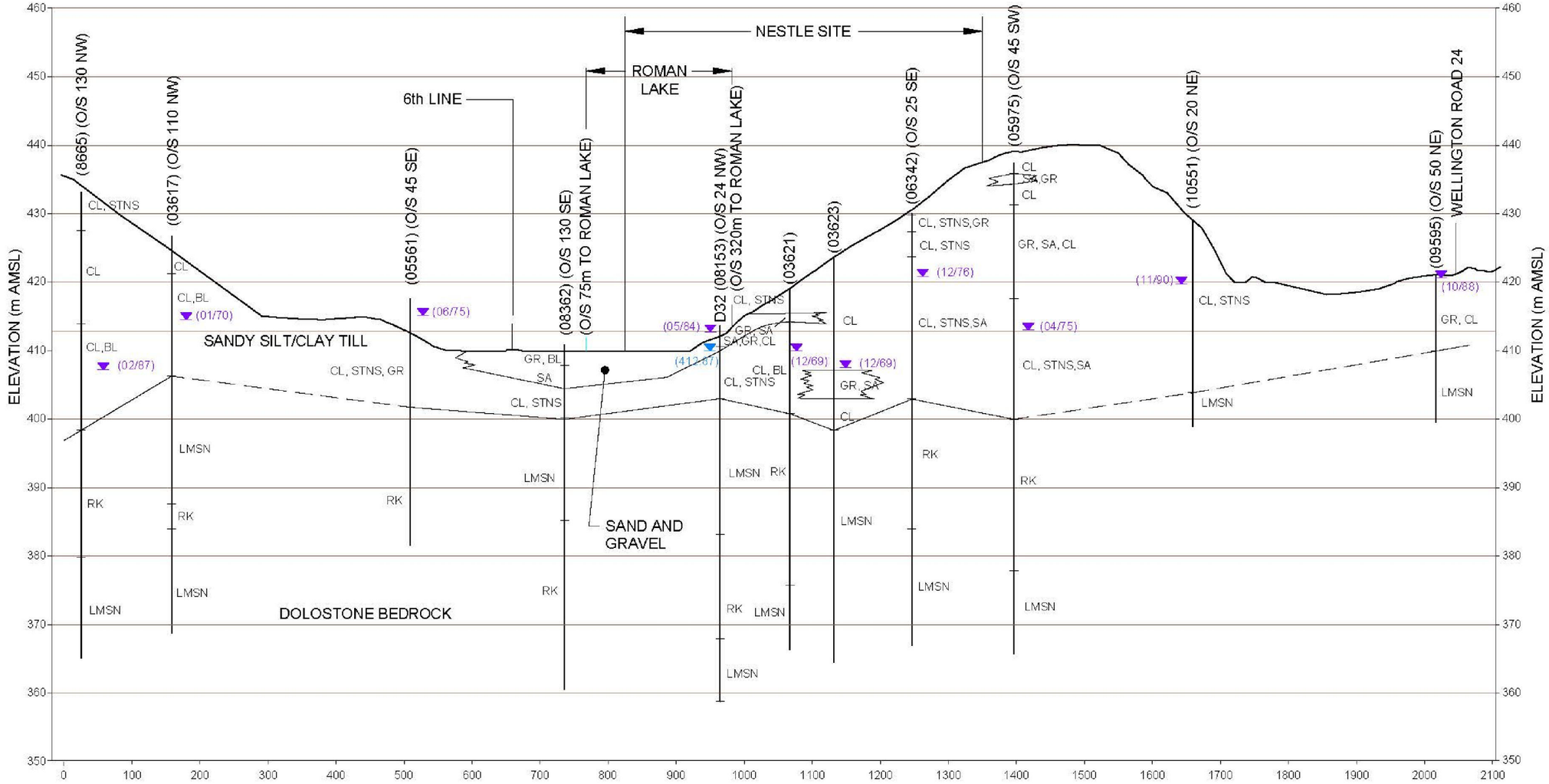
PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**2.4**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 28mm

S:\Clients\Nestle\Enrl99_PROJ\13152\250_Hydro_G40_PROD\0016_2018_Annual_Report\13115202S0-0016-CH-0006.mxd

C
SOUTHWEST

C'
NORTHEAST



HORIZONTAL DISTANCE (metres)
VERTICAL TO HORIZONTAL EXAGGERATION: 10:1

LEGEND

D32 — WELL DESIGNATION
GROUND SURFACE
(05/84) — WATER LEVEL ON WELL COMPLETION (MONTH / YEAR)
(412.87) — STATIC WATER LEVEL (NOV. 3/05)

PRDG	-	PRE DUG
OB	-	OVERBURDEN
CL	-	CLAY
SI	-	SILT
SA	-	SAND
GR	-	GRAVEL
BL	-	BOULDER
STNS	-	STONES
HP	-	HARDPAN
RK	-	ROCK (BEDROCK)
LMSN	-	LIMESTONE (BEDROCK)
DST	-	DOLOSTONE
CL, SA	-	FIRST COMPONENT IS MOST COMMON MATERIAL

REFERENCE(S)
BASE DATA - MNR LIO, OBTAINED 2015
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PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
HYDROGEOLOGIC CROSS-SECTION C-C'

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO. 13-1152-0250 (2000) | CONTROL 0016 | REV. 1.0 | FIGURE **2.5**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:
26mm
0

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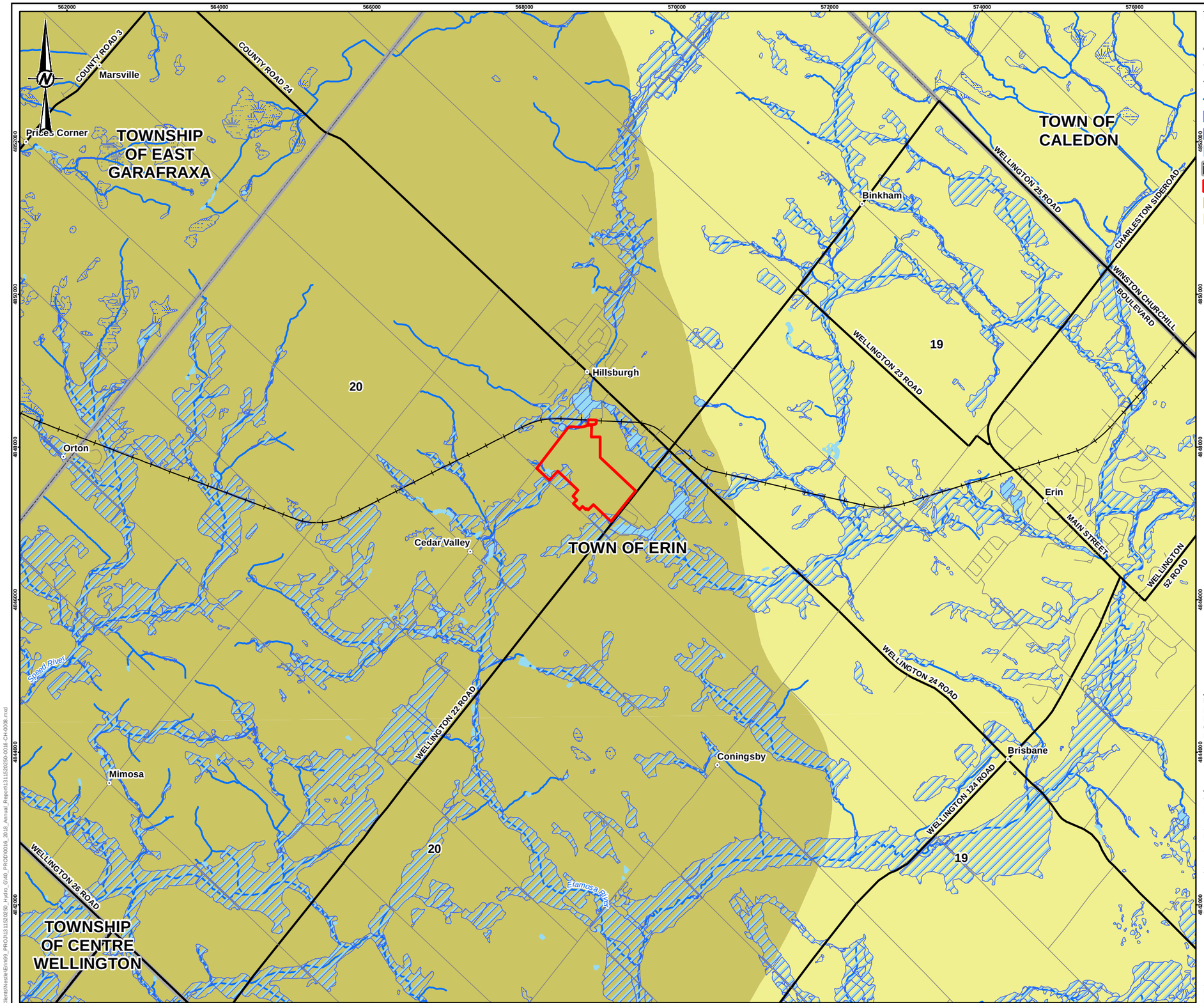

LEGEND

- City/Town
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary
- 20: Guelph
- 19: Amabel

0 1 2 3 4 Kilometres

1:50,000

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
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ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
REGIONAL BEDROCK GEOLOGY

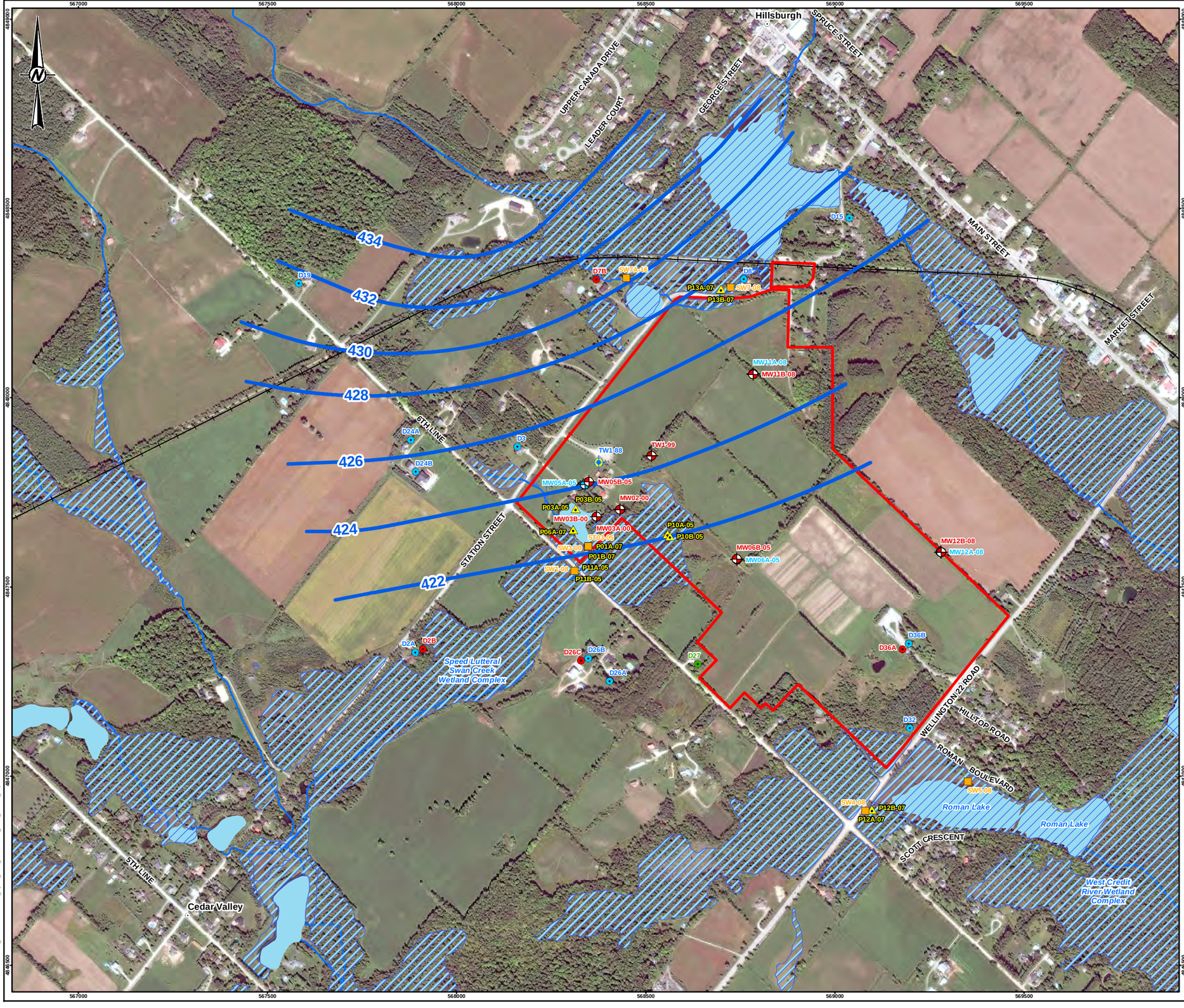
CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**2.6**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

S:\Clients\Nestle\Eng\99_PROJ\13115202 50_Hydro_G\40_PROD\0016_2018_Annual_Report\13152025O-0016-CH-0008.mxd



LEGEND

- City/Town
- Monitoring Well (Bedrock)
- Monitoring Well (Overburden)
- Production Well
- Private Well (Bedrock)
- Private Well (Overburden)
- Private Well (Deep Overburden)
- Piezometer
- Surface Water Station
- Water Level Elevation Contour (Jan. 24, 2000)
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Property Boundary

0 200 400 600 800

1:10,000 Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
POTENTIOMETRIC SURFACE OF GUELPH AQUIFER (NON-PUMPING CONDITION JANUARY 2000)

CONSULTANT
GOLDER

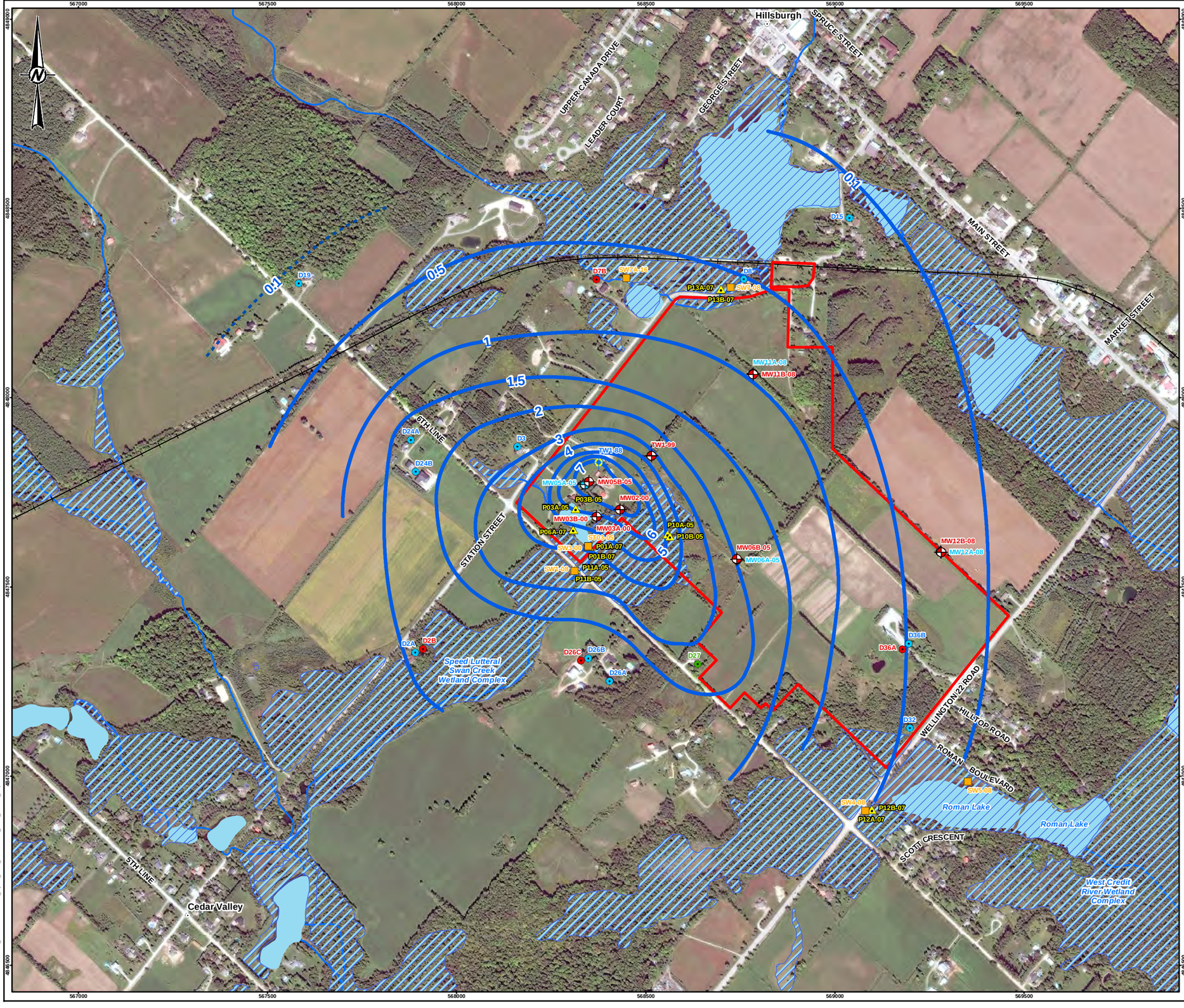
YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**2.7**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B (279mm x 432mm)

25mm 0

S:\Clients\Nestle\Eim99_PROJ\13115\250_Hydro_G\40_PROD\0016_2018_Annual_Report\131152025O-0016-GH-0009.mxd



LEGEND

- City/Town
- Monitoring Well (Bedrock)
- Monitoring Well (Overburden)
- Production Well
- Private Well (Bedrock)
- Private Well (Overburden)
- Private Well (Deep Overburden)
- Piezometer
- Surface Water Station
- Drawdown Contour (June 13/15, 2001)
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Property Boundary

0 200 400 600 800

1:10,000 Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
INTERPRETED DRAWDOWN IN BEDROCK AQUIFER (JUNE 2001)

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**2.8**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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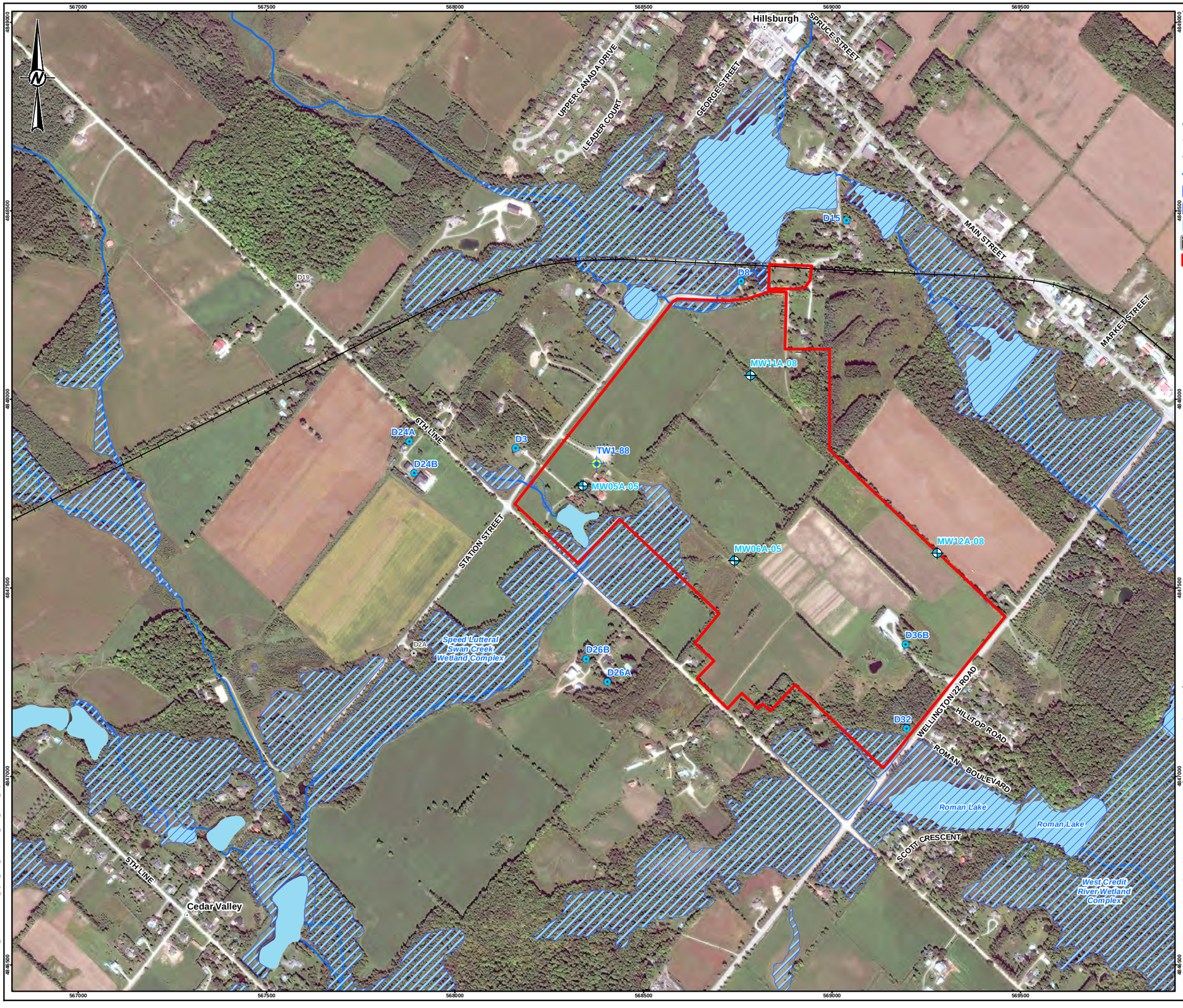

LEGEND

- City/Town
- Production Well
- Monitoring Well (Bedrock)
- Private Well (Bedrock)
- Private Well (Bedrock - not monitored)
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary

0 200 400 600 800

1:10,000 Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
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PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
2018 BEDROCK MONITORING LOCATIONS

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**3.1**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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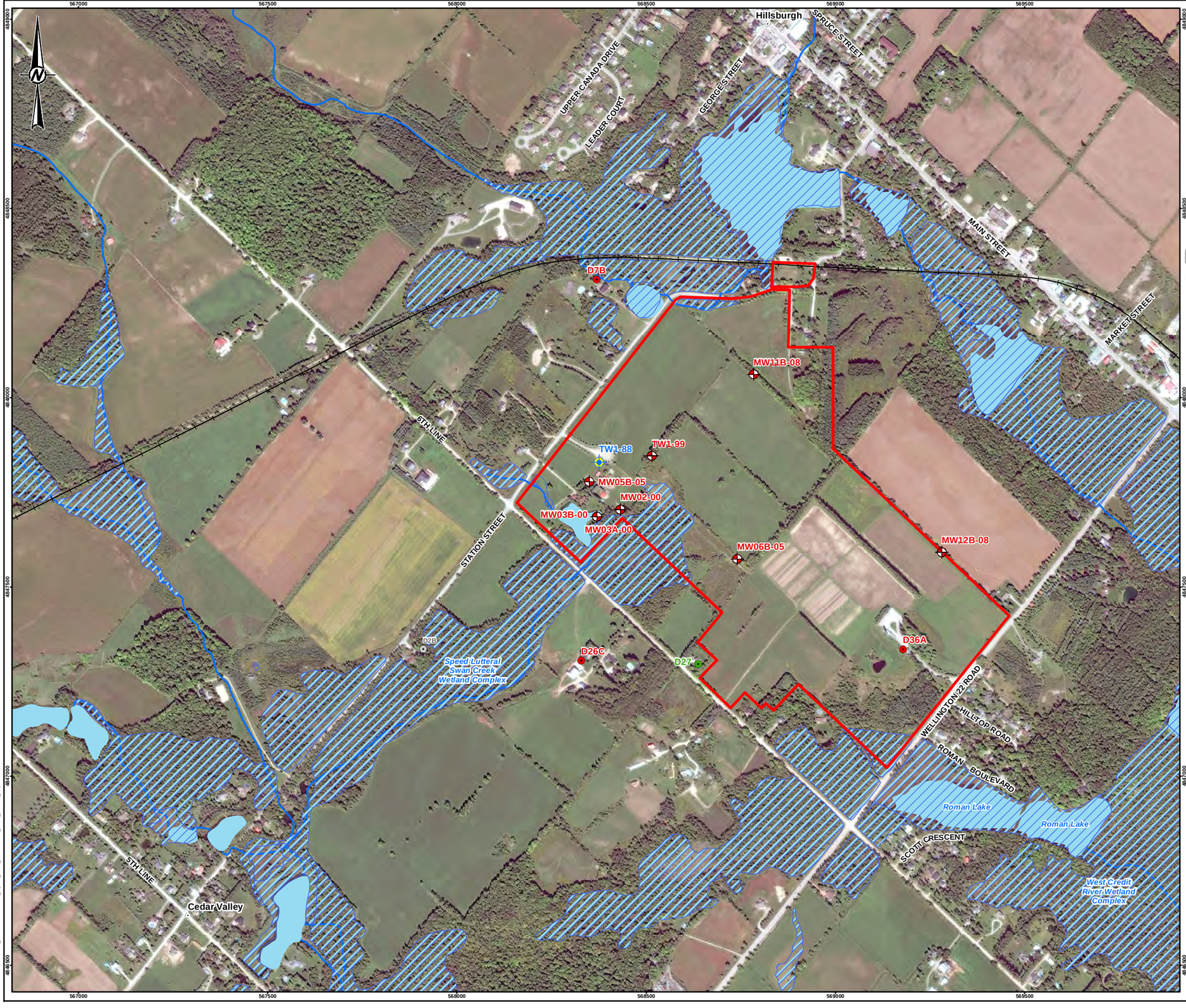


LEGEND

- City/Town
- Production Well
- Monitoring Well (Overburden)
- Private Well (Overburden)
- Private Well (Deep Overburden)
- Private Well (Overburden - not monitored)
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary

0 200 400 600 800

1:10,000 Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
2018 OVERBURDEN MONITORING LOCATIONS

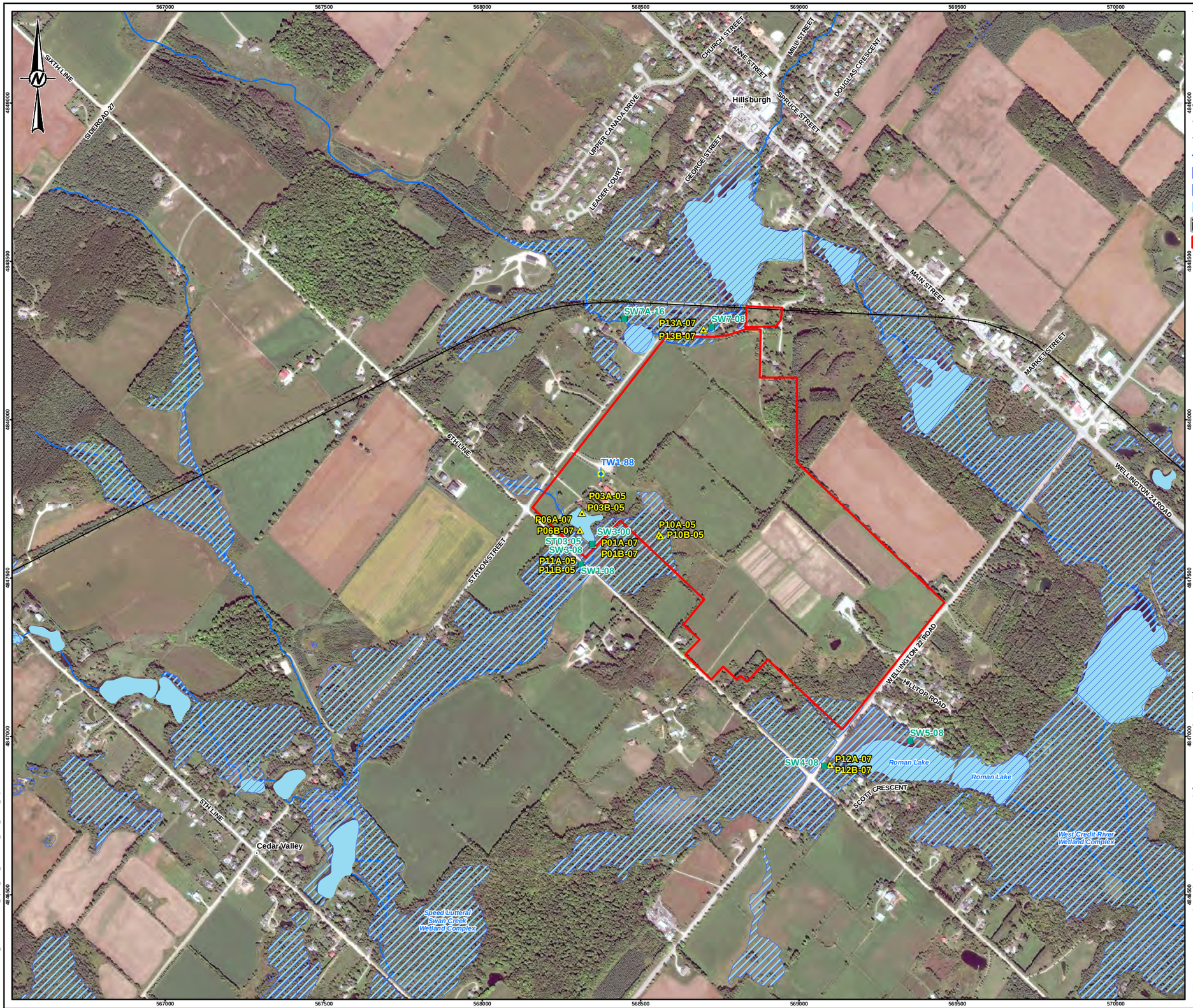
CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-21
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**3.2**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

S:\Clients\Nestle\Eng\9_PROJ\13115\2\250_Hydro_G\40_PROD\0016_2018_Annual_Report\131152025O-0016-GH-0012.mxd



LEGEND

- City/Town
- Production Well
- Piezometer
- Surface Water Station
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary

0 200 400 600 800

1:12,000 Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
2018 SURFACE WATER MONITORING LOCATIONS

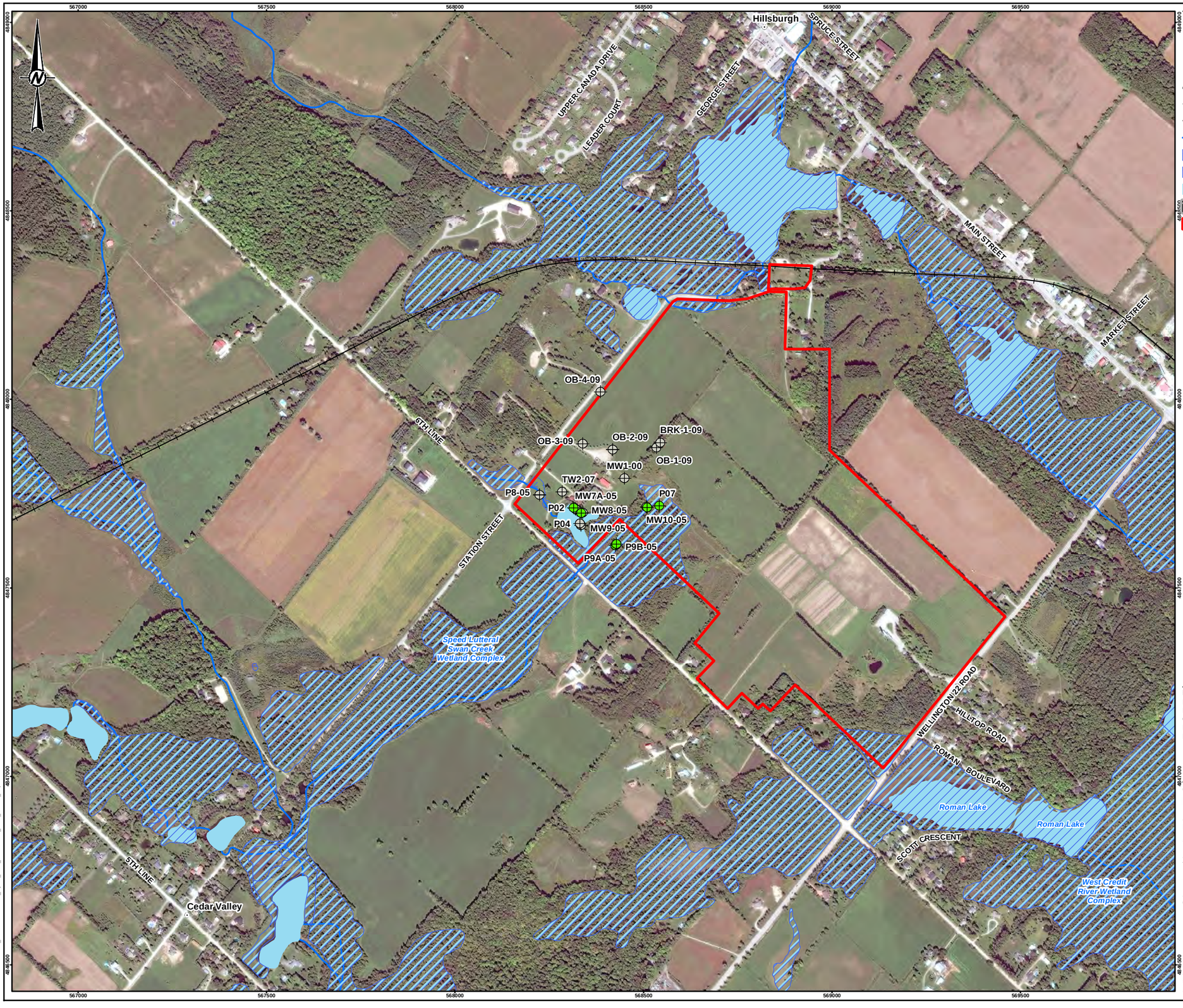
CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**3.3**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

S:\Clients\Nestle\Ennis69_PRO\13\13152\02\50_Hydro_G\40_PRO\0016_2018_Annual_Report\13115202500016-CH-0013.mxd



LEGEND

- City/Town
- Destroyed/Removed/Decommissioned
- Unused (status unknown)
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary

0 200 400 600 800

1:10,000 Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
UNUSED OR DECOMMISSIONED WELLS

CONSULTANT
GOLDER

YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	**3.4**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: 25mm

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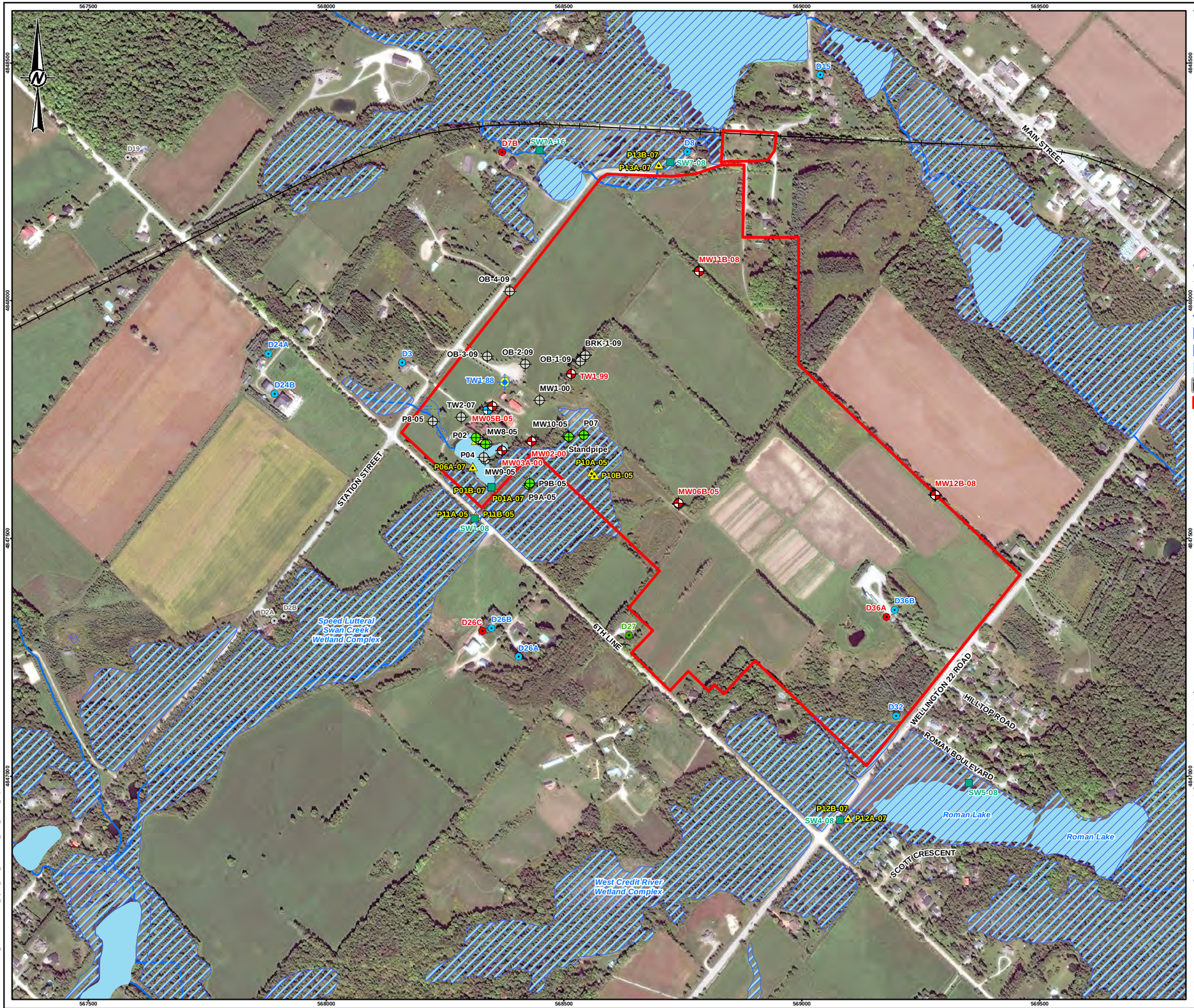


LEGEND

- City/Town
- Destroyed/Removed/Decommissioned
- Unused (status unknown)
- Production Well
- Monitoring Well (Bedrock)
- Monitoring Well (Overburden)
- Private Well (Bedrock)
- Private Well (Overburden)
- Private Well (Deep Overburden)
- Piezometer
- Surface Water Station
- Private Well (Overburden - not monitored)
- Private Well (Bedrock - not monitored)
- Main Road
- Local Road
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary

0 200 400 600

1:8,000

Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
WELL LOCATIONS

CONSULTANT
GOLDER

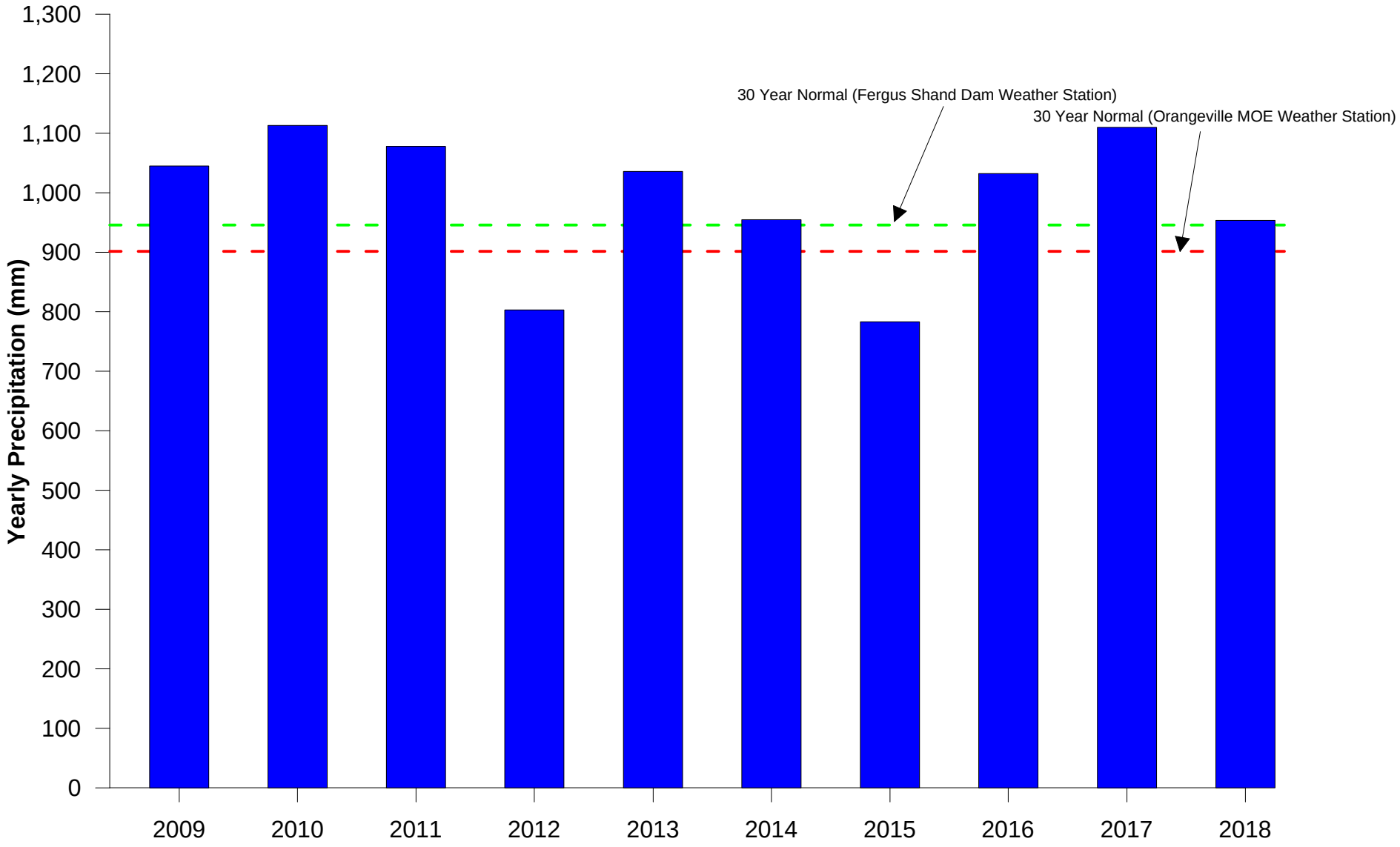
YYYY-MM-DD	2019-01-18
DESIGNED	JMC
PREPARED	JMC/PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO. 13-1152-0250 (2000) | CONTROL 0016 | REV. 1.0 | FIGURE **3.5**

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

25mm 0

S:\Clients\Nestle\Eim\99_PRO\13115\2\0250_Hydro_GA\0_PRO\0\0016_2018_Annual_Report\13115202500016_2018_Annual_Report_CH-0015.mxd



Data for Orangeville Station prior to 2016, and data for Shand Dam Station from 2016-2018

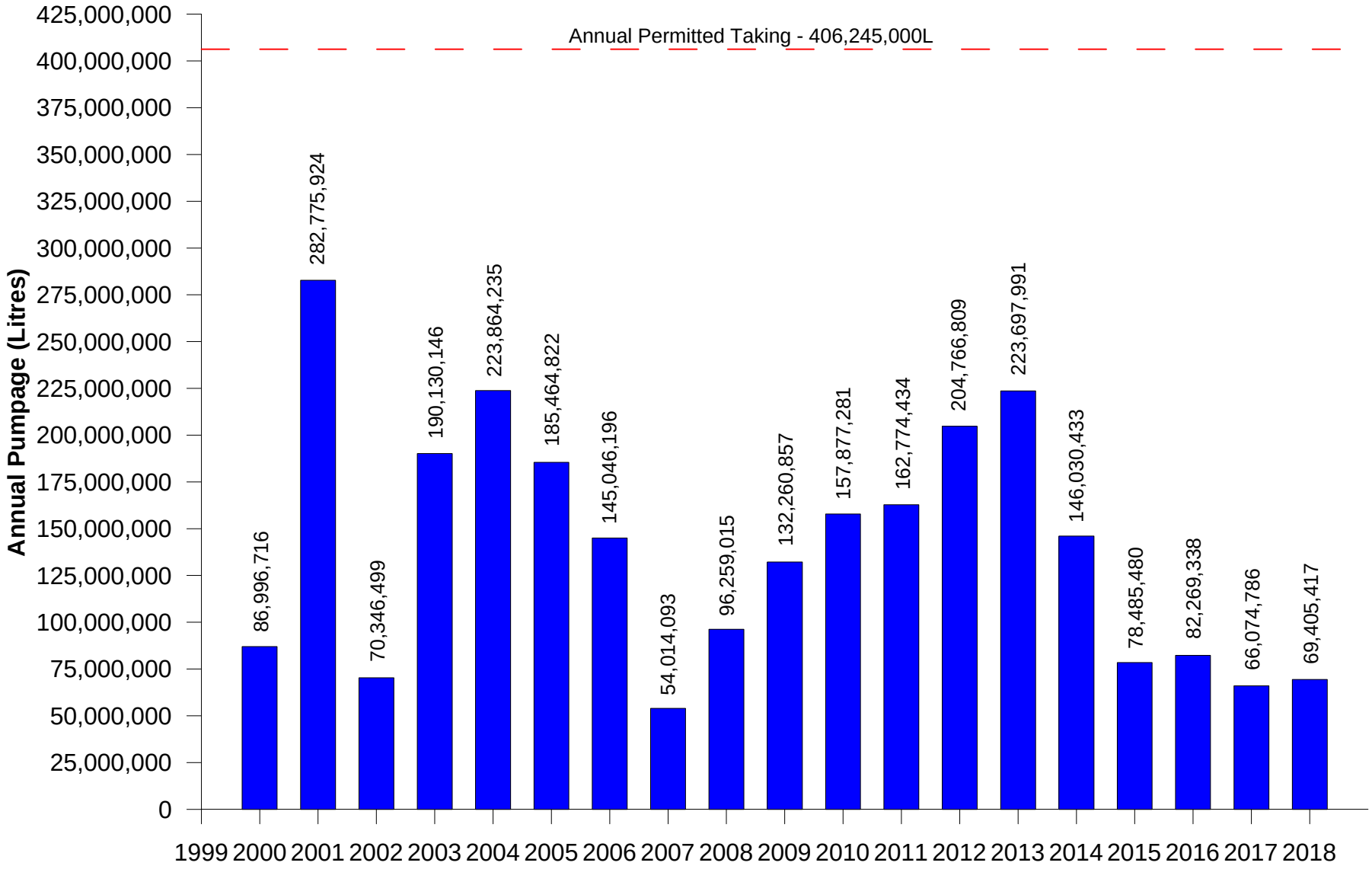
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Erin, Ontario

TITLE
HISTORICAL ANNUAL PRECIPITATION (2009 TO 2018)
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	3.6



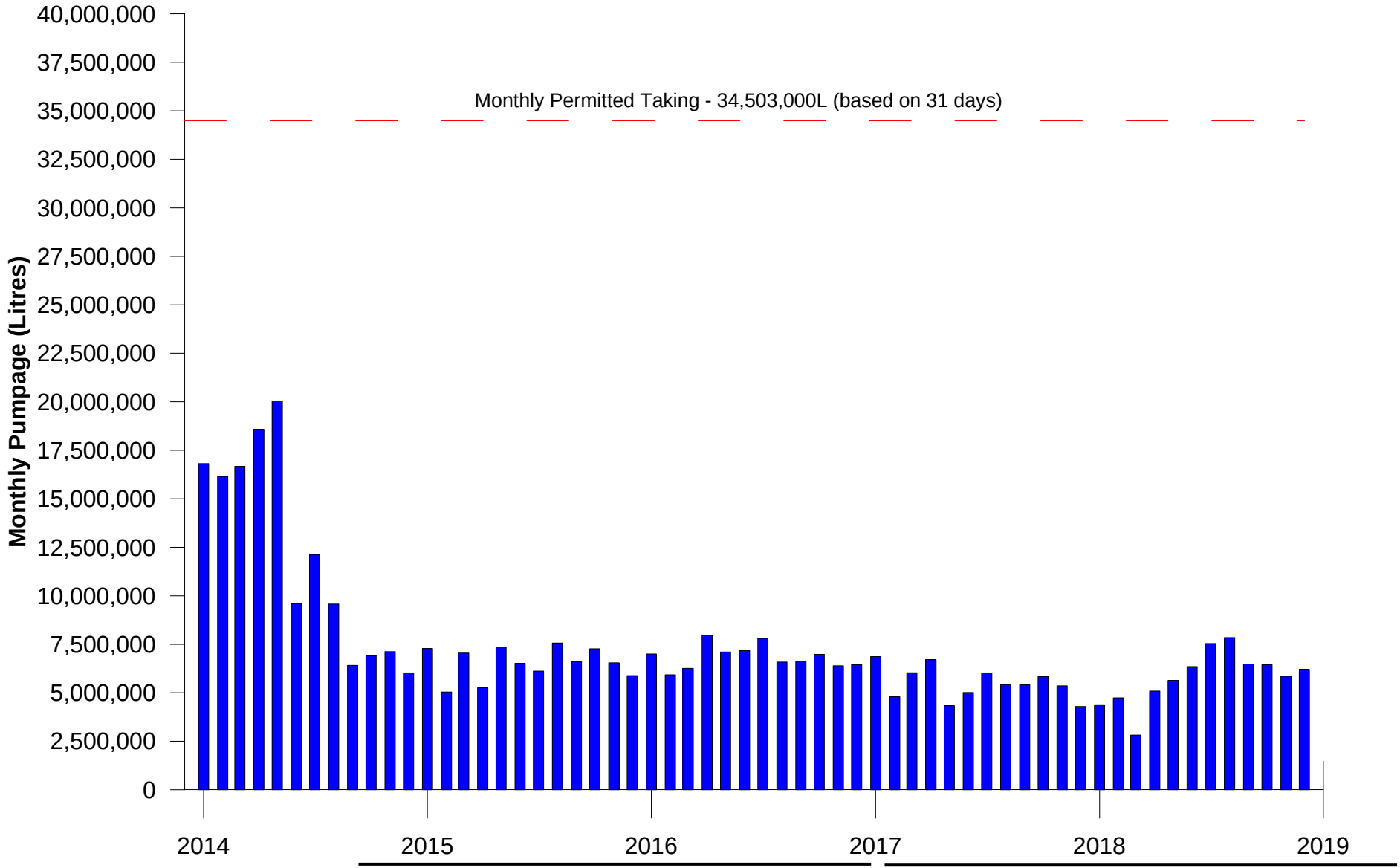
PROJECT
NESTLE WATERS CANADA
Erin, Ontario

TITLE
TW1-88 ANNUAL WATER TAKING (2000 TO 2018)
2018 ANNUAL MONITORING REPORT

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	4.1



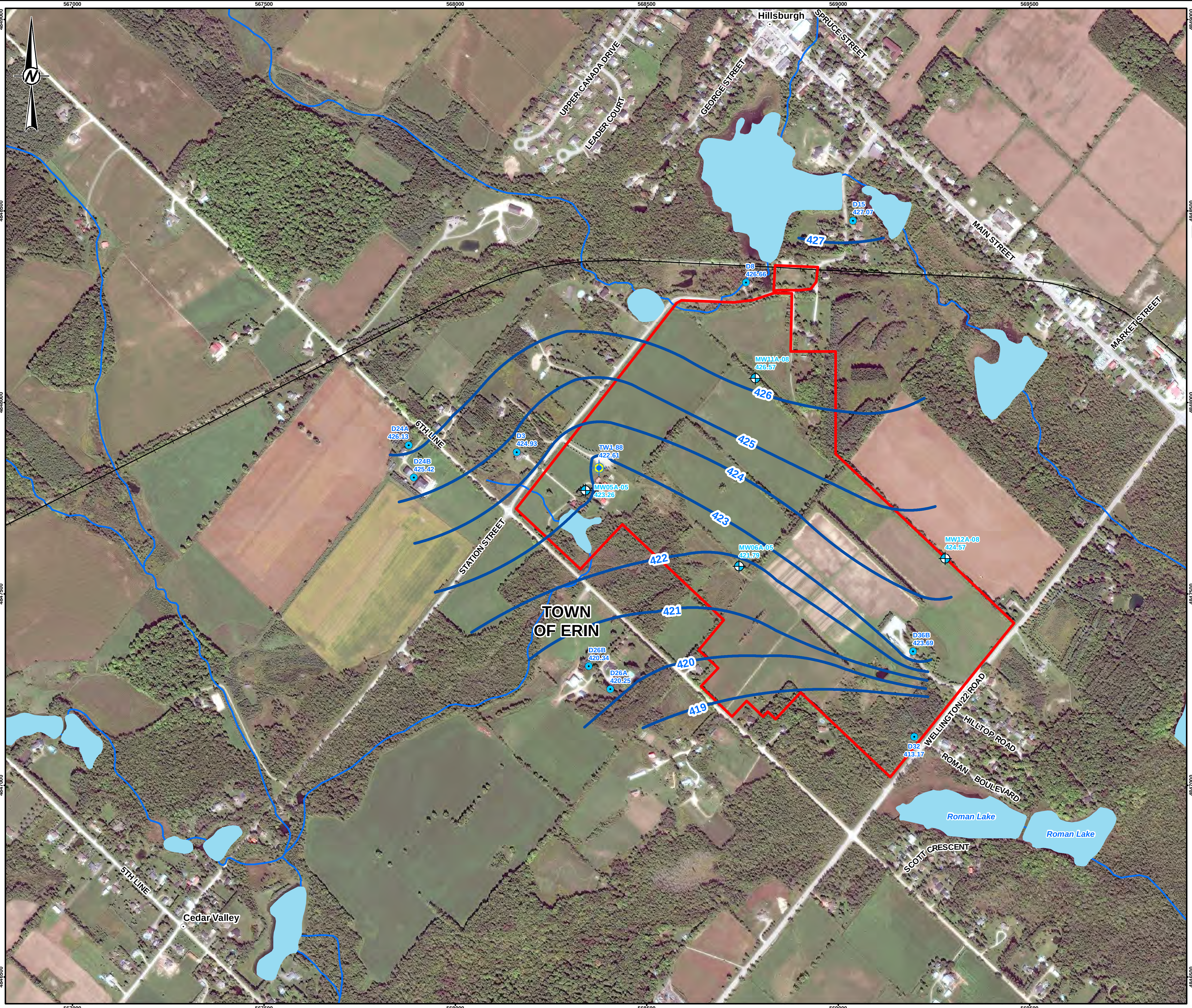
PROJECT
NESTLE WATERS CANADA
Erin, Ontario

TITLE
TW1-88 MONTHLY WATER TAKING (2014 TO 2018)
2018 ANNUAL MONITORING REPORT

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	4.2



LEGEND

- City/Town
- Production Well
- Monitoring Well (Bedrock)
- Private Well (Bedrock)
- 420.1 Water Elevation (August, 2018)
- Water Elevation Contour (masl)
- Railway
- Watercourse
- Wetland
- Provincially Significant Wetland
- Waterbody
- Municipal Boundary
- Property Boundary

0 200 400 600 800

1:10,000 Meters

REFERENCE(S)

BASE DATA - MNR LIO, OBTAINED 2015
PRODUCED BY GOLDER ASSOCIATES LTD UNDER LICENCE FROM ONTARIO MINISTRY OF NATURAL RESOURCES, © QUEENS PRINTER 2013
PROJECTION: UTM NAD83 ZONE 17
PROPERTY BOUNDARY FROM CRA FILE 13764-10(017)GN-WA002.DWG.

CLIENT
NESTLE WATERS CANADA

PROJECT
2018 ANNUAL REPORT

TITLE
POTENTIOMETRIC SURFACE OF BEDROCK AQUIFER (AUGUST 2018)

CONSULTANT

GOLDER

YYYY-MM-DD	2019-02-15
DESIGNED	JMC
PREPARED	PR
REVIEWED	GP
APPROVED	JAP

PROJECT NO.	CONTROL	REV.	FIGURE
13-1152-0250 (2000)	0016	1.0	4.3

25mm IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM:

APPENDIX A

Permit To Take Water Number 3716-8UZMCU

Ministry of the Environment
West-Central Region
Technical Support Section
12th Floor
119 King St W
Hamilton ON L8P 4Y7
Fax: (905)521-7820
Tel: (905) 521-7720

Ministère de l'Environnement
Direction régionale du Centre-Ouest
Secteur du Soutien Technique
12e étage
119 rue King W
Hamilton ON L8P 4Y7
Télécopieur: (905)521-7820
Tél:(905) 521-7720

Ontario

February 25, 2014

Nestle Canada Inc.
101 Brock Road S.
Puslinch, Ontario N1H 6H9

Attention: Ms. Andreanne Simard

Dear Ms. Simard:

RE: Amendments to monitoring program
Permit to Take Water 3716-8UZMCU
Reference Number 8420-8TAMGM

NOTICE

Pursuant to s. 100, Ontario Water Resources Act, R.S.O. 1990, c. O.40 as amended, I am issuing notice that, as Director of Section 34 of the Ontario Water Resources Act, I am exercising my discretion to amend Permit to Take Water 3716-8UZMCU part of condition 4.1. All other terms and conditions of Permit to Take Water 3716-8UZMCU shall continue in force.

Per condition 4.4, the Permit Holder notified the Director on July 25, 2013 of inaccuracies in condition 4.1 and certain monitoring locations becoming inaccessible or requiring replacement. The notification included suggested replacements. Further reasoning was provided by the Permit Holder on January 31, 2014. The delay in approving the amendment was due to other processes regarding the Permit. On February 24, 2014 Ms. Simard clarified the monitoring locations of condition 4.1(ii).

This Notice supersedes the Notice issued February 3, 2014. Condition 4.1 is hereby revoked and replaced as follows:

4.1 The Permit Holder shall establish the following monitoring program for the duration of the Permit:

Bedrock Wells

(i) Continuous monitoring of ground water levels at the following locations:

- TW1-88
- D2A
- D3 (MOE #6710228)
- MW5A
- MW6A
- D36B (MOE Tag#A001807)

(ii) Monthly monitoring of ground water levels at the following locations:

- D19 (MOE #6709207)
- MW11A/B-08
- D24B (MOE #6708146) and D24A (MOE #6711344)
- D26A (MOE #6700678) and D26B
- MW12A/B-08
- D8 (MOE#6708720)
- D15 (MOE#6709532)
- D32 (MOE#6708153)

Overburden Wells

(i) Continuous monitoring of ground water levels at the following locations:

- MW3A/B
- D2B
- MW5B
- MW6B
- D26C
- D36A
- D27

(ii) Monthly monitoring of ground water levels at the following locations:

- TW1-99 (MOE #6712960)
- D27 (MOE #6712147)
- D7B
- MW2

Piezometers

i) Continuous monitoring of water level and vertical hydraulic gradients at the following locations:

- P01A/B-07
- P03A/B-05
- P06A/B-07
- P10A/B-05
- P11A/B-05
- P12A/B-07
- P13A/B-07

Surface Water

(i) Continuous monitoring of surface water levels at the following locations:

- ST03-05
- SW1
- SW3
- SW4
- SW5
- SW7

(ii) Monthly monitoring of flow and development of appropriate stage-discharge curves at the following locations:

- SW1
- SW3
- SW7

This Notice now forms part of the current permit and must be attached to the original Permit to Take Water, if available. If the original is no longer available, this letter must be kept attached to a certified copy of the Permit to Take Water.

Any change in circumstances related to this permit should be reported promptly to a Director.

It is your responsibility to ensure that any person taking water under the authority of this permit is familiar with and complies with the terms and conditions.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, ***Environmental Bill of Rights****, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:*

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary *Environmental Review Tribunal* *2300 Yonge Street, Suite 1700* *Toronto, Ontario M4P 1E4*	*AND*	*The Director, Section 34* *Ministry of the Environment* *12th Floor* *119 King St W* *Hamilton ON L8P 4Y7* *Fax: (905)521-7820*

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600 by fax at (416) 314-4506 by e-mail at www.ert.gov.on.ca

Yours truly,

Carl Slater

Carl Slater
Director, Section 34, Ontario Water Resources Act
West Central Region

File Storage Number: AP28 ERNE

Ontario

Ministry of the Environment
Ministère de l'Environnement

PERMIT TO TAKE WATER
Ground Water
NUMBER 3716-8UZMCU

Pursuant to Section 34 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

Nestle Canada Inc.
101 Brock Road S.
Puslinch, Ontario N1H 6H9

For the water taking from: One bedrock drilled well (TW1-88) MOE Well Tag No.: A095193

Located at: Lot 24, Concession 7, Geographic Township of Erin
Erin, County of Wellington

For the purposes of this Permit, and the terms and conditions specified below, the following definitions apply:

DEFINITIONS

(a) "Director" means any person appointed in writing as a Director pursuant to section 5 of the OWRA for the purposes of section 34, OWRA.

(b) "Provincial Officer" means any person designated in writing by the Minister as a Provincial Officer pursuant to section 5 of the OWRA.

(c) "Ministry" means Ontario Ministry of the Environment.

(d) "District Office" means the Guelph District Office.

(e) "Permit" means this Permit to Take Water No. 3716-8UZMCU including its Schedules, if any, issued in accordance with Section 34 of the OWRA.

(f) "Permit Holder" means Nestle Canada Inc..

(g) "OWRA " means the *Ontario Water Resources Act,* R.S.O. 1990, c. O. 40, as amended.

You are hereby notified that this Permit is issued subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. Compliance with Permit

1.1 Except where modified by this Permit, the water taking shall be in accordance with the application for this Permit To Take Water, dated March 22, 2012 and signed by Don DeMarco, and all Schedules included in this Permit.

1.2 The Permit Holder shall ensure that any person authorized by the Permit Holder to take water under this Permit is provided with a copy of this Permit and shall take all reasonable measures to ensure that any such person complies with the conditions of this Permit.

1.3 Any person authorized by the Permit Holder to take water under this Permit shall comply with the conditions of this Permit.

1.4 This Permit is not transferable to another person.

1.5 This Permit provides the Permit Holder with permission to take water in accordance with the conditions of this Permit, up to the date of the expiry of this Permit. This Permit does not constitute a legal right, vested or otherwise, to a water allocation, and the issuance of this Permit does not guarantee that, upon its expiry, it will be renewed.

1.6 The Permit Holder shall keep this Permit available at all times at or near the site of the taking, and shall produce this Permit immediately for inspection by a Provincial Officer upon his or her request.

1.7 The Permit Holder shall report any changes of address to the Director within thirty days of any such change. The Permit Holder shall report any change of ownership of the property for which this Permit is issued within thirty days of any such change. A change in ownership in the property shall cause this Permit to be cancelled.

2. General Conditions and Interpretation

2.1 Inspections

The Permit Holder must forthwith, upon presentation of credentials, permit a Provincial Officer to carry out any and all inspections authorized by the OWRA, the *Environmental Protection Act*, R.S.O. 1990, the *Pesticides Act*, R.S.O. 1990, or the *Safe Drinking Water Act*, S. O. 2002.

2.2 Other Approvals

The issuance of, and compliance with this Permit, does not:

(a) relieve the Permit Holder or any other person from any obligation to comply with any other applicable legal requirements, including the provisions of the *Ontario Water Resources Act*, and the *Environmental Protection Act*, and any regulations made thereunder; or

(b) limit in any way any authority of the Ministry, a Director, or a Provincial Officer, including the authority to require certain steps be taken or to require the Permit Holder to furnish any further information related to this Permit.

2.3 Information

The receipt of any information by the Ministry, the failure of the Ministry to take any action or require any person to take any action in relation to the information, or the failure of a Provincial Officer to prosecute any person in relation to the information, shall not be construed as:

(a) an approval, waiver or justification by the Ministry of any act or omission of any person that contravenes this Permit or other legal requirement; or

(b) acceptance by the Ministry of the information's completeness or accuracy.

2.4 Rights of Action

The issuance of, and compliance with this Permit shall not be construed as precluding or limiting any legal claims or rights of action that any person, including the Crown in right of Ontario or any agency thereof, has or may have against the Permit Holder, its officers, employees, agents, and contractors.

2.5 Severability

The requirements of this Permit are severable. If any requirements of this Permit, or the application of any requirements of this Permit to any circumstance, is held invalid or unenforceable, the application of such requirements to other circumstances and the remainder of this Permit shall not be affected thereby.

2.6 Conflicts

Where there is a conflict between a provision of any submitted document referred to in this Permit, including its Schedules, and the conditions of this Permit, the conditions in this Permit shall take precedence.

3. Water Takings Authorized by This Permit

3.1 **Expiry**

This Permit expires on **August 31, 2017**. No water shall be taken under authority of this Permit after the expiry date.

3.2 Amounts of Taking Permitted

The Permit Holder shall only take water from the source, during the periods and at the rates and amounts of taking specified in Table A. Water takings are authorized only for the purposes specified in Table A.

Table A

	Source Name / Description:	Source: Type:	Taking Specific Purpose:	Taking Major Category:	Max. Taken per Minute (litres):	Max. Num. of Hrs Taken per Day:	Max. Taken per Day (litres):	Max. Num. of Days Taken per Year:	Zone/ Easting/ Northing:
1	TW1-88	Well Drilled	Bottled Water	Commercial	773	24	1,113,000	365	17 568384 4847833
						Total Taking:	1,113,000		

3.3 Notwithstanding the Maximum Taken per Minute and Maximum Taken per Day specified in the Table A of Condition 3.2, the instantaneous rate and amount of taking may increase up to a maximum of 946 litres per minute (LPM) and 1,362,240 liters per day (LPD) in each month between April 1 and September 30 for the duration of the Permit in order to provide operational flexibility. However, the average daily taking in any month between April 1 and September 30 shall not exceed 1,113,000 (LPD).

3.4 Notwithstanding Conditions 3.2 and 3.3 the maximum daily water taking shall be reduced should the Grand River Low Water Response Team declare a Level 1 or Level 2 drought condition in the watershed in which the taking is located. The reductions shall be in accordance with the Ontario Low Water Response Protocol and ensure that the reduction is based on the maximum taken per day permitted in Table A.

3.5 Nothwithstanding Conditions 3.2, 3.3, and 3.4 should the Ontario Water Directors Committee declare a Level 3 drought condition in the watershed in which the taking is located, the maximum daily water taking shall be reduced in accordance with the Level 3 declaration.

4. Monitoring

4.1 The Permit Holder shall establish the following monitoring program for the duration of the Permit:

Bedrock Wells

(i) Continuous monitoring of ground water levels at the following locations:

- TW1-88
- D2A
- D3 (MOE #6710228)
- MW5A
- MW6A
- D36B (MOE Tag#A001807)

(ii) Monthly monitoring of ground water levels at the following locations:

- D19 (MOE #6709207)
- D24A (MOE #6711344)
- D24B (MOE #6708146)

- D26A (MOE #6700678)
- D26D
- D27
- MOE #6714441
- MOE # 6705153
- D7 (MOE#6708388)
- D8 (MOE#6708720)
- D12
- D32 (MOE#6708153)

Overburden Wells

(i) Continuous monitoring of ground water levels at the following locations:

- MW3A/B
- D2B
- MW5B
- MW6B
- D26C
- D36A

(ii) Monthly monitoring of ground water levels at the following locations:

- TW1-99 (MOE #6712960)
- D27 (MOE #6712147)
- new overburden well replacing D5
- MW2

Piezometers

i) Continuous monitoring of water level and vertical hydraulic gradients at the following locations:

- P01A/B-05
- P03A/B-07
- P06A/B-07
- P10A/B-05
- P11A/B-05
- P12A/B-07
- P13A/B-07

Surface Water

(i) Continuous monitoring of surface water levels at the following locations:

- ST03-05
- SW1
- SW3
- SW4
- SW5
- SW7

(ii) Monthly monitoring of flow and development of appropriate stage-discharge curves at the following locations:

- SW1
- SW3

- SW7

4.2 Continuous ground water monitoring shall be datalogged at 60 minute intervals and downloaded monthly; however, daily minimum water levels may be used to evaluate the water level variation with respect to pumping to improve the data handling and presentation. Monthly monitoring shall be conducted in the same week each calendar month for the duration of the Permit.

4.3 The water level data collected in piezometers or multilevel monitoring wells (two wells at one location or multiple wells in one borehole screened at different intervals) shall be plotted as gradient vs. time and interpreted to assess the potential impact of taking on vertical hydraulic gradients (upward/downward) and hydraulic connection of the ground water with the surface water, if any.

4.4 The Permit Holder shall identify to the Director in writing for his or her approval, within 15 days of any monthly monitoring event, any monitoring locations identified in Condition 4.1 which become inaccessible and/or abandoned along with a recommendation for replacement of these monitoring locations. Upon approval of the Director, the monitoring program shall be appropriately modified.

4.5 Under section 9 of O. Reg. 387/04, and as authorized by subsection 34(6) of the Ontario Water Resources Act, the Permit Holder shall, on each day water is taken under the authorization of this Permit, record the date, the volume of water taken on that date and the rate at which it was taken. The daily volume of water taken shall be measured by a flow meter or calculated in accordance with the method described in the application for this Permit, or as otherwise accepted by the Director. The Permit Holder shall keep all records required by this condition current and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The Permit Holder, unless otherwise required by the Director, shall submit, on or before March 31st in every year, the records required by this condition to the ministry's Water Taking Reporting System.

4.6 The Permit Holder shall submit to the Director, an annual monitoring report which presents and interprets the monitoring data to be collected under the Terms and Conditions of this Permit. This report shall be prepared, signed and stamped by a licenced professional geoscientist or a licensed professional engineer specializing in hydrogeology who shall take responsibility for its accuracy. The report shall be submitted to the Director by April 30 of each calendar year or as supporting documentation to any application for renewal of this Permit, and include monitoring data for the 12 month period ending December 31 of the previous year.

4.7 In addition to the requirement of Condition 4.6, the Permit Holder shall provide a letter report to the Director and Town of Erin which includes pumped volumes and water level information within 30 days of the end of each month where the water taking is in accordance with Condition 3.3.

4.8 The Permit Holder shall include as part of the annual monitoring report required under Condition 4.6, the following information:

(i) Location and name of the facilities to which water is delivered in bulk containers greater than 20L from this source.
(ii) Whether or not the bulk water transported is containerized at the receiving location.
(iii) The size of the container(s) into which the water is transferred.
(iv) Total volume of the water transported in bulk in each calendar year to each remote facility.

4.9 The Permit Holder shall investigate any complaints received from the public or agency with regard to this water taking in accordance with the interference complaints resolution protocol and notify the District Manager, District Office within two (2) working days of receiving the complaint. Details of any complaints and its resolution shall be outlined to the Director in the annual monitoring report required under Condition 4.6.

5. Impacts of the Water Taking

5.1 Notification

The Permit Holder shall immediately notify the local District Office of any complaint arising from the taking of water authorized under this Permit and shall report any action which has been taken or is proposed with regard to such complaint. The Permit Holder shall immediately notify the local District Office if the taking of water is observed to have any significant impact on the surrounding waters. After hours, calls shall be directed to the Ministry's Spills Action Centre at 1-800-268-6060.

5.2 For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

If permanent interference is caused by the water taking, the Permit Holder shall restore the water supplies of those permanently affected.

6. Director May Amend Permit

The Director may amend this Permit by letter requiring the Permit Holder to suspend or reduce the taking to an amount or threshold specified by the Director in the letter. The suspension or reduction in taking shall be effective immediately and may be revoked at any time upon notification by the Director. This condition does not affect your right to appeal the suspension or reduction in taking to the Environmental Review Tribunal under the *Ontario Water Resources Act* , Section 100 (4).

The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.

2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.

3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, **Environmental Bill of Rights**, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:*

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary
Environmental Review Tribunal
655 Bay Street, 15th Floor
Toronto ON
M5G 1E5
Fax: (416) 314-4506
Email:
ERTTribunalsecretary@ontario.ca

AND

The Environmental Commissioner
1075 Bay Street
6th Floor, Suite 605
Toronto, Ontario M5S 2W5

AND

The Director, Section 34
Ministry of the Environment
12th Floor
119 King St W
Hamilton ON L8P 4Y7
Fax: (905)521-7820

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600 ***by fax at (416) 314-4506*** ***by e-mail at www.ert.gov.on.ca***

*This instrument is subject to Section 38 of the **Environmental Bill of Rights** that allows residents of Ontario to seek leave to appeal the decision on this instrument. Residents of Ontario may seek to appeal for 15 days from the date this decision is placed on the Environmental Registry. By accessing the Environmental Registry, you can determine when the leave to appeal period ends.*

This Permit cancels and replaces Permit Number 6480-74BKR4, issued on 2007/08/24.

Dated at Hamilton this 28th day of September, 2012.

Carl Slater

Carl Slater
Director, Section 34
Ontario Water Resources Act , R.S.O. 1990

Schedule A

This Schedule “A” forms part of Permit To Take Water 3716-8UZMCU, dated September 28, 2012.

Ministry of the Environment
West Central Region

119 King Street West
12th Floor
Hamilton, Ontario L8P 4Y7
Tel.: 905 521-7640
Fax: 905 521-7820

Ministère de l'Environnement
Direction regionale du Centre-Ouest

119 rue King ouest
12e étage
Hamilton (Ontario) L8P 4Y7
Tél. : 905 521-7640
Téléc. : 905 521-7820

Ontario

April 28, 2014

Ms. Andreanne Simard
Natural Resource Manager
Nestlè Waters Canada
101 Brock Road South
Guelph, Ontario.
N1H 6H9

Dear Ms. Simard:

Re: Clarification of reporting requirements
Condition 4.7, Permit to Take Water 3716-8UZMCU

This is to clarify ministry expectations with respect the reporting requirements of Condition 4.7 of Permit to Take Water 3716-8UZMCU.

Condition 4.7 states:

"In addition to the requirement of Condition 4.6, the Permit Holder shall provide a letter report to the Director and Town of Erin which includes pumped volumes and water level information within 30 days of the end of each month where the water taking is in accordance with Condition 3.3."

For greater certainty the Letter Report is expected to include the following:

1. Pumped volumes are the total daily volume for each day in the month from the production well TW1-88.
2. Water Level information is the level data for the following locations:
    a. P01A/B-07 pond
    b. P12A/B-07 Roman Lake
    c. P13A/B-07 Erin Branch of the Credit
    d. P10A/B-05
3. No interpretation of the data is expected for the monthly report.
4. Data interpretation is expected in the annual report required by Condition 4.6.

I trust that you find this satisfactory. If you require further information or clarification, please contact Ms. Belinda Koblik at (905)521-7615 or at Belinda.Koblik@ontario.ca.

Yours truly,

Carl Slater

Carl Slater
Technical Support Manager, West Central Region
Director, Section 34, Ontario Water Resources Act.

C: Ms. B. Koblik/Mr. A. Quyum

Ministry of the Environment
and Climate Change
West Central Region

119 King Street West
12th Floor
Hamilton, Ontario L8P 4Y7
Tel.: 905 521-7640
Fax: 905 521-7820

Ministère de l'Environnement
et de l'Action en matière de changement climatique
Direction régionale du Centre-Ouest

119 rue King Ouest
12e étage
Hamilton (Ontario) L8P 4Y7
Tél. : 905 521-7640
Téléc. : 905 521-7820

Ontario

February 5, 2015

Nestle Canada Inc.
101 Brock Road S.
Puslinch, Ontario
N1H 6H9

Attention: Ms. Andreanne Simard

Dear Ms. Simard:

RE: Amendments to monitoring program and well sanitization conditions
Permit to Take Water 3716-8UZMCU

NOTICE

Pursuant to s. 100, Ontario Water Resources Act, R.S.O. 1990, c. O.40 as amended, I am issuing notice that, as Director of Section 34 of the Ontario Water Resources Act, I am exercising my discretion to amend Permit to Take Water 3716-8UZMCU condition 3.6 and part of condition 4.1. All other terms and conditions of Permit to Take Water 3716-8UZMCU shall continue in force.

An inaccuracy in the monitoring program listed in condition 4.1(ii) of a Notice issued February 25, 2014 was brought to the attention of the ministry in an email from Ms. Andreanne Simard, Natural Resources Manager dated May 29, 2014. In an email dated November 27, 2014, Ms. Simard, requested the sanitation Notice issued on January 20, 2014 be applicable for all years remaining on the permit.

This Notice supersedes the Notices issued on January 20, 2014 and February 25, 2014.

Condition 3.6 is hereby revoked and replaced as follows:

3.6 Notwithstanding Table A, the maximum pumping of water extracted from Source TW1-88 may be increased to 1040 litres per minute (275 U.S. gallons per minute) annually, or as needed, for the sole purpose of sanitization of the well. The maximum amount of water taken shall not exceed 1,113,000 litres/day.

Condition 4.1 is hereby revoked and replaced as follows:

4.1 The Permit Holder shall establish the following monitoring program for the duration of the Permit:

a. Bedrock Wells

(i) Continuous monitoring of ground water levels at the following locations:

- TW1-88
- D2A
- D3 (MOE #6710228)
- MW5A
- MW6A
- D36B (MOE Tag#A001807)

(ii) Monthly monitoring of ground water levels at the following locations:

- D19 (MOE #6709207)
- MW11A/B-08
- D24B (MOE #6708146) and D24A (MOE #6711344)
- D26A (MOE #6700678) and D26B
- MW12A/B-08
- D8 (MOE#6708720)
- D15 (MOE#6709532)
- D32 (MOE#6708153)

b. Overburden Wells

(i) Continuous monitoring of ground water levels at the following locations:

- MW3A/B
- D2B
- MW5B
- MW6B
- D26C
- D36A

(ii) Monthly monitoring of ground water levels at the following locations:

- TW1-99 (MOE #6712960)
- D27 (MOE #6712147)
- D7B
- MW2

c. Piezometers

(i) Continuous monitoring of water level and vertical hydraulic gradients at the following locations:
- P01A/B-07
- P03A/B-05
- P06A/B-07
- P10A/B-05
- P11A/B-05
- P12A/B-07
- P13A/B-07

d. Surface Water

(i) Continuous monitoring of surface water levels at the following locations:
- ST03-05
- SW1
- SW3
- SW4
- SW5
- SW7

(ii) Monthly monitoring of flow and development of appropriate stage-discharge curves at the following locations:
- SW1
- SW3
- SW7

This Notice now forms part of the current permit and must be attached to the original Permit to Take Water, if available. If the original is no longer available, this letter must be kept attached to a certified copy of the Permit to Take Water.

Any change in circumstances related to this permit should be reported promptly to a Director.

It is your responsibility to ensure that any person taking water under the authority of this permit is familiar with and complies with the terms and conditions.

*In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the Environmental Commissioner, **Environmental Bill of Rights**, R.S.O. 1993, Chapter 28, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Environmental Commissioner will place notice of your appeal on the Environmental Registry. Section 101 of the Ontario Water Resources Act, as amended provides that the Notice requiring a hearing shall state:*

1. The portions of the Permit or each term or condition in the Permit in respect of which the hearing is required, and;
2. The grounds on which you intend to rely at the hearing in relation to each portion appealed.

In addition to these legal requirements, the Notice should also include:

3. The name of the appellant;
4. The address of the appellant;
5. The Permit to Take Water number;
6. The date of the Permit to Take Water;
7. The name of the Director;
8. The municipality within which the works are located;

This notice must be served upon:

The Secretary *Environmental Review Tribunal* *2300 Yonge Street, Suite 1700* *Toronto, Ontario M4P 1E4*	*AND*	*The Director, Section 34* *Ministry of the Environment* *12th Floor* *119 King St W* *Hamilton ON L8P 4Y7* *Fax: (905)521-7820*

Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

by telephone at (416) 314-4600 by fax at (416) 314-4506 by e-mail at www.ert.gov.on.ca

Yours truly,

Dan Dobrin
Director, Section 34, Ontario Water Resources Act
West Central Region

File Storage Number: AP28 ERNE

APPENDIX B

TW1-88 Borehole Log

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-1)

PROJECT NAME: HILLSBURGH
PROJECT NO.: 2603
CLIENT: IHOR PASHYNSKY
LOCATION: LOT 24, CONCESSION 7, ERIN TOWNSHIP

HOLE DESIGNATION: TW1-88 (Page 1 of 2)
DATE COMPLETED: AUGUST 11, 1988
DRILLING METHOD: WET/AIR ROTARY
CRA SUPERVISOR: S. CROSSMAN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE N VALUE
	GROUND SURFACE (Approximate)	430.0				
	TOPSOIL-sand, some silt, little gravel, compact, rootlets, humus material, brown, moist	429.5	PURE BENTONITE GROUT			
2.5	SM (SAND)-some silt, trace of fine gravel, compact, medium grained, poorly graded, brown, moist		203mmø BOREHOLE			
5.0						
	GW (GRAVEL)-some sand, little silt, very dense, well graded, fine to coarse grained, grey-brown water bearing	423.9				
7.5						
10.0						
	SP (SAND)-trace silt, loose, uniform, medium grained, wet	419.3 418.7	170mm ø STEEL PIPE			
12.5	GW (GRAVEL)-some sand, little silt, dense, well graded, coarse to fine grained, water bearing	417.8				
	ML (TILL) SILT- some sand, some gravel, trace clay, stiff, low to non-plastic, light brown, wet	415.7				
15.0	CL (TILL) CLAY- some silt, little sand, little gravel, stiff, low plastic, grey-brown, moist					
17.5			SLOUGHED MATERIAL			
	LST (LIMESTONE) BEDROCK- soft, friable, fractured, light grey - becomes sound, less fractured, hard	410.5				
20.0						
22.5						
25.0	- Fracture (152mm dia); brown water in return air with lumps of brown silty clay, fracture infilled; water becomes light grey immediately after passing fracture		160mmø OPEN HOLE			
27.5	- Fracture (20mm dia.), no change in water colour					
30.0	- light grey, fracture					
32.5						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS ◯ WATER FOUND ▽ STATIC WATER LEVEL ▼

STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

(L-1)

PROJECT NAME: HILLSBURGH
PROJECT NO.: 2603
CLIENT: IHOR PASHYNSKY
LOCATION: LOT 24, CONCESSION 7, ERIN TOWNSHIP

HOLE DESIGNATION: TW1-88 (Page 2 of 2)
DATE COMPLETED: AUGUST 11, 1988
DRILLING METHOD: WET/AIR ROTARY
CRA SUPERVISOR: S. CROSSMAN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEVATION m AMSL	MONITOR INSTALLATION	SAMPLE NUMBER	SAMPLE STATE	SAMPLE VALUE
	LST (LIMESTONE) BEDROCK— hard, sound, some fracturing, massive, grey					
35.0			150mm ø OPEN HOLE			
37.5						
40.0						
42.5						
45.0						
47.5	Dolostone, dark grey to black	383.4				
	— fracture, clay filled 100 to 150mm, brown					
50.0						
52.5						
	— fracture 100 to 150mm, clay filled					
55.0	— fracture 100 to 200mm, unfilled					
57.5	— sound, unfractured, crystalline, basal to concoidal fracture, grey.	372.7				
	END OF HOLE @ 57.30m BGS.					
60.0	NOTE: 1. Casing set to 20.88m BGS and grouted into bedrock using a pure bentonite grout. 2. All elevations are approximate.					
62.5						
65.0						

NOTES: MEASURING POINT ELEVATIONS MAY CHANGE; REFER TO CURRENT ELEVATION TABLE

GRAIN SIZE ANALYSIS (○) WATER FOUND ▽ STATIC WATER LEVEL ▼

Ontario — Ministry of the Environment

Measurements recorded in: ☐ Metric ☒ Imperial

Well Tag No. (Place Sticker and/or Print Below): A095193 A095193

Well Record

Regulation 903 Ontario Water Resources Act

Page 1 of 1

Well Owner's Information

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

Mailing Address (Street Number/Name): 101 BROCK ROAD | Municipality: GUELPH | Province: ON | Postal Code: N1H6H9 | Telephone No. (inc. area code)

Well Location

Address of Well Location (Street Number/Name): STATION STREET | Township: ERIN | Lot: 24 | Concession: 7

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

UTM Coordinates: NAD 8 3 | Zone: 17 | Easting: 568362 | Northing: 4847825 | Municipal Plan and Subdivision 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	To
BROWN	SAND	SILT GRAVEL		0	31
BROWN	GRAVEL		COARSE	31	39
GREY	CLAY TILL	SAND, COBBLES		39	83
LT GREY	LIMESTONE		SOFT	83	83
BROWN	LIMESTONE		HARD	83	103
DK GREY	LIMESTONE			103	128
			ORIGINAL WELL DRILLED 08/11/68		
			ORIGINAL CASING OVERDRILLED & REPLACED		

Annular Space

Depth Set at (m/ft) From	To	Type of Sealant Used (Material and Type)	Volume Placed (m³/ft³)
0	12	SAND CEMENT	
12	71.5	NEAT CEMENT PRESSURE GROUT	

Method of Construction

☐ Cable Tool ☐ Diamond ☐ Public ☐ Commercial ☐ Not used
☒ Rotary (Conventional) ☐ Jetting ☐ Domestic ☐ Municipal ☐ Dewatering
☐ Rotary (Reverse) ☐ Driving ☐ Livestock ☐ Test Hole ☐ Monitoring
☐ Boring ☐ Digging ☐ Irrigation ☐ Cooling & Air Conditioning
☐ Air percussion ☐ Industrial
☐ Other, specify ☐ Other, specify

Well Use

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
8	STAINLESS 304	.322	+3	71.5

Construction Record - Screen

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

Status of Well

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

Water Details

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

Hole Diameter

Depth (m/ft) From	To	Diameter (cm/in)
0	71.5	14.5
71.5	128	8.25

Results of Well Yield Testing

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

If pumping discontinued, give reason: AIRLIFT REDEVELOP

Pump intake set at (m/ft)

Pumping rate (l/min / GPM)

Duration of pumping: hrs + min

Final water level end of pumping (m/ft)

If flowing give rate (l/min / GPM)

Recommended pump depth (m/ft)

Recommended pump rate (l/min / GPM)

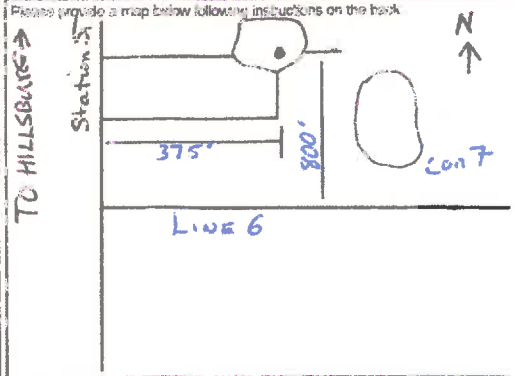
Well production (l/min / GPM)

Disinfected? ☐ Yes ☒ No

	Draw Down Time (min)	Draw Down Water Level (m/ft)	Recovery Time (min)	Recovery Water Level (m/ft)
Static Level	36			
1	NA		1	NA
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: Dart Hopper Ltd. | Well Contractor's Licence No: 2844

Business Address (Street Number/Name): RR#7 | Municipality: St Marys

Province: Ont | Postal Code: N4X1C9 | Business E-mail Address: hopper@cyg.net

Well Technician's Telephone No. (inc. area code): 5192717890 | Name of Well Technician (Last Name, First Name): HOPPER, SHAWN

Well Technician's Licence No.: 2315 | Signature of Technician and/or Contractor | Date Submitted: 12/8/2010

Well owner's information package delivered: ☐ Yes ☐ No | Date Package Delivered: NA | Date Work Completed: 11/22/2010

Ministry Use Only

Audit No.: Z115126

Ministry's Copy

APPENDIX C

TW1-88 Water Taking

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Jan-18	30,460	21	115,304	81
2-Jan-18	63,340	44	239,768	168
3-Jan-18	63,390	44	239,957	168
4-Jan-18	52,790	37	199,832	140
5-Jan-18	73,900	52	279,742	197
6-Jan-18	63,700	45	241,131	169
7-Jan-18	42,250	30	159,934	113
8-Jan-18	0	0	0	0
9-Jan-18	0	0	0	0
10-Jan-18	19,910	14	75,368	53
11-Jan-18	31,690	22	119,960	84
12-Jan-18	45,370	33	171,744	125
13-Jan-18	17,920	12	67,835	44
14-Jan-18	52,810	37	199,908	141
15-Jan-18	52,830	37	199,983	141
16-Jan-18	54,630	39	206,797	149
17-Jan-18	61,370	43	232,311	163
18-Jan-18	63,310	44	239,654	165
19-Jan-18	63,310	45	239,654	171
20-Jan-18	63,310	43	239,654	164
21-Jan-18	21,130	15	79,986	56
22-Jan-18	52,750	37	199,680	141
23-Jan-18	64,280	46	243,326	174
24-Jan-18	30,670	21	116,099	78
25-Jan-18	9,980	7	37,778	27
26-Jan-18	0	0	0	0
27-Jan-18	18,710	13	70,825	50
28-Jan-18	18,720	22	70,863	83
29-Jan-18	0	0	0	0
30-Jan-18	0	0	0	0
31-Jan-18	25,130	18	95,127	67

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Feb-18	63,320	44	239,692	167
2-Feb-18	63,350	44	239,806	168
3-Feb-18	63,290	44	239,579	168
4-Feb-18	63,290	44	239,579	167
5-Feb-18	63,320	44	239,692	167
6-Feb-18	49,330	35	186,734	134
7-Feb-18	60,980	43	230,834	162
8-Feb-18	68,820	47	260,512	178
9-Feb-18	63,320	44	239,692	168
10-Feb-18	73,860	52	279,590	196
11-Feb-18	71,570	51	270,922	193
12-Feb-18	33,910	23	128,363	86
13-Feb-18	0	0	0	0
14-Feb-18	18,740	13	70,939	50
15-Feb-18	11,110	8	42,056	29
16-Feb-18	18,710	13	70,825	50
17-Feb-18	0	0	0	0
18-Feb-18	0	0	0	0
19-Feb-18	18,700	13	70,787	49
20-Feb-18	65,690	46	248,664	175
21-Feb-18	63,290	44	239,579	168
22-Feb-18	66,990	48	253,585	181
23-Feb-18	70,060	48	265,206	182
24-Feb-18	64,990	47	246,014	177
25-Feb-18	67,830	48	256,764	180
26-Feb-18	46,560	32	176,249	120
27-Feb-18	0	0	0	0
28-Feb-18	0	0	0	0

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Mar-18	19,880	14	75,254	53
2-Mar-18	0	0	0	0
3-Mar-18	0	0	0	0
4-Mar-18	18,770	13	71,052	50
5-Mar-18	0	0	0	0
6-Mar-18	74,990	53	283,868	199
7-Mar-18	73,870	52	279,628	196
8-Mar-18	73,860	51	279,590	195
9-Mar-18	73,870	52	279,628	197
10-Mar-18	84,420	61	319,564	232
11-Mar-18	73,890	52	279,704	196
12-Mar-18	52,770	37	199,756	141
13-Mar-18	0	0	0	0
14-Mar-18	18,700	13	70,787	50
15-Mar-18	11,140	8	42,169	29
16-Mar-18	0	0	0	0
17-Mar-18	18,680	13	70,711	50
18-Mar-18	0	0	0	0
19-Mar-18	21,090	15	79,834	56
20-Mar-18	0	0	0	0
21-Mar-18	0	0	0	0
22-Mar-18	29,850	21	112,994	79
23-Mar-18	19,940	14	75,481	53
24-Mar-18	0	0	0	0
25-Mar-18	18,720	13	70,863	49
26-Mar-18	0	0	0	0
27-Mar-18	18,680	13	70,711	49
28-Mar-18	22,330	16	84,528	59
29-Mar-18	0	0	0	0
30-Mar-18	18,970	13	71,809	51
31-Mar-18	0	0	0	0

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Apr-18	18,700	13	70,787	50
2-Apr-18	0	0	0	0
3-Apr-18	23,070	16	87,329	61
4-Apr-18	0	0	0	0
5-Apr-18	29,160	21	110,383	81
6-Apr-18	65,740	45	248,853	170
7-Apr-18	52,770	37	199,756	139
8-Apr-18	52,780	37	199,794	140
9-Apr-18	30,480	21	115,379	81
10-Apr-18	10,570	7	40,012	28
11-Apr-18	14,920	10	56,478	40
12-Apr-18	52,800	37	199,870	141
13-Apr-18	63,340	44	239,768	167
14-Apr-18	10,560	7	39,974	28
15-Apr-18	0	0	0	0
16-Apr-18	63,490	45	240,336	169
17-Apr-18	73,810	52	279,401	196
18-Apr-18	63,370	44	239,881	167
19-Apr-18	66,510	48	251,768	180
20-Apr-18	70,540	49	267,023	184
21-Apr-18	63,320	44	239,692	168
22-Apr-18	63,870	46	241,774	173
23-Apr-18	62,700	43	237,345	163
24-Apr-18	52,760	37	199,718	140
25-Apr-18	77,350	55	292,801	209
26-Apr-18	78,980	59	298,972	223
27-Apr-18	71,590	50	270,998	189
28-Apr-18	70,240	48	265,887	183
29-Apr-18	42,180	29	159,669	112
30-Apr-18	0	0	0	0

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-May-18	19,860	14	75,178	53
2-May-18	4,850	3	18,359	13
3-May-18	19,860	14	75,178	53
4-May-18	0	0	0	0
5-May-18	19,870	14	75,216	53
6-May-18	0	0	0	0
7-May-18	19,880	14	75,254	53
8-May-18	137,140	97	519,131	367
9-May-18	126,540	88	479,006	332
10-May-18	73,750	52	279,174	195
11-May-18	75,230	54	284,776	203
12-May-18	85,750	60	324,599	227
13-May-18	83,620	59	316,536	222
14-May-18	60,810	42	230,191	158
15-May-18	51,800	37	196,084	141
16-May-18	96,360	68	364,762	256
17-May-18	76,640	53	290,114	200
18-May-18	84,420	60	319,564	227
19-May-18	84,130	58	318,467	219
20-May-18	84,330	59	319,224	223
21-May-18	42,170	30	159,631	112
22-May-18	0	0	0	0
23-May-18	24,450	17	92,553	65
24-May-18	0	0	0	0
25-May-18	19,870	14	75,216	53
26-May-18	0	0	0	0
27-May-18	19,870	14	75,216	53
28-May-18	5,020	4	19,003	16
29-May-18	51,130	35	193,548	132
30-May-18	58,460	42	221,295	158
31-May-18	62,350	44	236,020	165

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Jun-18	64,020	45	242,342	171
2-Jun-18	80,790	56	305,823	211
3-Jun-18	65,870	47	249,345	178
4-Jun-18	48,530	33	183,706	126
5-Jun-18	0	0	0	0
6-Jun-18	19,850	14	75,140	52
7-Jun-18	19,850	14	75,140	53
8-Jun-18	0	0	0	0
9-Jun-18	19,900	14	75,330	53
10-Jun-18	0	0	0	0
11-Jun-18	19,870	14	75,216	53
12-Jun-18	65,950	47	249,648	177
13-Jun-18	72,160	51	273,155	191
14-Jun-18	83,500	58	316,082	219
15-Jun-18	85,340	60	323,047	226
16-Jun-18	63,280	44	239,541	168
17-Jun-18	63,250	44	239,427	168
18-Jun-18	42,180	29	159,669	111
19-Jun-18	21,110	15	79,910	56
20-Jun-18	63,620	45	240,828	171
21-Jun-18	94,550	65	357,911	248
22-Jun-18	75,940	54	287,464	205
23-Jun-18	66,750	47	252,676	176
24-Jun-18	82,410	58	311,956	219
25-Jun-18	76,940	53	291,249	201
26-Jun-18	83,640	59	316,612	223
27-Jun-18	78,510	55	297,193	209
28-Jun-18	69,570	48	263,351	182
29-Jun-18	64,920	46	245,749	175
30-Jun-18	85,230	60	322,630	227

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Jul-18	72,590	51	274,783	192
2-Jul-18	68,910	48	260,853	183
3-Jul-18	84,600	59	320,246	224
4-Jul-18	87,510	62	331,261	233
5-Jul-18	83,900	58	317,596	219
6-Jul-18	67,900	48	257,029	182
7-Jul-18	73,560	52	278,455	195
8-Jul-18	69,120	48	261,648	180
9-Jul-18	0	0	0	0
10-Jul-18	19,870	14	75,216	53
11-Jul-18	0	0	0	0
12-Jul-18	30,430	21	115,190	80
13-Jul-18	77,790	55	294,467	209
14-Jul-18	80,590	57	305,066	215
15-Jul-18	75,550	53	285,988	201
16-Jul-18	73,070	51	276,600	193
17-Jul-18	83,740	59	316,990	222
18-Jul-18	76,890	53	291,060	201
19-Jul-18	20,490	14	77,563	54
20-Jul-18	41,840	30	158,382	114
21-Jul-18	77,550	54	293,559	205
22-Jul-18	76,220	54	288,524	203
23-Jul-18	99,350	70	376,080	263
24-Jul-18	51,580	35	195,251	134
25-Jul-18	93,250	66	352,989	251
26-Jul-18	58,040	40	219,705	150
27-Jul-18	68,250	49	258,354	184
28-Jul-18	60,250	42	228,071	161
29-Jul-18	47,380	33	179,353	123
30-Jul-18	106,530	74	403,260	282
31-Jul-18	65,600	47	248,323	177

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Aug-18	78,820	55	298,366	208
2-Aug-18	71,120	50	269,218	189
3-Aug-18	76,910	54	291,136	204
4-Aug-18	73,870	52	279,628	196
5-Aug-18	55,860	38	211,453	145
6-Aug-18	51,480	36	194,873	137
7-Aug-18	62,250	44	235,642	165
8-Aug-18	83,410	58	315,741	220
9-Aug-18	67,590	48	255,856	183
10-Aug-18	36,730	26	139,038	97
11-Aug-18	40,900	28	154,823	106
12-Aug-18	34,620	25	131,051	95
13-Aug-18	70,640	50	267,401	187
14-Aug-18	71,100	49	269,143	185
15-Aug-18	72,540	51	274,594	192
16-Aug-18	52,390	37	198,318	139
17-Aug-18	68,780	49	260,360	186
18-Aug-18	82,860	58	313,659	220
19-Aug-18	75,730	53	286,669	200
20-Aug-18	82,720	58	313,129	219
21-Aug-18	73,070	51	276,600	192
22-Aug-18	72,860	51	275,805	193
23-Aug-18	54,300	39	205,548	147
24-Aug-18	63,640	45	240,903	169
25-Aug-18	80,560	56	304,953	213
26-Aug-18	71,710	50	271,452	190
27-Aug-18	82,200	57	311,161	215
28-Aug-18	84,770	60	320,889	228
29-Aug-18	64,240	45	243,175	170
30-Aug-18	59,170	41	223,983	153
31-Aug-18	57,100	41	216,147	155

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Sep-18	58,320	41	220,765	154
2-Sep-18	65,300	46	247,187	173
3-Sep-18	60,360	42	228,487	161
4-Sep-18	75,240	53	284,814	199
5-Sep-18	70,680	50	267,553	188
6-Sep-18	39,750	28	150,470	106
7-Sep-18	72,610	51	274,859	192
8-Sep-18	84,750	59	320,813	224
9-Sep-18	79,210	55	299,842	207
10-Sep-18	0	0	0	0
11-Sep-18	9,980	7	37,778	27
12-Sep-18	9,960	7	37,703	27
13-Sep-18	19,870	14	75,216	53
14-Sep-18	0	0	0	0
15-Sep-18	19,870	14	75,216	53
16-Sep-18	0	0	0	0
17-Sep-18	97,320	69	368,396	261
18-Sep-18	89,100	63	337,280	237
19-Sep-18	68,100	48	257,786	180
20-Sep-18	81,160	56	307,224	212
21-Sep-18	63,310	44	239,654	168
22-Sep-18	52,700	37	199,491	140
23-Sep-18	31,680	22	119,922	84
24-Sep-18	63,240	44	239,389	168
25-Sep-18	90,170	63	341,330	239
26-Sep-18	62,200	44	235,453	165
27-Sep-18	89,050	63	337,091	239
28-Sep-18	85,340	60	323,047	226
29-Sep-18	99,460	69	376,497	260
30-Sep-18	73,750	51	279,174	195

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Oct-18	74,280	53	281,180	201
2-Oct-18	72,610	50	274,859	190
3-Oct-18	78,880	56	298,593	212
4-Oct-18	68,610	47	259,717	179
5-Oct-18	78,650	56	297,722	211
6-Oct-18	73,210	51	277,130	195
7-Oct-18	79,890	55	302,416	209
8-Oct-18	52,700	37	199,491	141
9-Oct-18	49,560	35	187,605	132
10-Oct-18	58,760	41	222,431	156
11-Oct-18	62,420	44	236,285	166
12-Oct-18	71,260	49	269,748	186
13-Oct-18	75,230	53	284,776	202
14-Oct-18	30,070	20	113,827	77
15-Oct-18	0	0	0	0
16-Oct-18	0	0	0	0
17-Oct-18	7,090	5	26,839	19
18-Oct-18	60,590	42	229,358	160
19-Oct-18	0	0	0	0
20-Oct-18	19,870	14	75,216	53
21-Oct-18	0	0	0	0
22-Oct-18	30,100	21	113,941	80
23-Oct-18	63,260	45	239,465	171
24-Oct-18	61,590	42	233,143	161
25-Oct-18	82,960	58	314,038	220
26-Oct-18	83,820	59	317,293	224
27-Oct-18	81,980	56	310,328	214
28-Oct-18	65,430	47	247,679	177
29-Oct-18	80,440	57	304,498	214
30-Oct-18	91,530	64	346,479	243
31-Oct-18	49,990	34	189,233	129

TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Nov-18	0	0	0	0
2-Nov-18	0	0	0	0
3-Nov-18	19,860	13	75,178	51
4-Nov-18	4,350	4	16,467	15
5-Nov-18	66,210	46	250,632	173
6-Nov-18	42,840	31	162,167	116
7-Nov-18	42,450	30	160,691	113
8-Nov-18	51,070	35	193,321	132
9-Nov-18	42,180	30	159,669	113
10-Nov-18	43,950	31	166,369	118
11-Nov-18	41,420	29	156,792	110
12-Nov-18	61,100	43	231,289	162
13-Nov-18	44,580	31	168,754	119
14-Nov-18	76,830	54	290,833	204
15-Nov-18	62,450	44	236,399	165
16-Nov-18	105,230	74	398,339	279
17-Nov-18	70,380	49	266,417	186
18-Nov-18	76,210	54	288,486	204
19-Nov-18	60,800	42	230,153	159
20-Nov-18	75,080	53	284,209	202
21-Nov-18	93,420	66	353,633	248
22-Nov-18	83,800	58	317,217	219
23-Nov-18	72,100	51	272,928	195
24-Nov-18	65,550	46	248,134	174
25-Nov-18	79,110	55	299,464	210
26-Nov-18	57,240	39	216,677	149
27-Nov-18	0	0	0	0
28-Nov-18	20,540	14	77,752	54
29-Nov-18	30,430	21	115,190	81
30-Nov-18	57,290	41	216,866	156

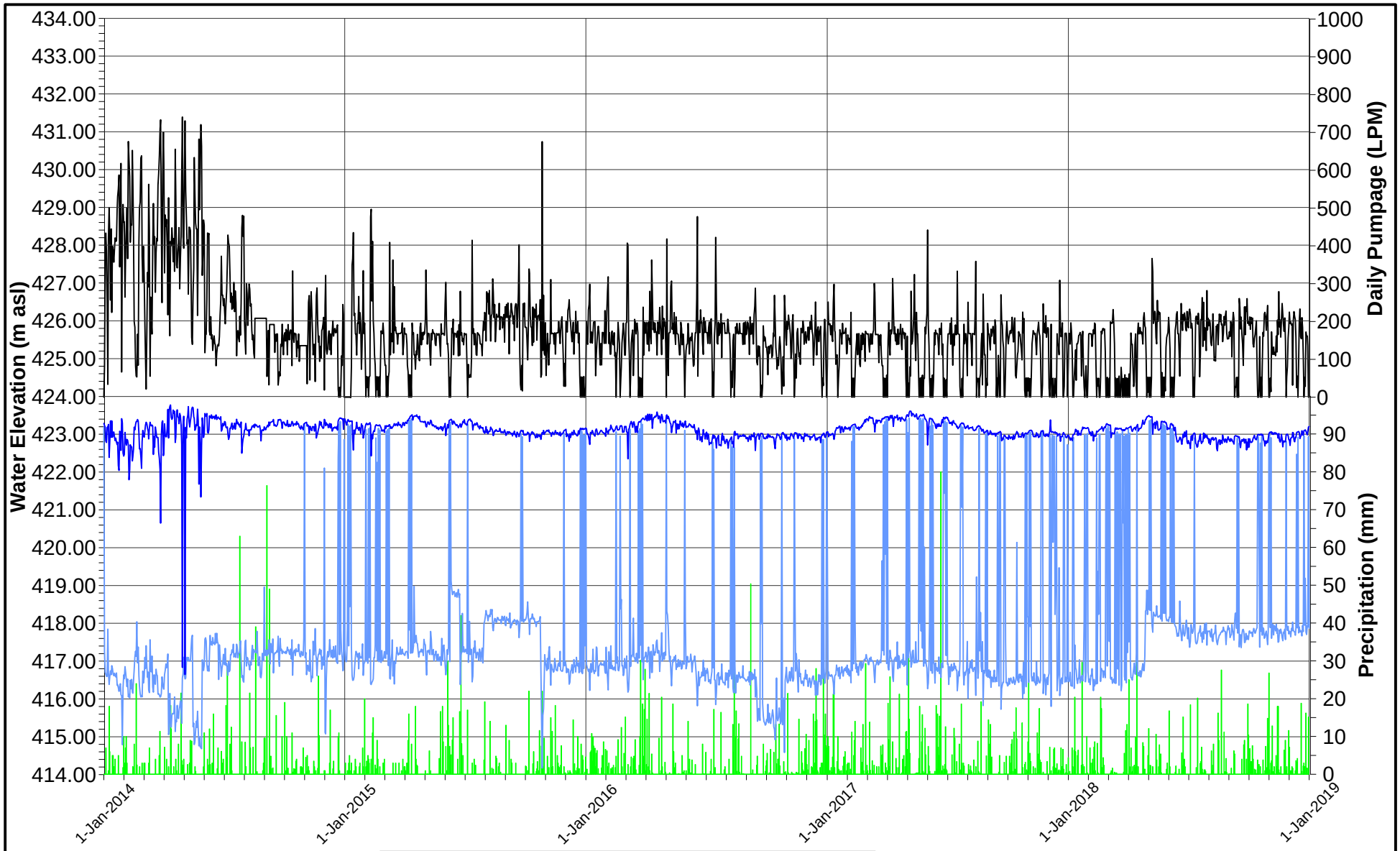
TABLE C1
TW1-88 DAILY WATER TAKING
NESTLE WATERS CANADA
ERIN, ONTARIO

Day	Volume (US gpd)	Average Flow Rate Over Time Taken (US gpm)	Volume (L/day)	Average Flow Rate Over Time Taken (L/min)
1-Dec-18	69,650	49	263,654	185
2-Dec-18	84,640	59	320,397	225
3-Dec-18	73,730	52	279,098	195
4-Dec-18	75,020	53	283,981	199
5-Dec-18	71,960	50	272,398	190
6-Dec-18	73,860	51	279,590	193
7-Dec-18	10,670	8	40,390	32
8-Dec-18	76,100	53	288,070	202
9-Dec-18	84,890	60	321,343	226
10-Dec-18	81,170	56	307,262	213
11-Dec-18	76,610	54	290,000	204
12-Dec-18	60,310	42	228,298	157
13-Dec-18	8,470	7	32,062	25
14-Dec-18	21,940	15	83,052	55
15-Dec-18	0	0	0	0
16-Dec-18	30,430	22	115,190	83
17-Dec-18	75,820	53	287,010	202
18-Dec-18	88,020	62	333,192	233
19-Dec-18	60,150	42	227,692	160
20-Dec-18	59,480	41	225,156	154
21-Dec-18	78,310	56	296,435	210
22-Dec-18	69,650	49	263,654	184
23-Dec-18	41,650	28	157,662	107
24-Dec-18	0	0	0	0
25-Dec-18	19,850	14	75,140	53
26-Dec-18	10,610	7	40,163	28
27-Dec-18	63,730	45	241,244	172
28-Dec-18	60,610	42	229,434	161
29-Dec-18	60,980	43	230,834	162
30-Dec-18	52,250	36	197,788	136
31-Dec-18	0	0	0	0

Notes:
1. All volumes measured with a flow meter and recorded on a datalogger.

APPENDIX D

Groundwater Level Monitoring



GOLDER

DATE	DECEMBER 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

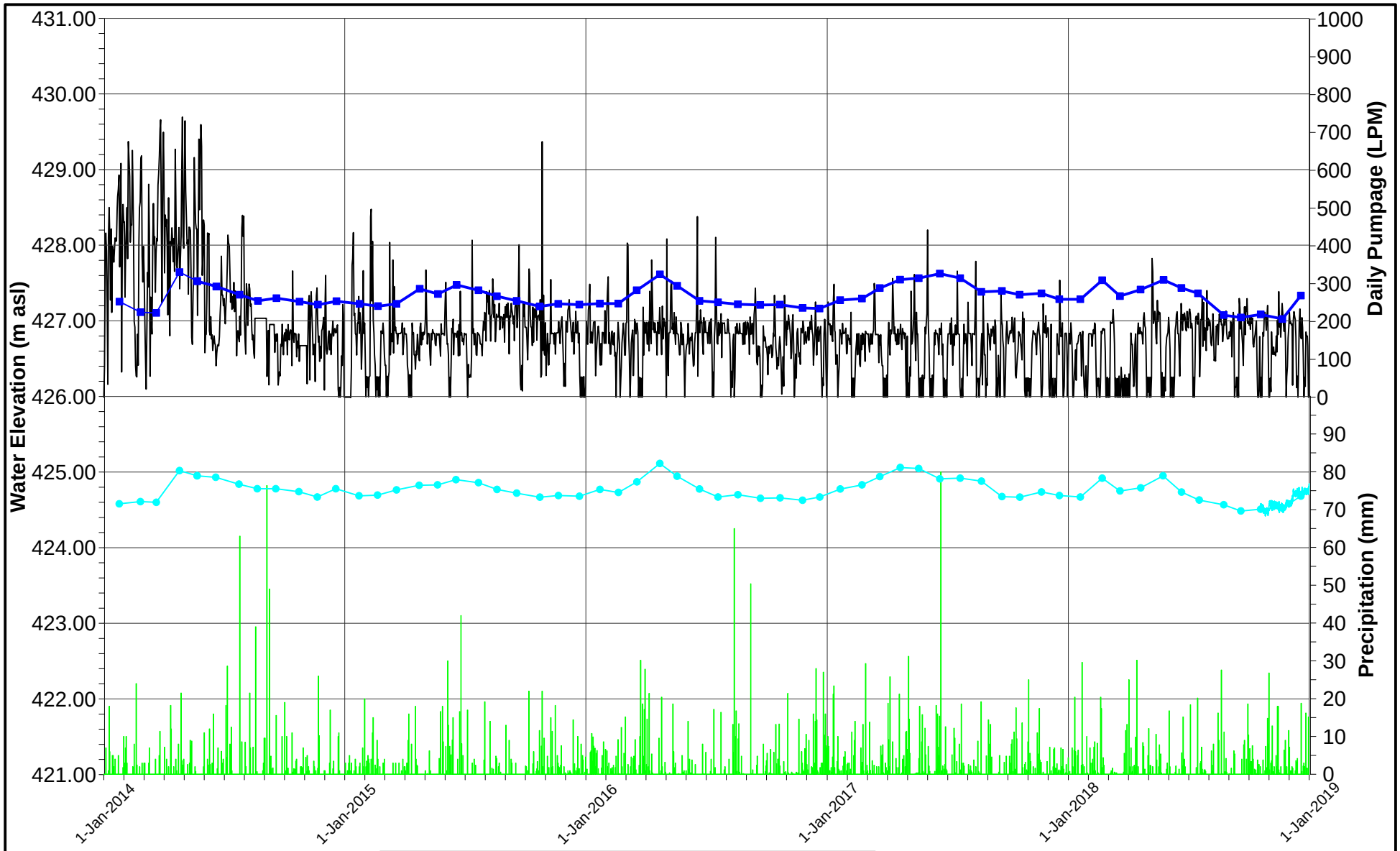
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR TW1-88
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D1



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

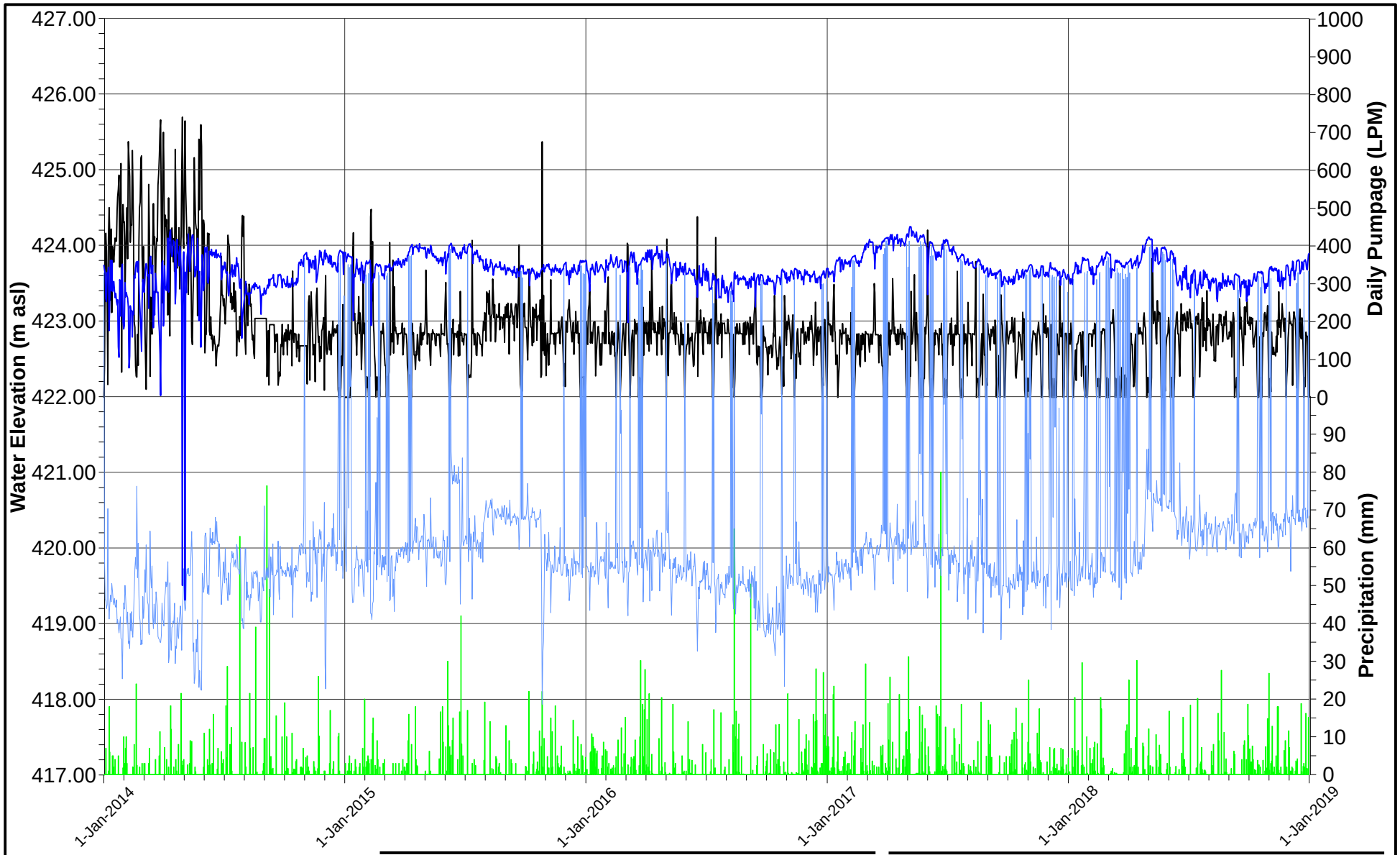
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR BACKGROUND BEDROCK WELLS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D2



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

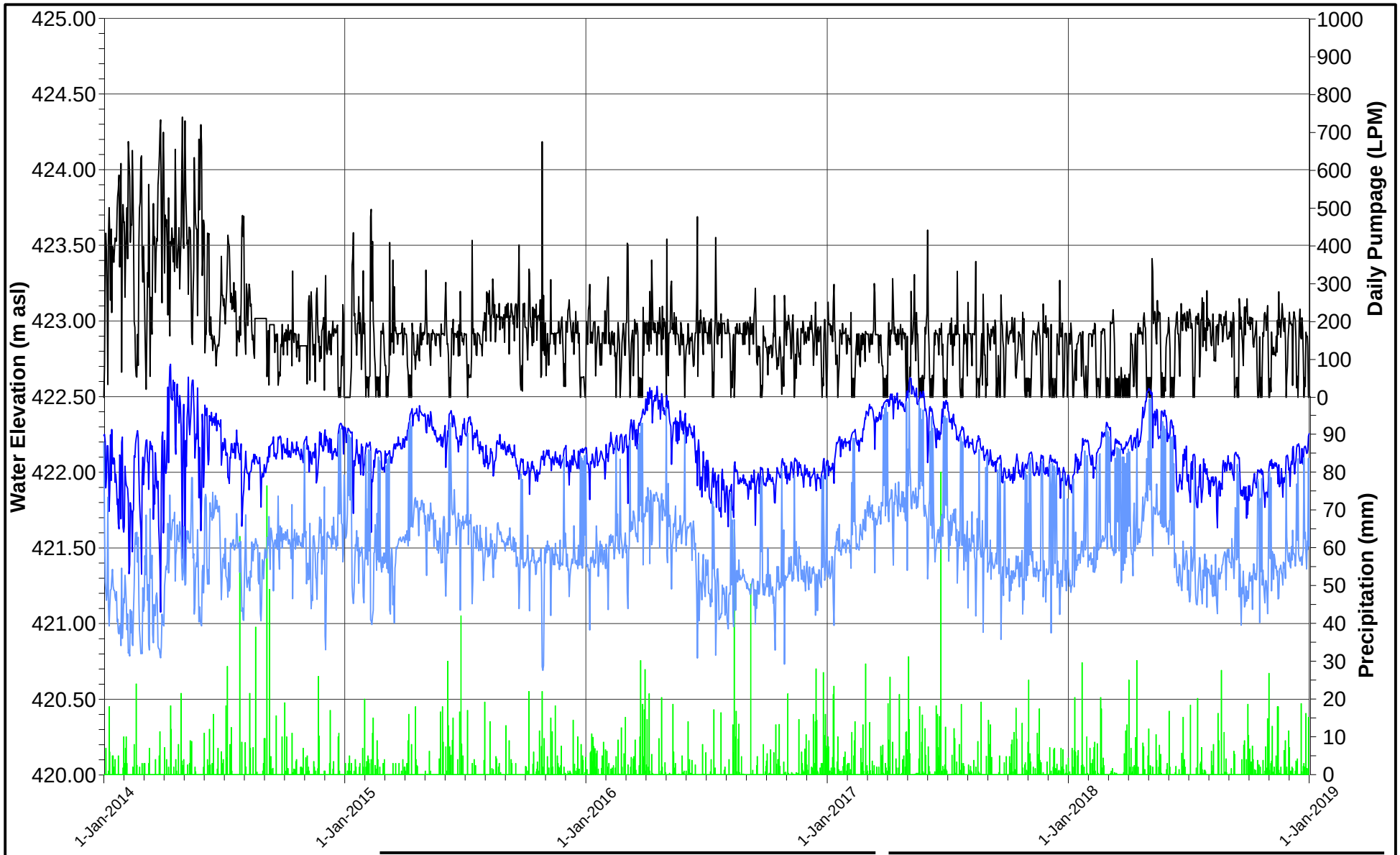
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR MW5A-05
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D3



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

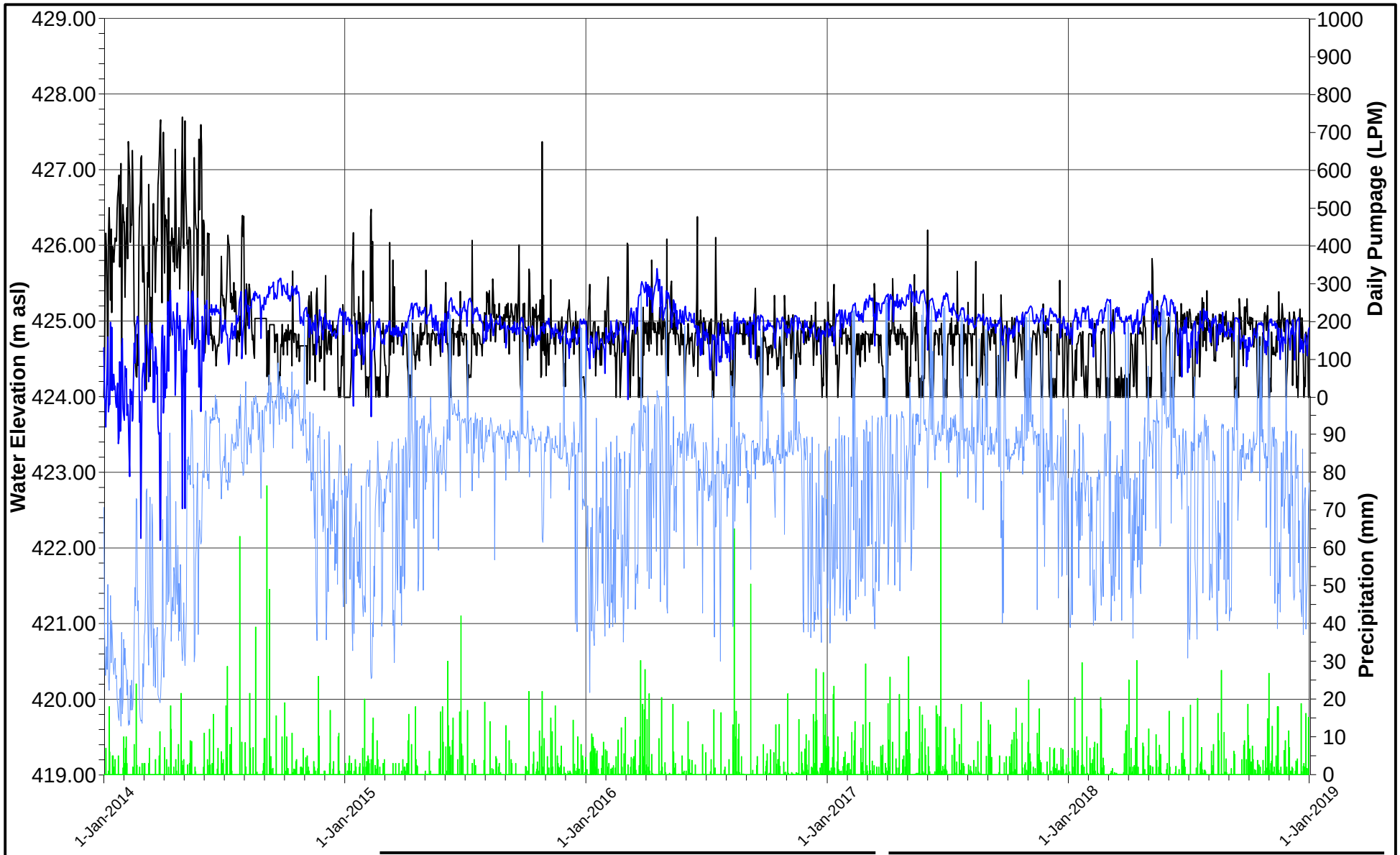
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR MW6A-05
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D4



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

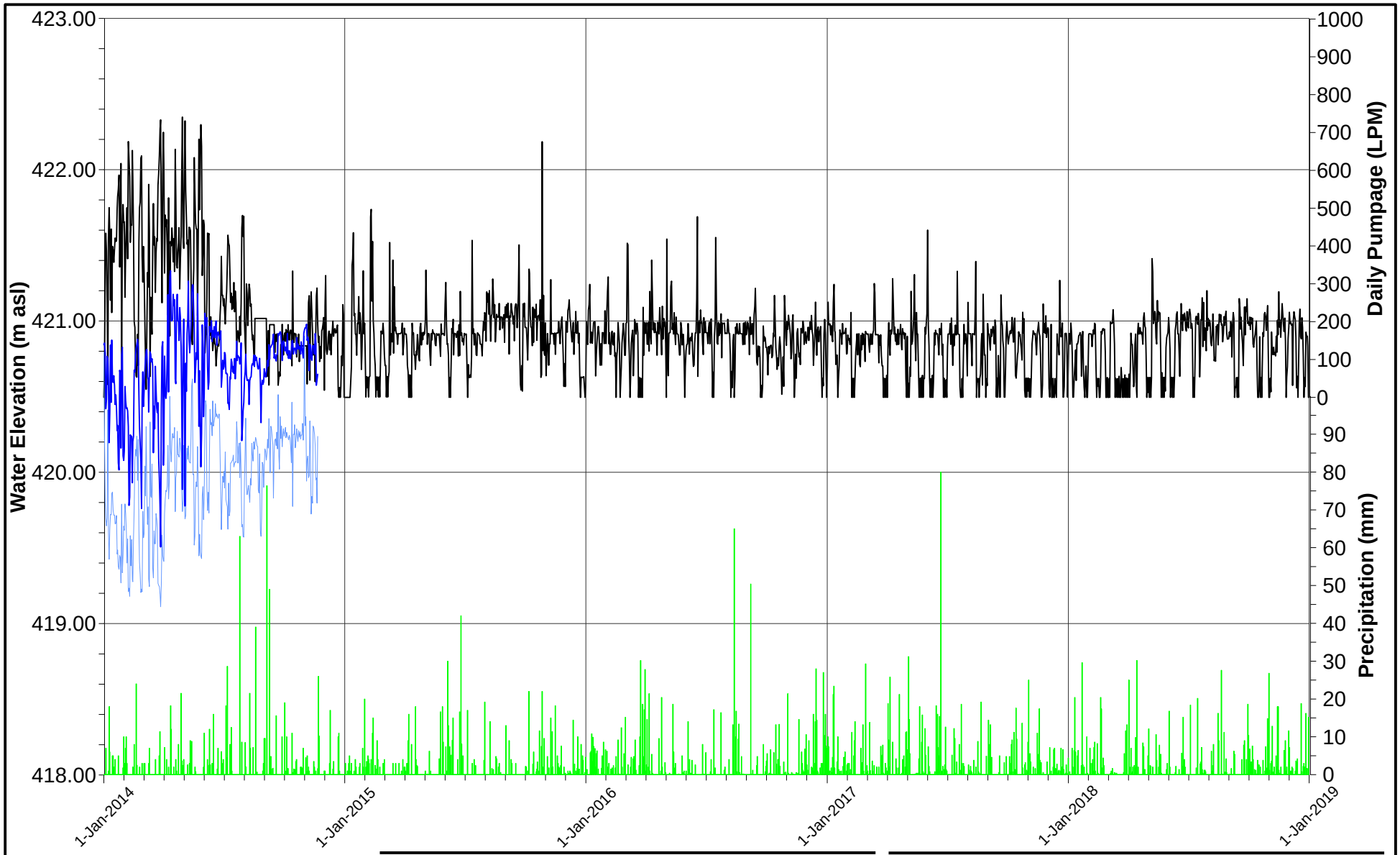
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR D3
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D5



NOTE:
The homeowner at D2A is no longer participating in the monitoring program.

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

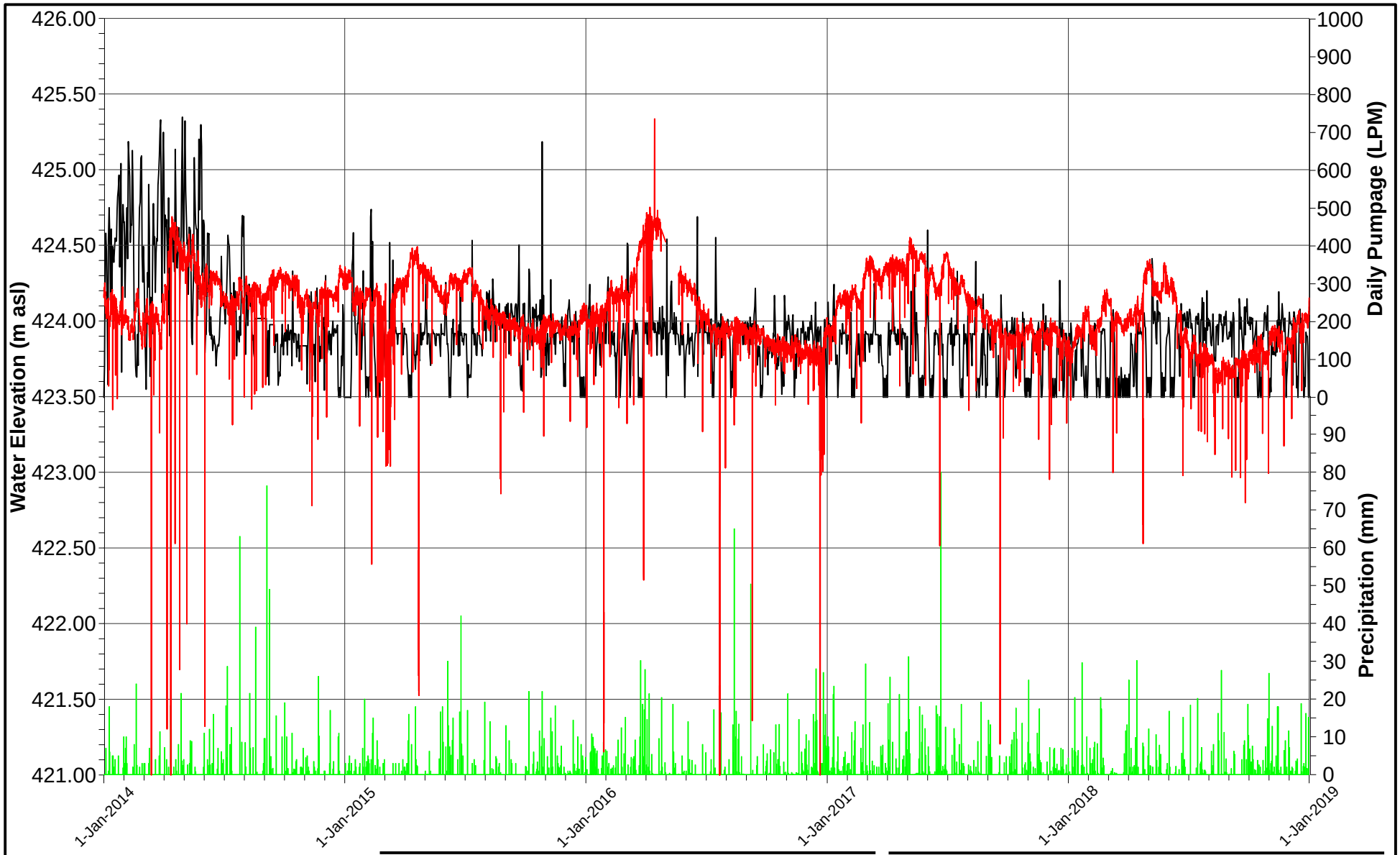
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR D2A
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D6



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

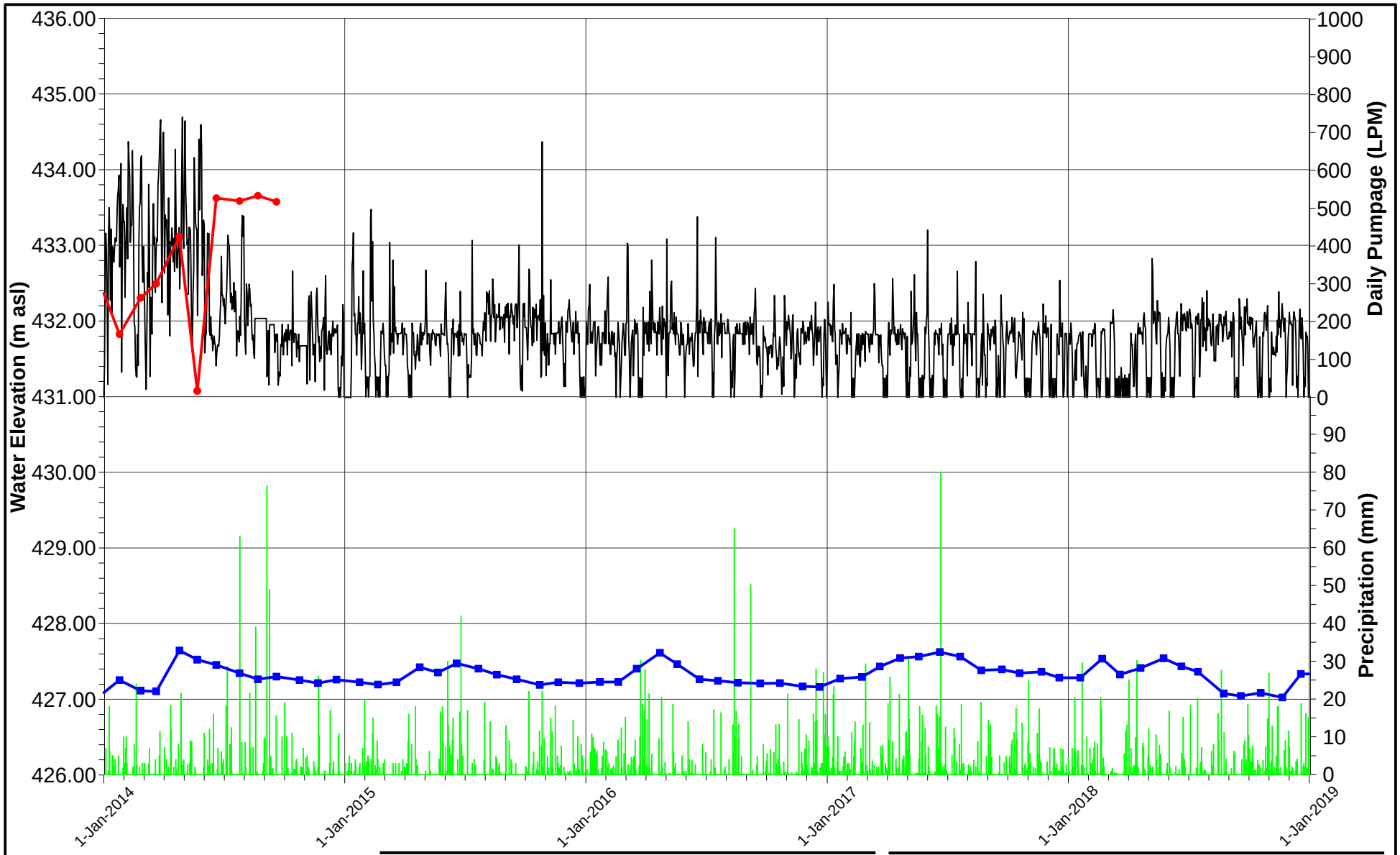
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR D36B
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D7



NOTE:
Home owner at D19 no longer wants to participate in the monitoring program.

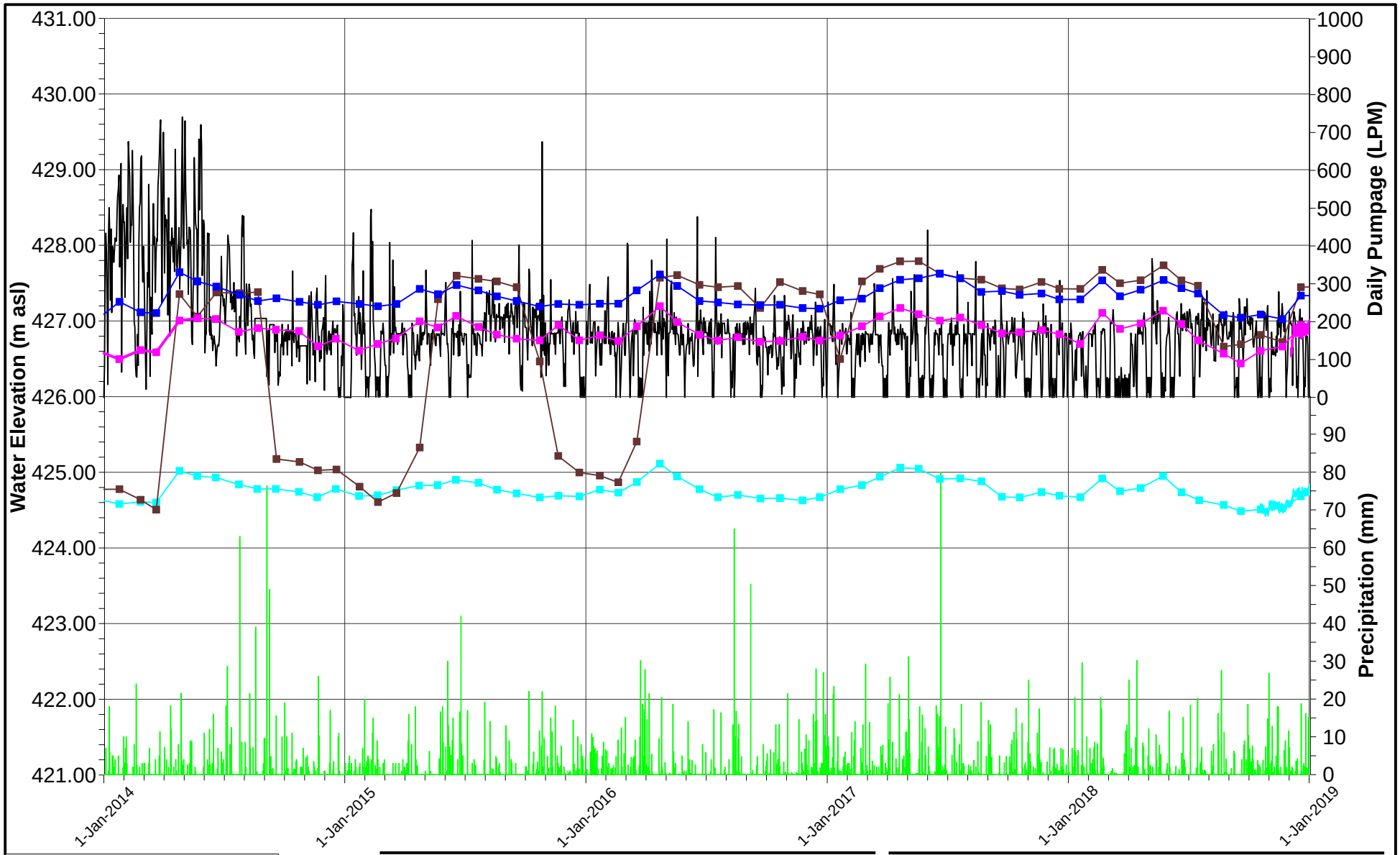
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE
HYDROGRAPHS FOR OTHER BEDROCK WELLS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D8



NOTE:
A heat pump is installed in the domestic well at D8.

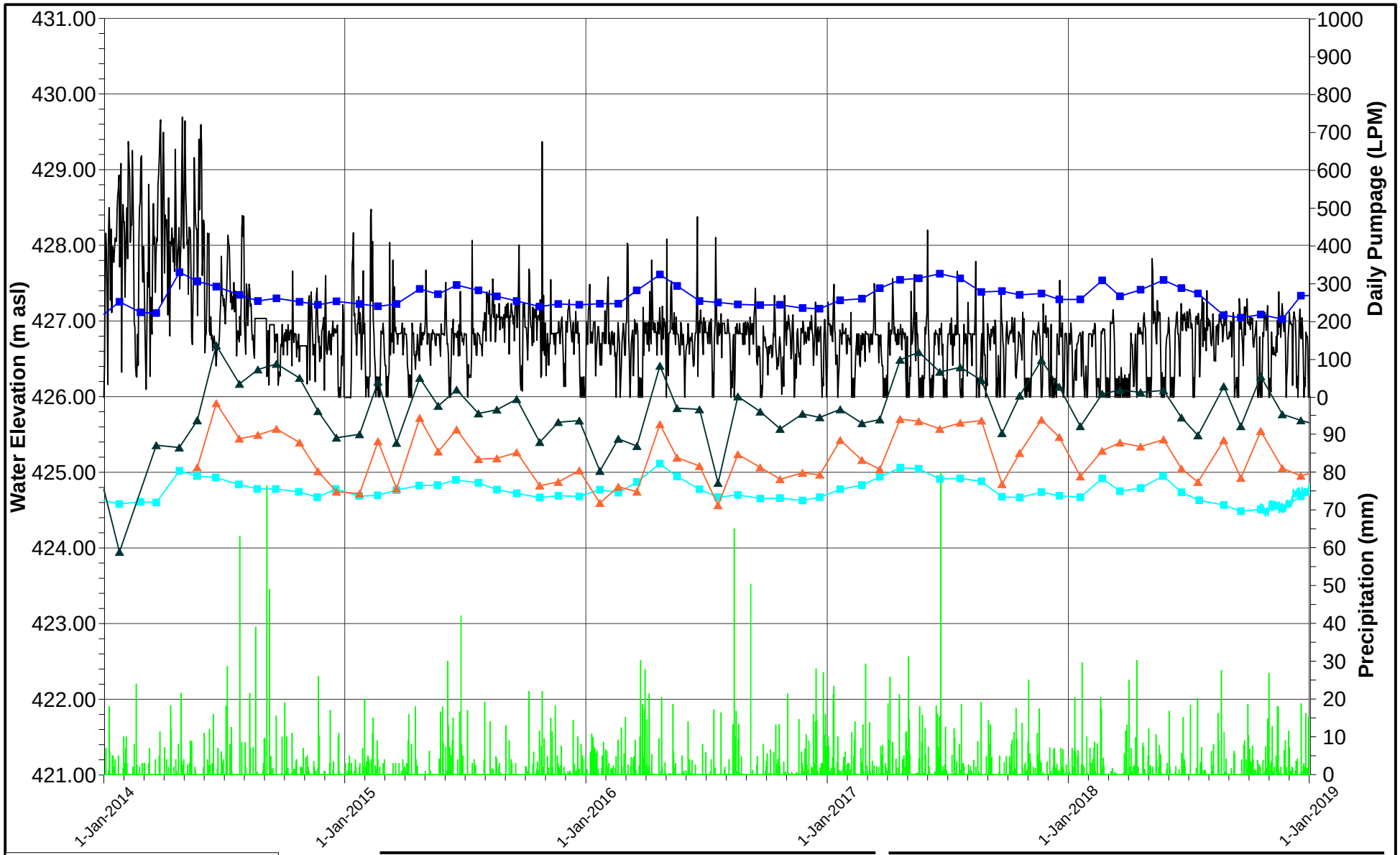
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE
HYDROGRAPHS FOR OTHER BEDROCK WELLS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D9



NOTE:
D24B buried in snow from January to March of 2014

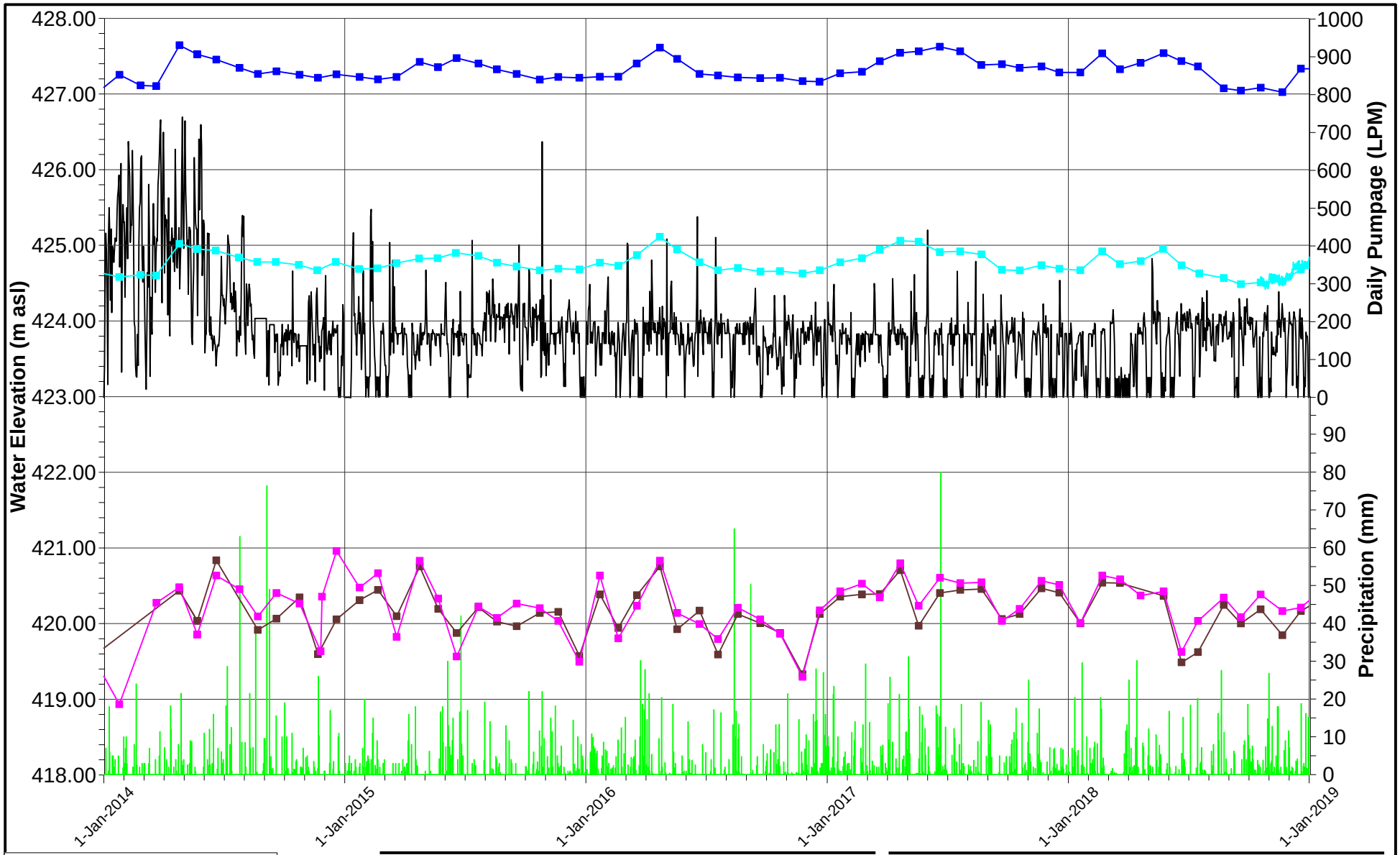
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE
HYDROGRAPHS FOR OTHER BEDROCK WELLS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D10



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

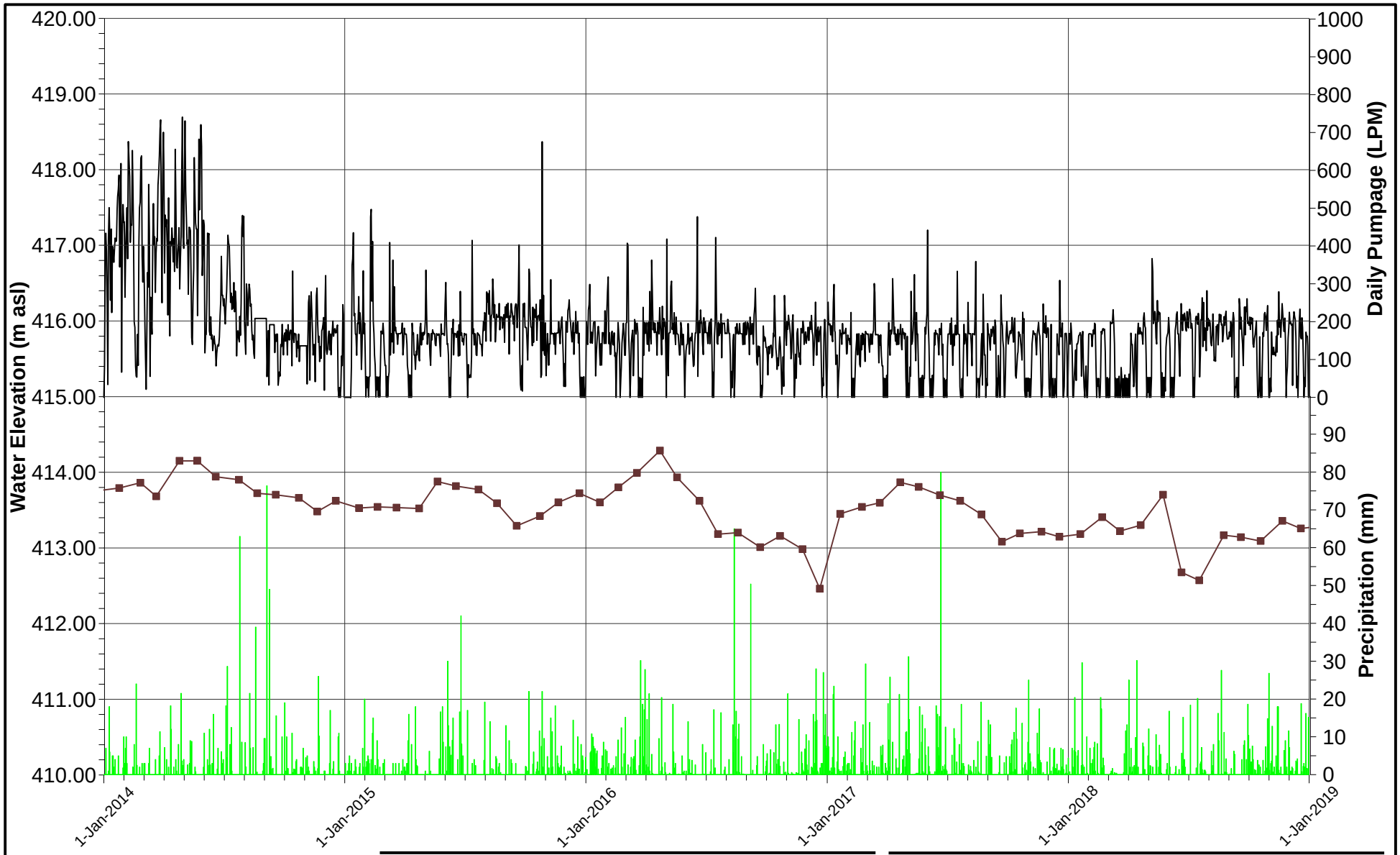
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR OTHER BEDROCK WELLS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D11



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

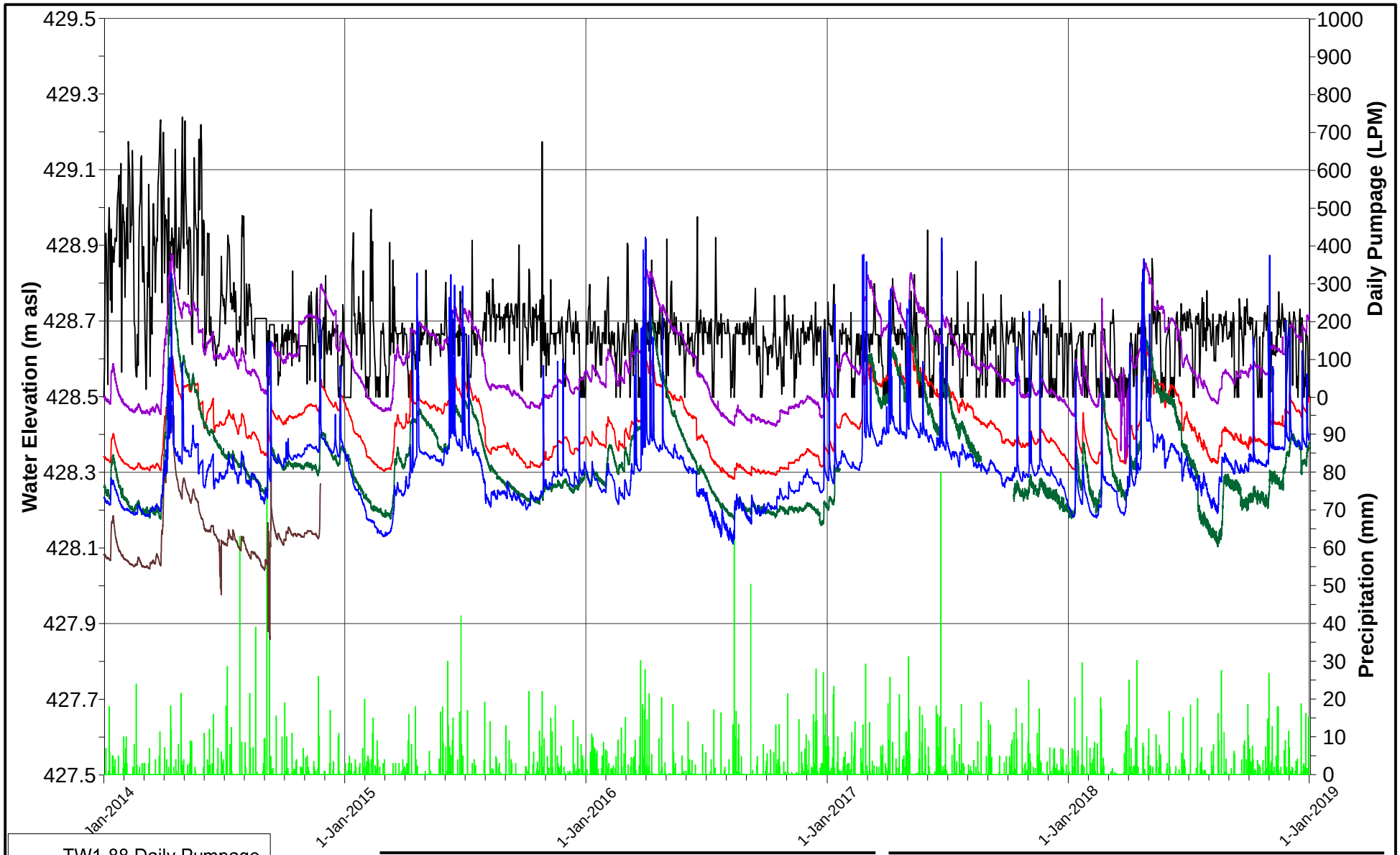
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR OTHER BEDROCK WELLS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D12



NOTE:
The homeowner at D2B is no longer participating in the monitoring program.

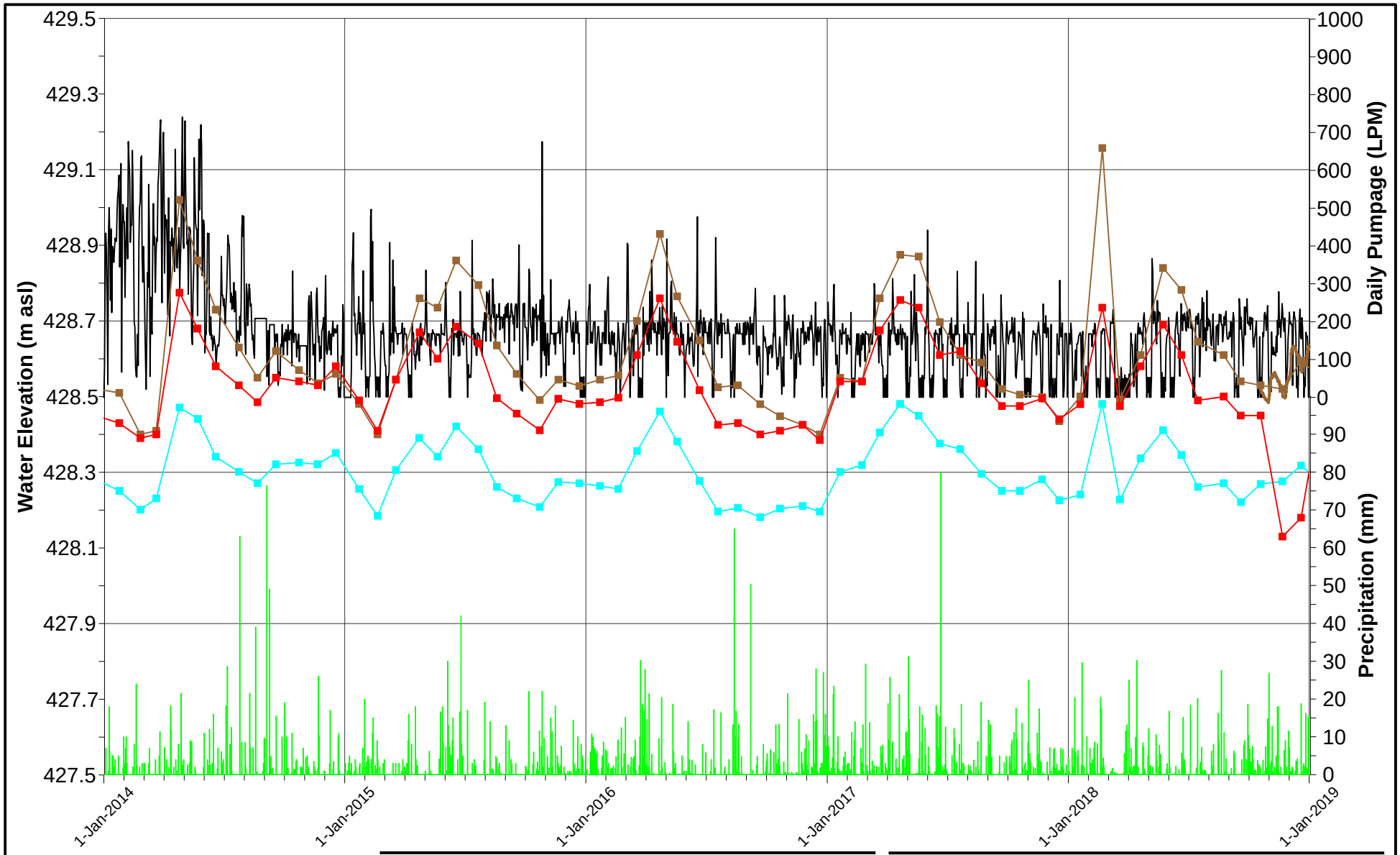
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE
HYDROGRAPHS FOR OVERBURDEN MONITORING LOCATIONS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D13



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

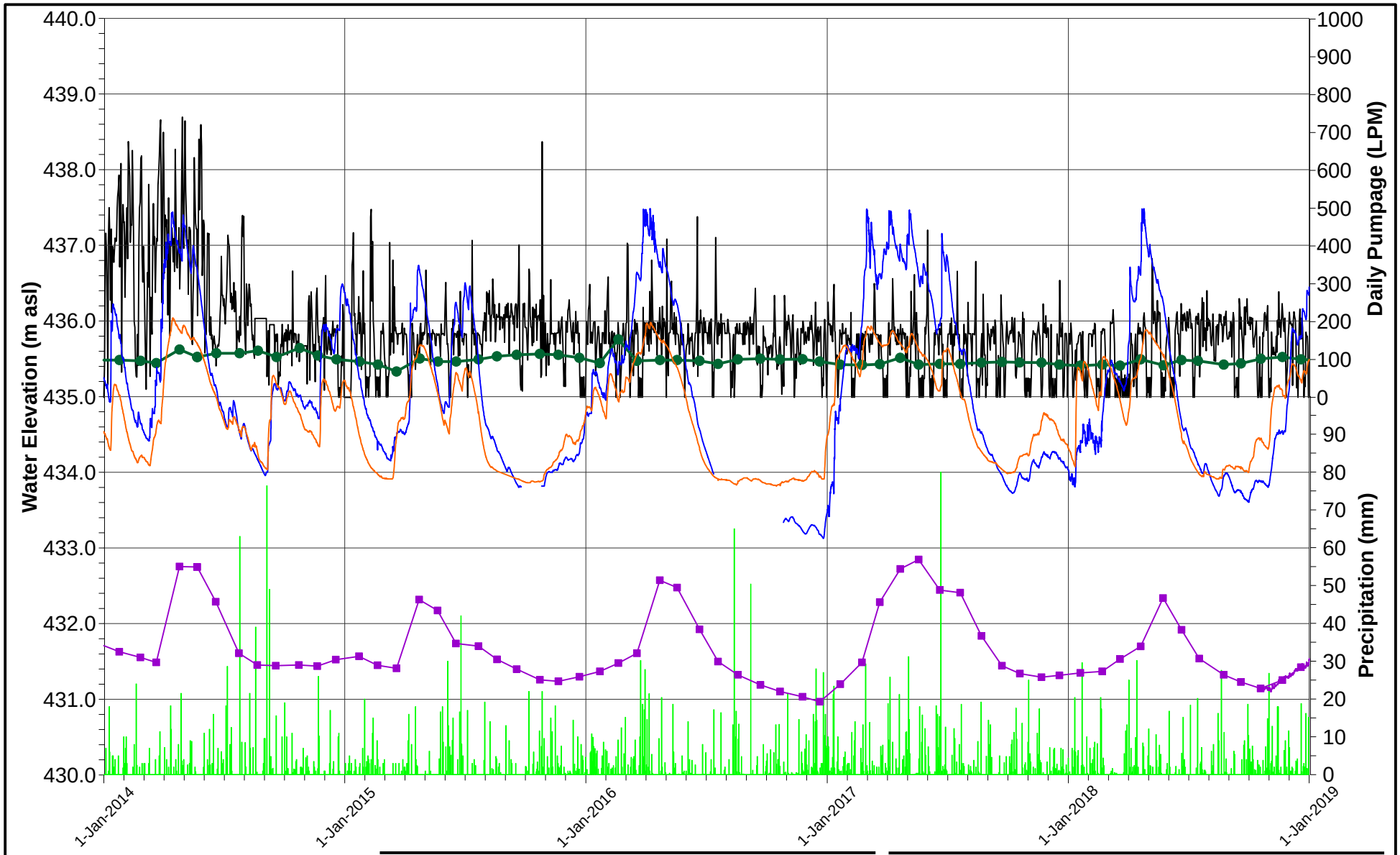
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR OVERBURDEN MONITORING LOCATIONS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D14



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

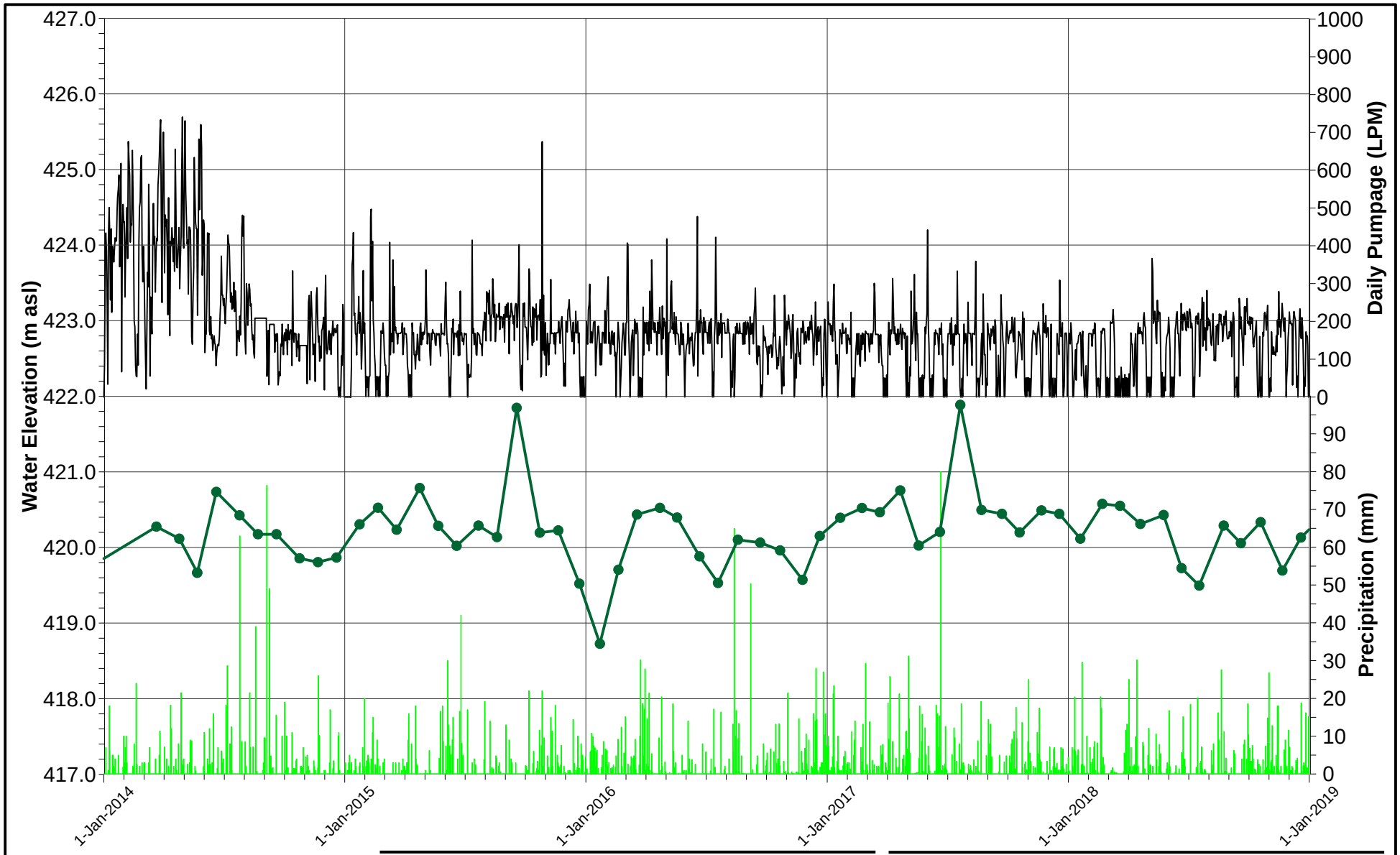
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR OVERBURDEN MONITORING LOCATIONS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D15



DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

GOLDER

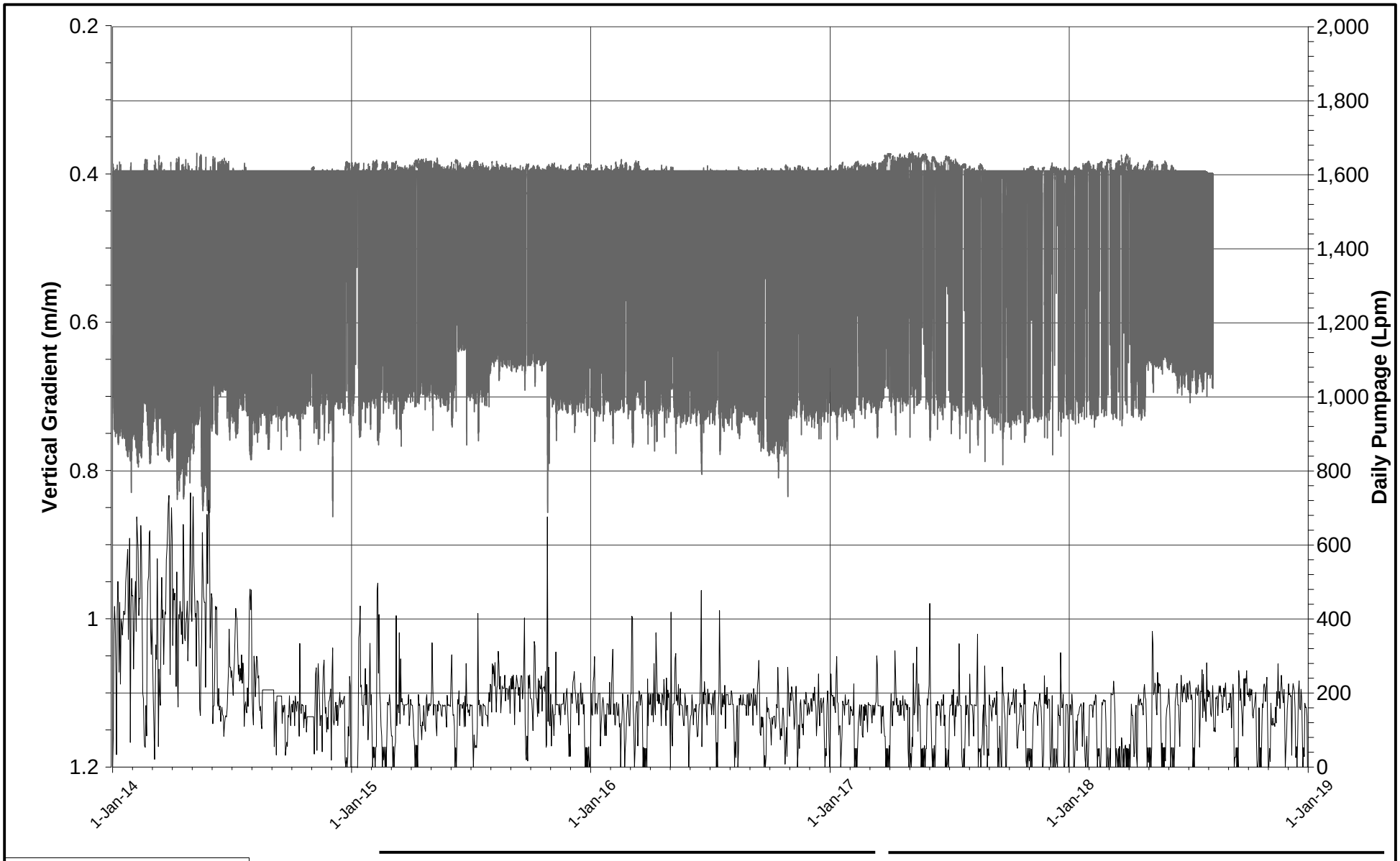
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR OVERBURDEN MONITORING LOCATIONS
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D16



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

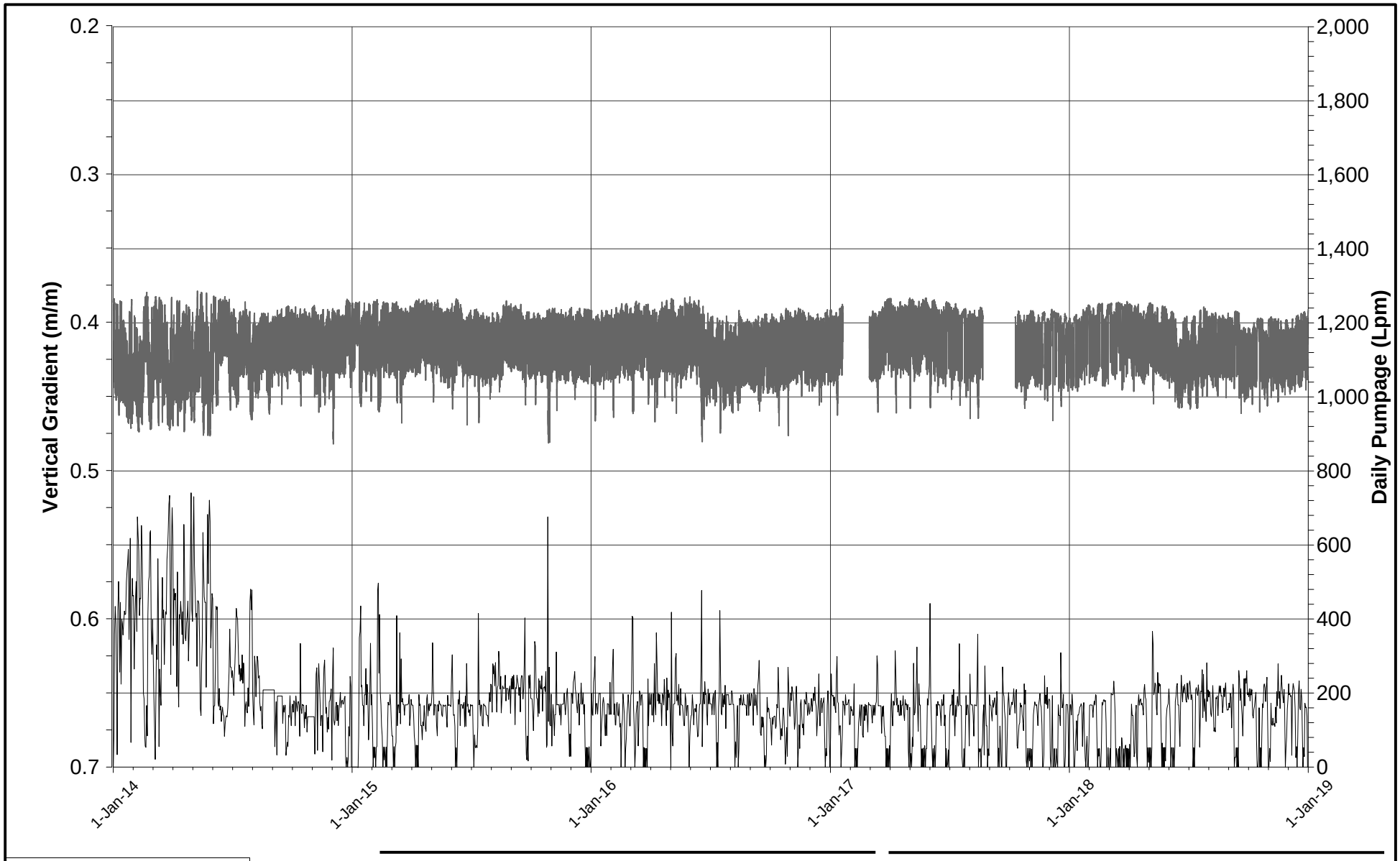
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

MW5-05 VERTICAL GRADIENT
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D17



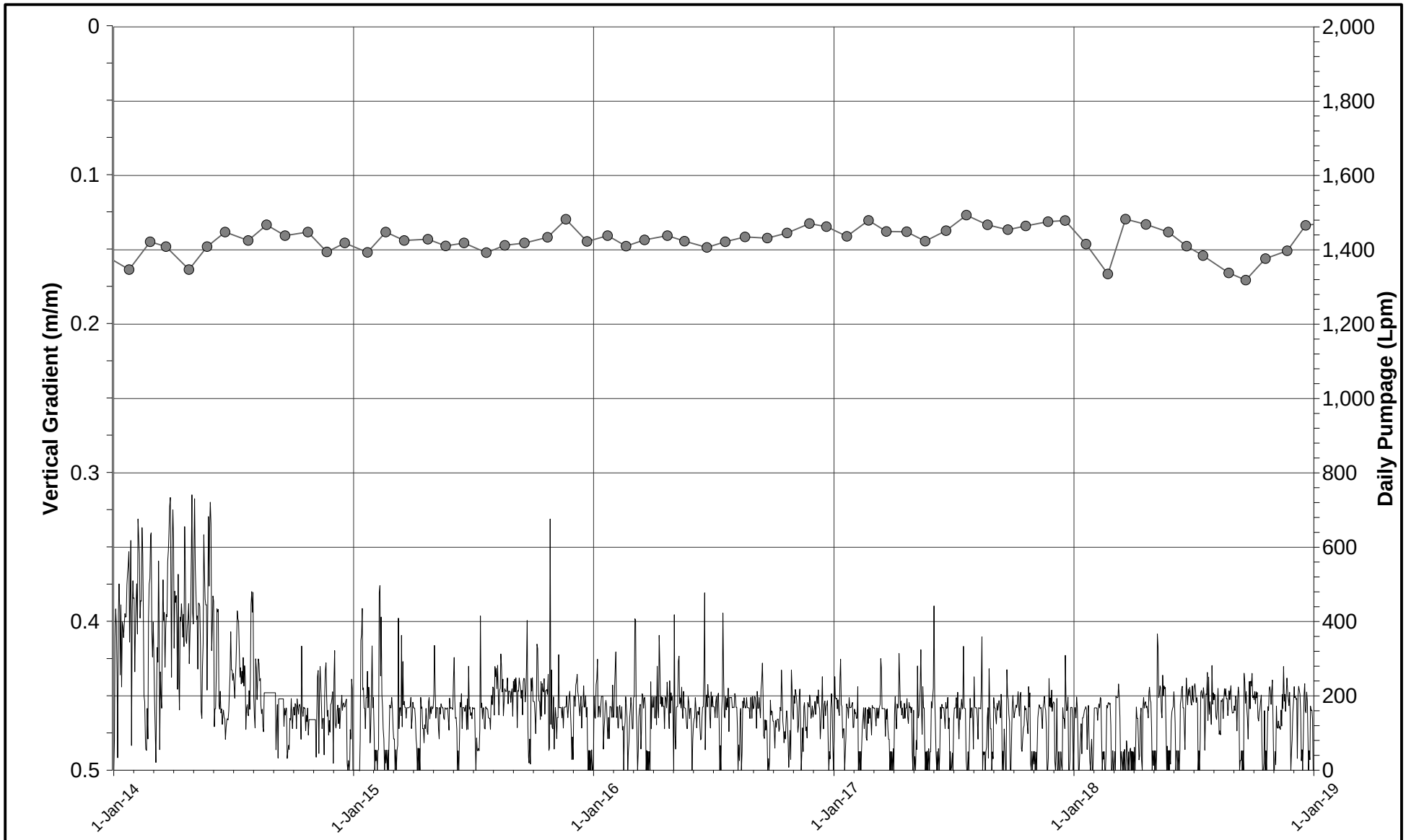
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE
MW6-05 VERTICAL GRADIENT
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D18



DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

GOLDER

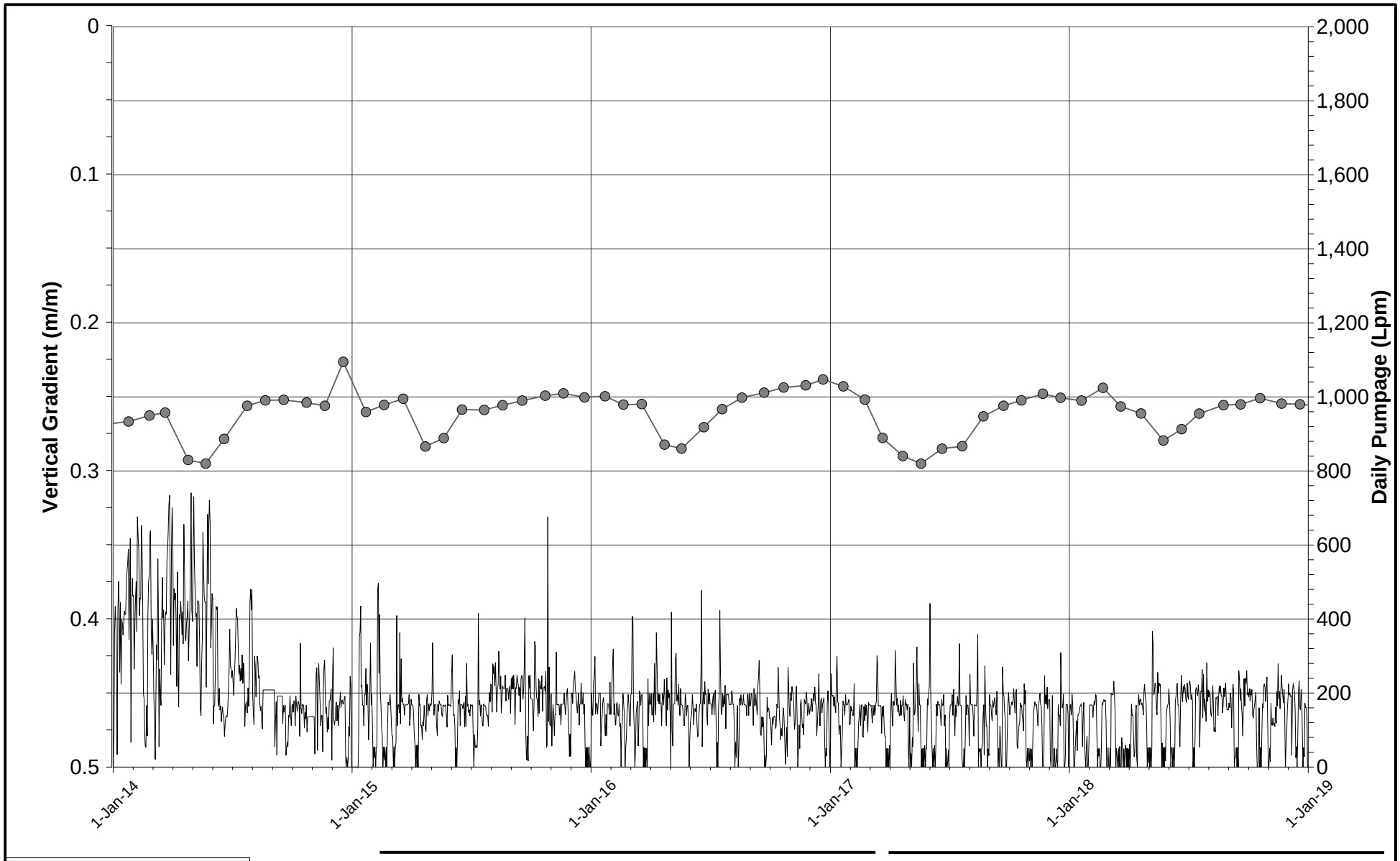
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

MW11-08 VERTICAL GRADIENT
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D19



DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

GOLDER

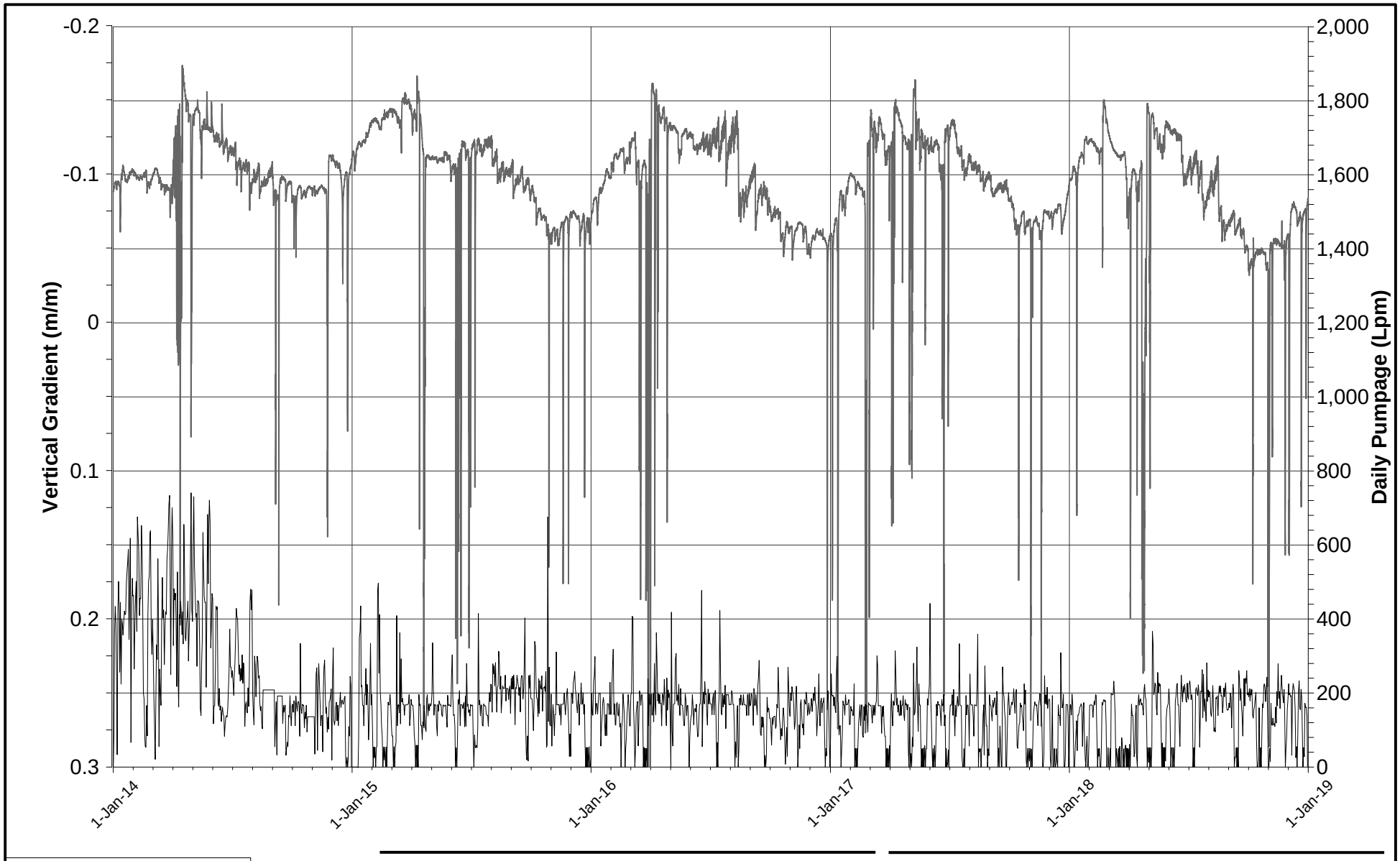
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

MW12-08 VERTICAL GRADIENT
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D20



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

MW3-00 VERTICAL GRADIENT
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	D21

TABLE D1

Manual Groundwater Elevations (masl)

2018 Annual Report

DATE	Water Level Elevation (masl)						
	MW2-00	MW3A-00	MW3B-00	MW05A-05	MW05B-05	MW06A-05	MW06B-05
19-Jan-18	428.24	428.36	428.23	423.14	428.52	421.50	428.27
21-Feb-18	428.48	428.55	428.39	423.82	428.73	422.24	428.51
20-Mar-18	428.23	428.34	428.20	423.68	428.51	422.15	428.26
20-Apr-18	428.34	428.44	428.31	423.22	428.64	422.17	428.39
24/25-May-18	428.41	428.54	428.39	423.96	428.74	422.39	428.49
21-Jun-18	428.35	428.48	428.33	420.47	428.65	421.77	428.41
16/18-Jul-18	428.26	428.38	428.26	422.99	428.52	421.18	428.29
24-Aug-18	428.27	428.41	428.31	423.26	428.56	421.79	428.27
19-Sep-18	428.22	428.37	428.31	423.08	428.52	421.47	428.25
17/19-Oct-18	428.27	428.38	428.33	423.56	428.55	421.94	428.25
21-Nov-18	428.28	428.42	428.37	422.42	428.29	421.75	428.27
19-Dec-18	428.32	428.45	428.37	422.29	428.67	422.07	428.32

TABLE D1
Manual Groundwater Elevations (masl)
2018 Annual Report

DATE	Water Level Elevation (masl)					
	MW11A-08	MW11B-08	MW12A-08	MW12B-08	TW1-88	TW1-99
19-Jan-18	426.70	428.50	424.67	431.35	422.74	428.48
21-Feb-18	427.11	429.16	424.92	431.37	420.95	428.74
20-Mar-18	426.90	428.49	424.75	431.53	423.04	428.48
20-Apr-18	426.97	428.61	424.79	431.70	423.01	428.58
24/25-May-18	427.14	428.84	424.95	432.34	423.34	428.69
21-Jun-18	426.96	428.78	424.74	431.92	427.15	428.61
16/18-Jul-18	426.75	428.65	424.63	431.54	417.60	428.49
24-Aug-18	426.57	428.61	424.57	431.32	422.61	428.50
19-Sep-18	426.44	428.54	424.49	431.23	421.74	428.45
17/19-Oct-18	426.61	428.53	424.51	431.14	422.85	428.45
21-Nov-18	426.66	428.52	424.52	431.25	422.61	428.13
19-Dec-18	426.95	428.60	424.68	431.42	422.90	428.18

TABLE D1

Manual Groundwater Elevations (masl)

2018 Annual Report

DATE	Water Level Elevation (masl)					
	D3	D7B	D8	D15	D24A	D24B
19-Jan-18	424.09	435.41	427.42	427.28	425.61	424.94
21-Feb-18	424.69	435.42	427.68	427.54	426.04	425.28
20-Mar-18	424.79	435.41	427.50	427.33	426.09	425.39
20-Apr-18	424.68	435.49	427.54	427.41	426.06	425.34
24/25-May-18	424.35	435.42	427.74	427.54	426.08	425.43
21-Jun-18	424.37	435.48	427.54	427.43	425.72	425.05
16/18-Jul-18	422.51	435.47	427.47	427.36	425.49	424.87
24-Aug-18	424.93	435.42	426.66	427.07	426.14	425.42
19-Sep-18	424.19	435.44	426.69	427.04	425.61	424.92
17/19-Oct-18	424.83	435.50	426.82	427.08	426.27	425.54
21-Nov-18	423.84	435.52	426.72	427.02	425.77	425.05
19-Dec-18	423.26	435.49	427.45	427.33	425.69	424.95

TABLE D1

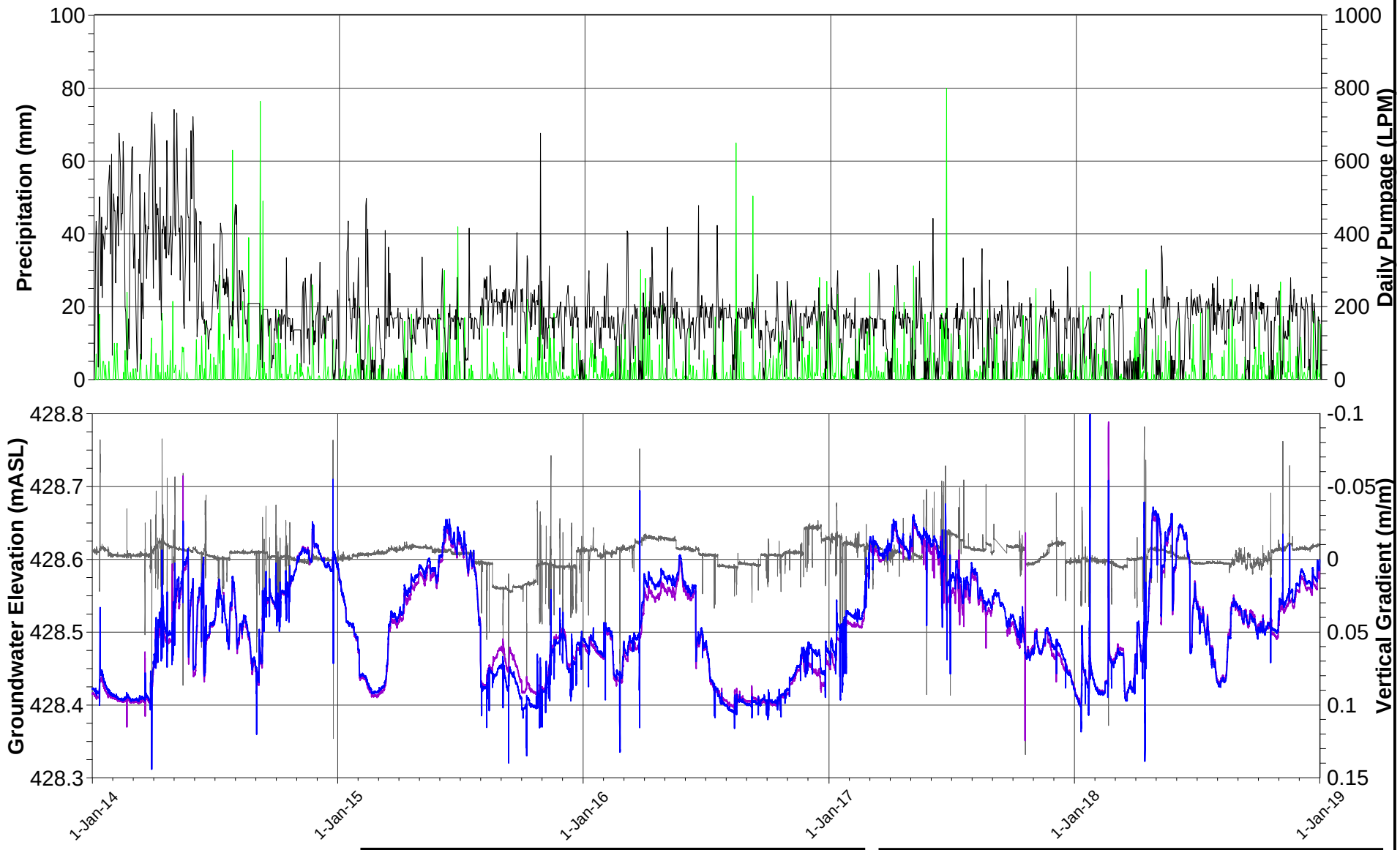
Manual Groundwater Elevations (masl)

2018 Annual Report

DATE	Water Level Elevation (masl)						
	D26A	D26B	D26C	D27	D32	D36A	D36B
19-Jan-18	420.00	420.01	435.32	420.12	413.18	434.41	423.92
21-Feb-18	420.54	420.64	435.46	420.58	413.41	434.72	424.08
20-Mar-18	420.54	420.59	434.96	420.55	413.22	435.20	424.00
20-Apr-18		420.37	435.49	420.31	413.30	436.61	424.02
24/25-May-18	420.37	420.43	435.52	420.43	413.70	436.26	424.39
21-Jun-18	419.49	419.63	434.51	419.73	412.68	434.67	423.99
16/18-Jul-18	419.62	420.04	434.00	419.50	412.57	434.10	423.72
24-Aug-18	420.25	420.34	434.04	420.29	413.17	433.95	423.69
19-Sep-18	420.00	420.09	434.06	420.06	413.14	433.75	423.74
17/19-Oct-18	420.19	420.39	434.44	420.34	413.09	433.89	423.79
21-Nov-18	419.85	420.17	435.04	419.70	413.36	434.54	423.74
19-Dec-18	420.17	420.21	435.22	420.13	413.26	435.78	423.94
		Buried under snow					

APPENDIX E

Surface Water Level Monitoring



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

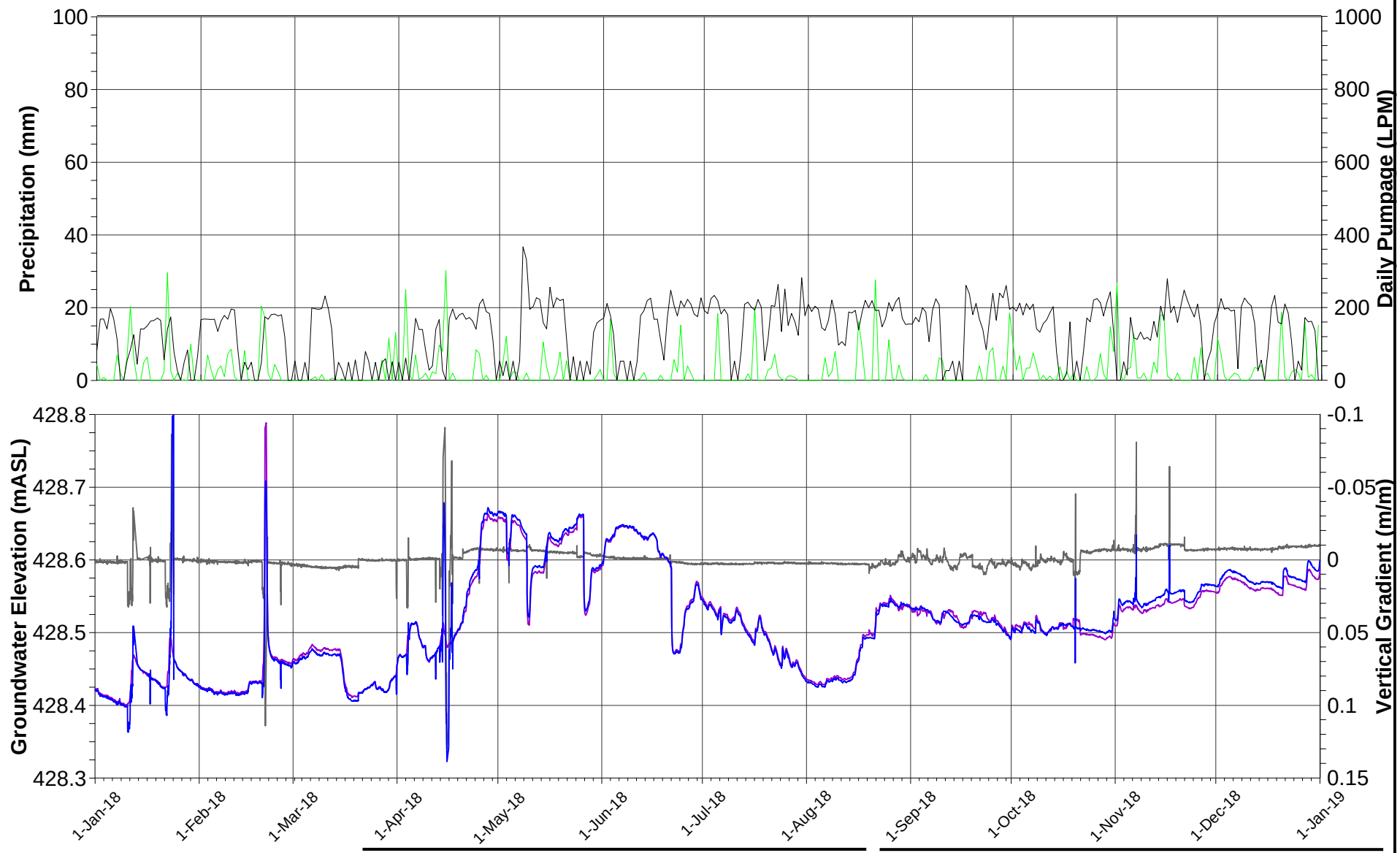
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P3-05 NEST HYDROGRAPHS AND VERTICAL GRADIENTS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E1a



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

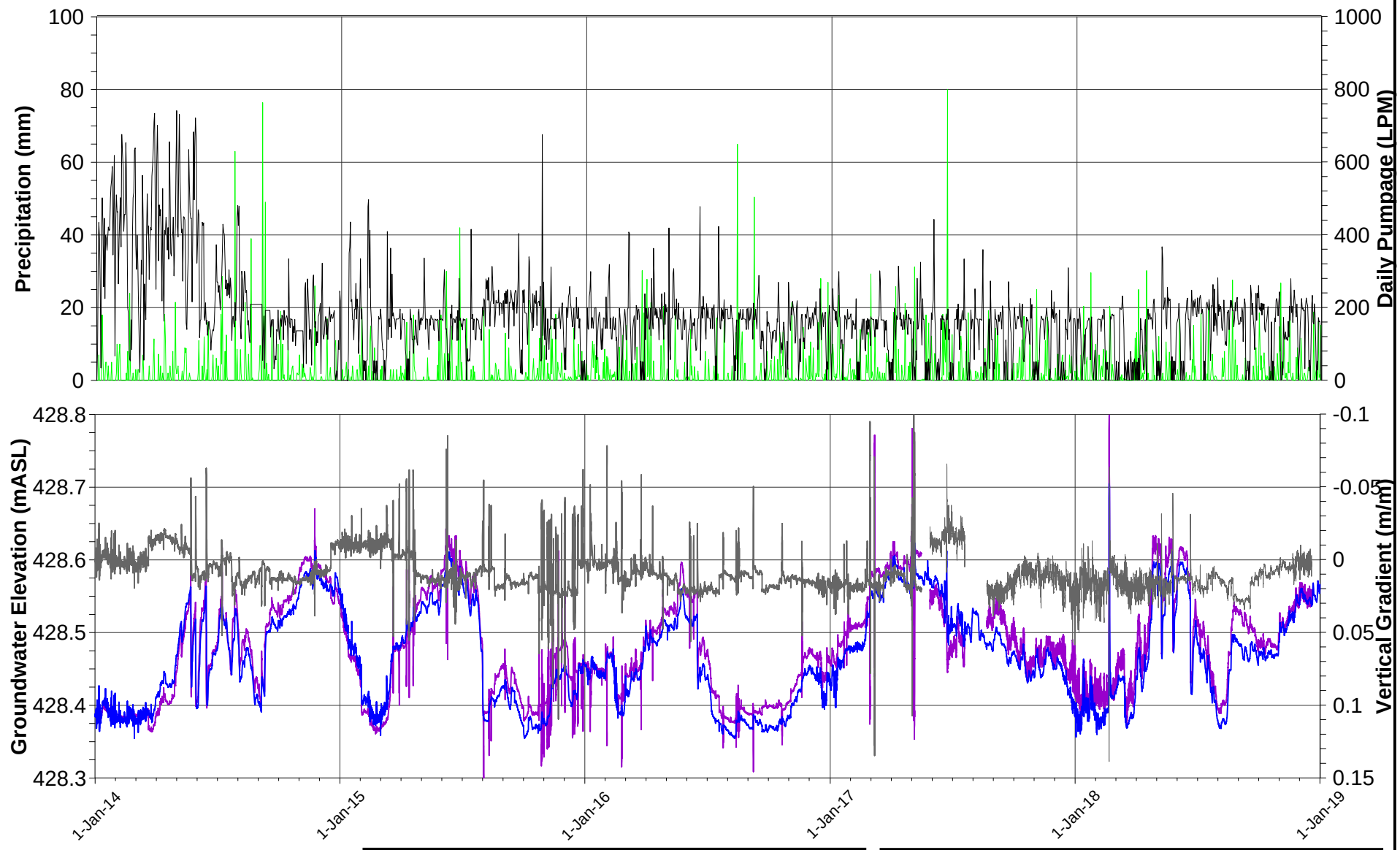
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P3-05 NEST HYDROGRAPHS AND VERTICAL GRADIENTS (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E1b



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

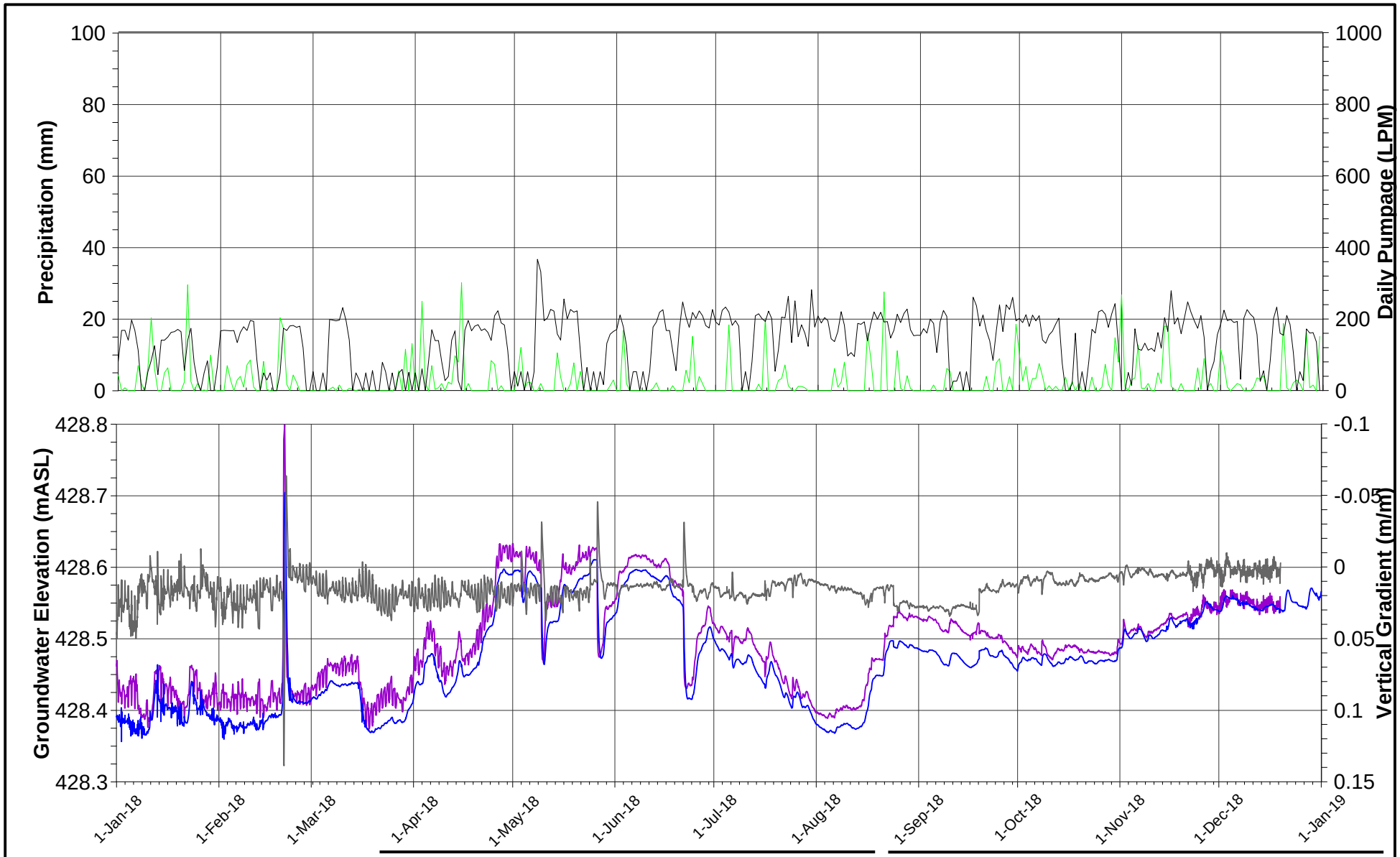
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P6-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E2a



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

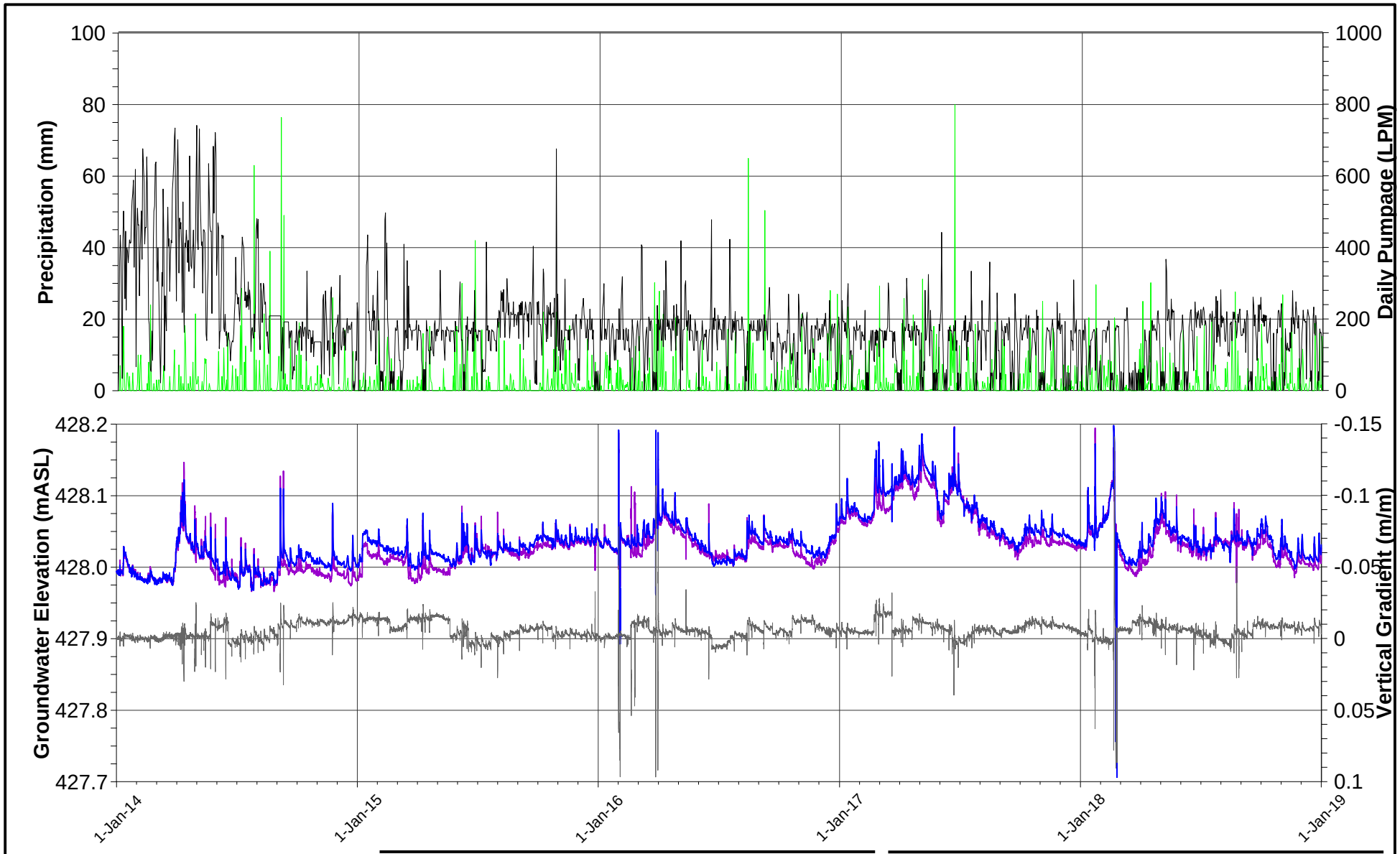
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P6-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E2b



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

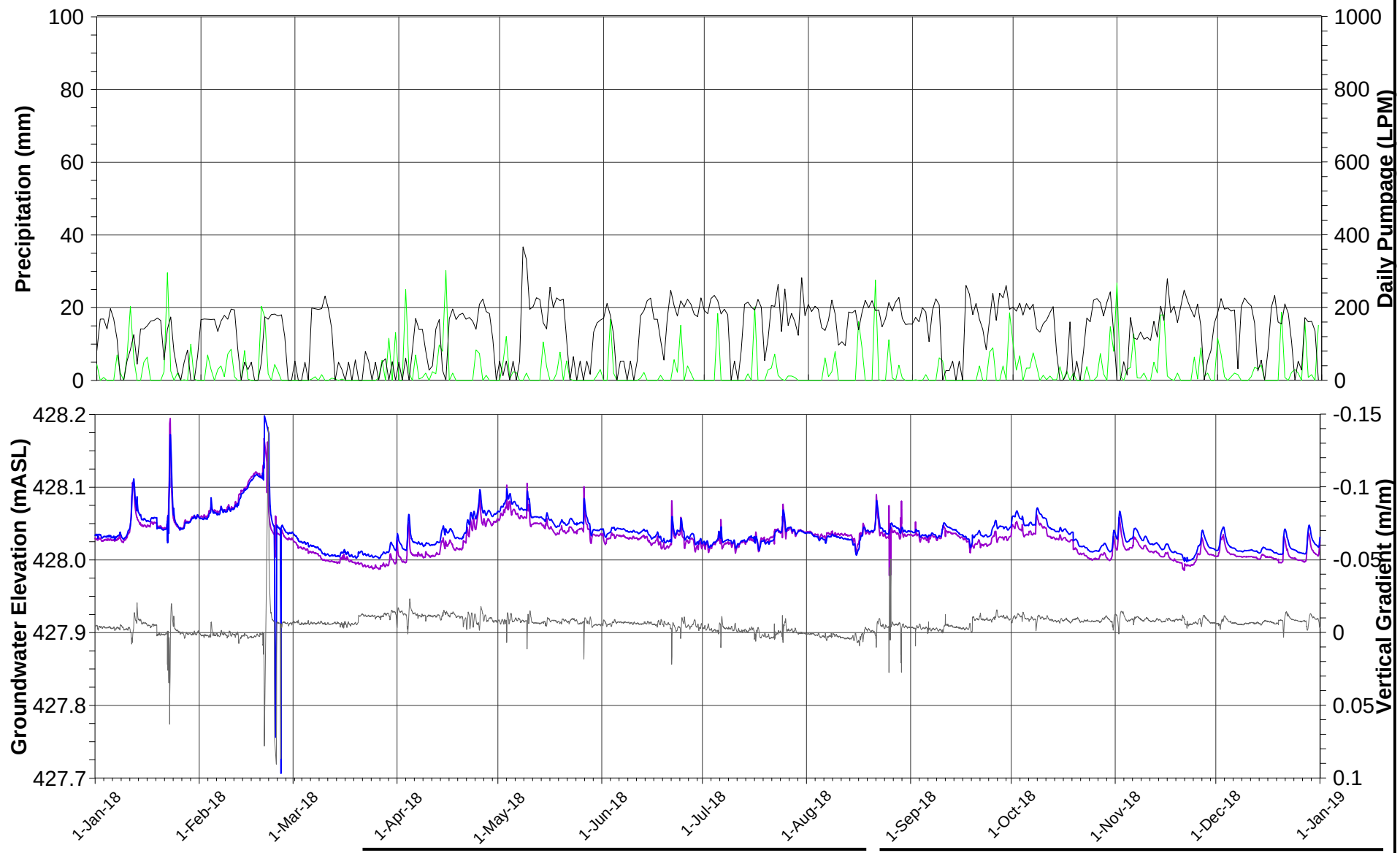
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P1-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E3a



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

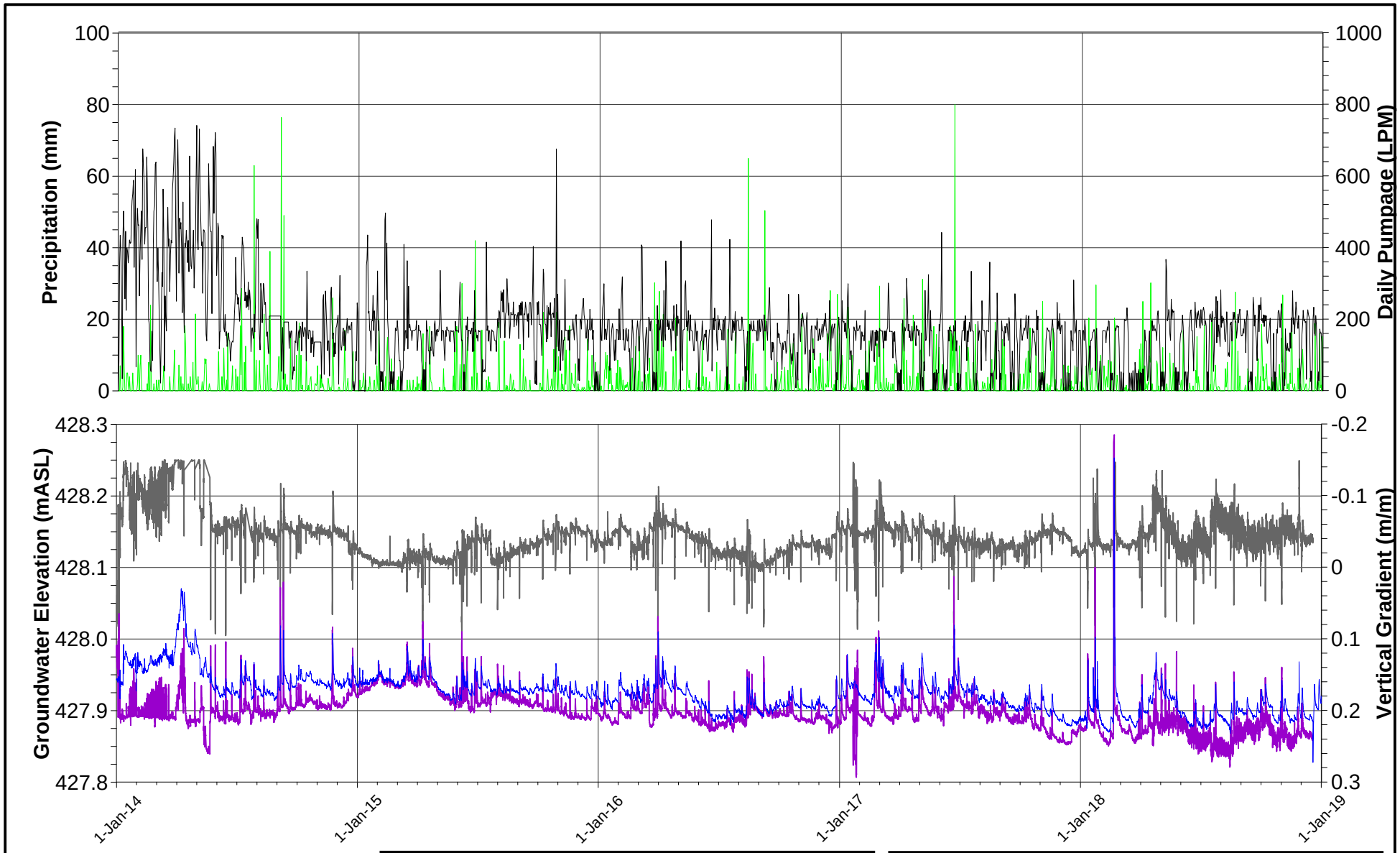
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P1-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E3b



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

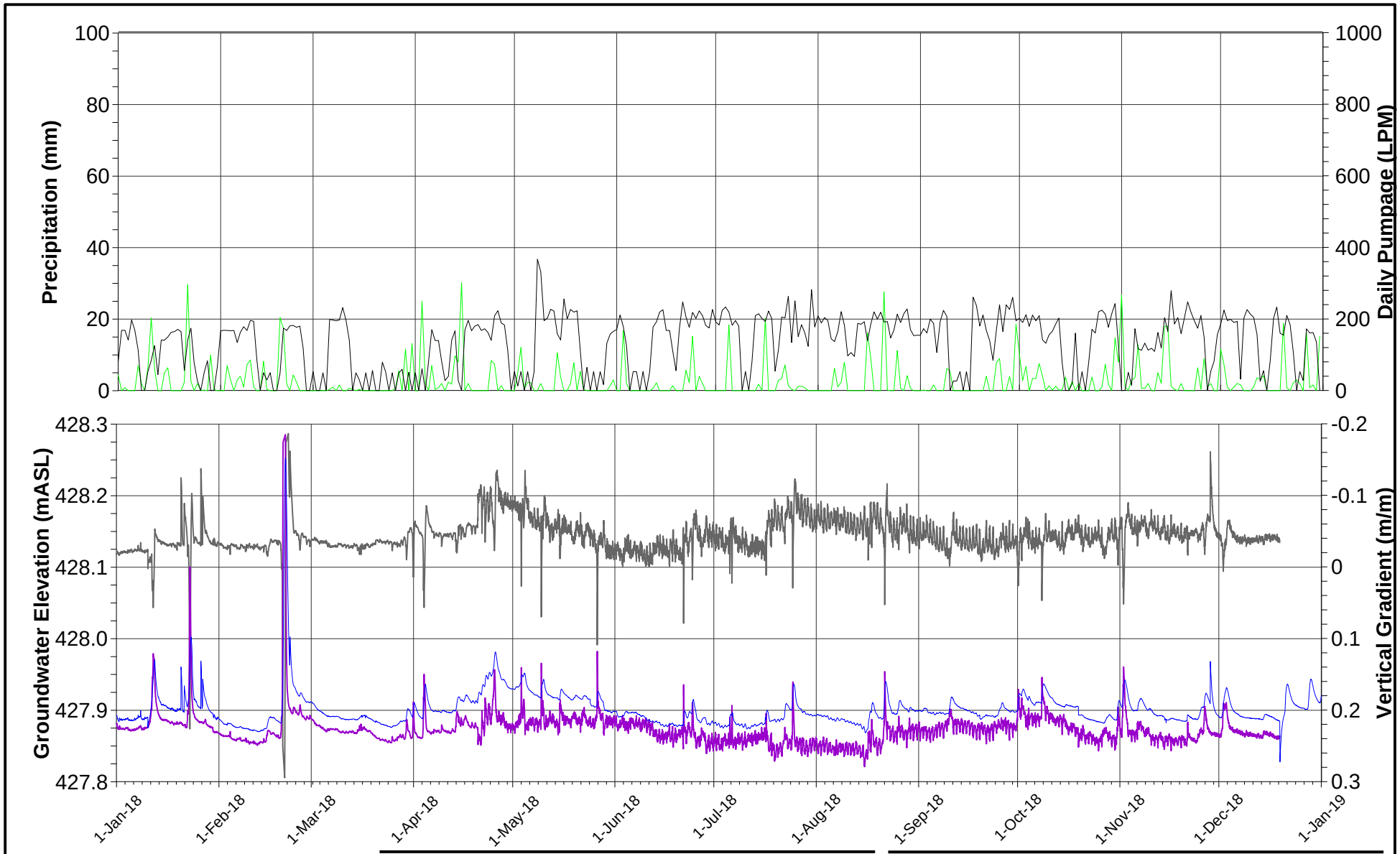
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P11-05 NEST HYDROGRAPHS AND VERTICAL GRADIENTS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E4a



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

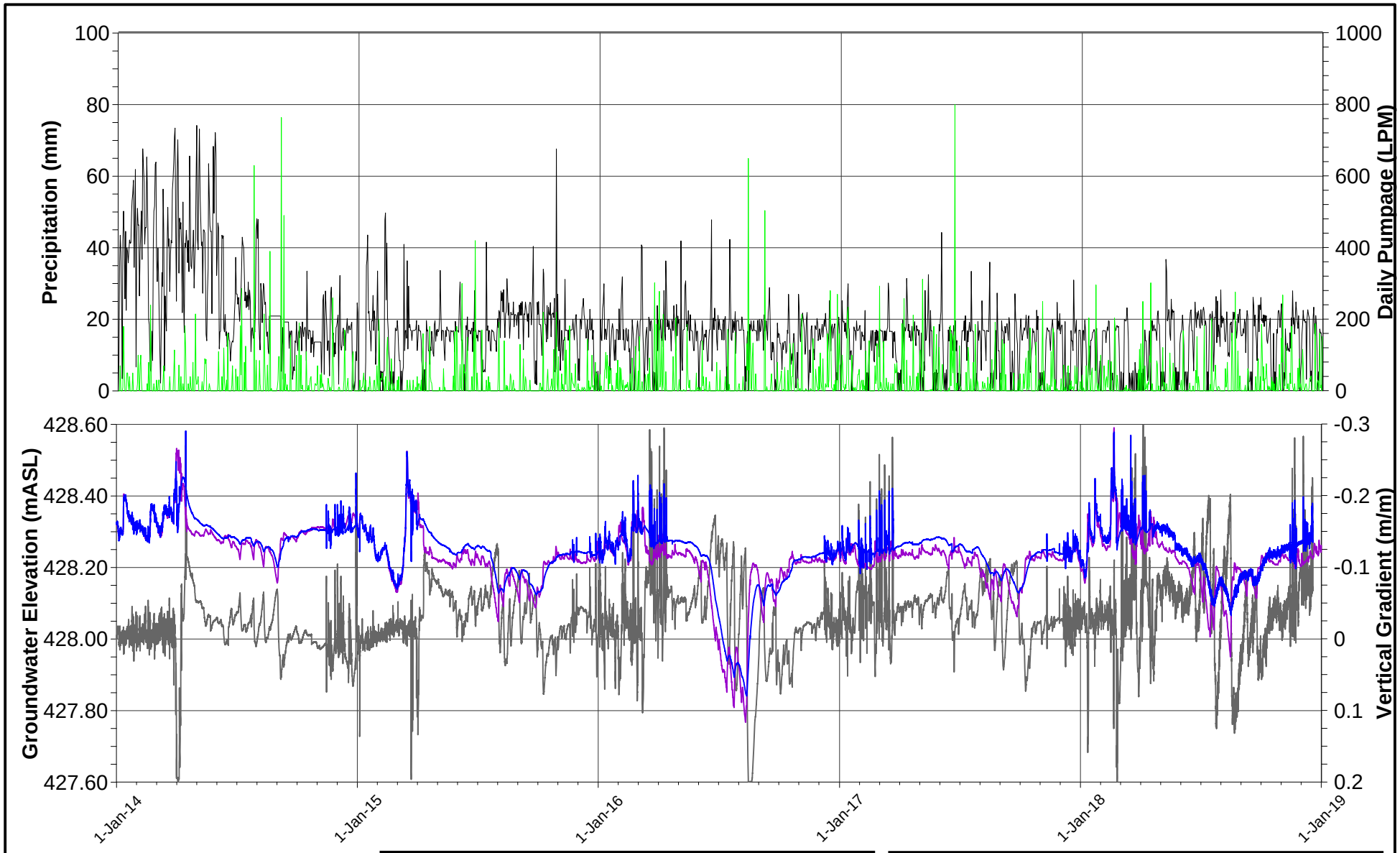
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P11-05 NEST HYDROGRAPHS AND VERTICAL GRADIENTS (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E4b



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

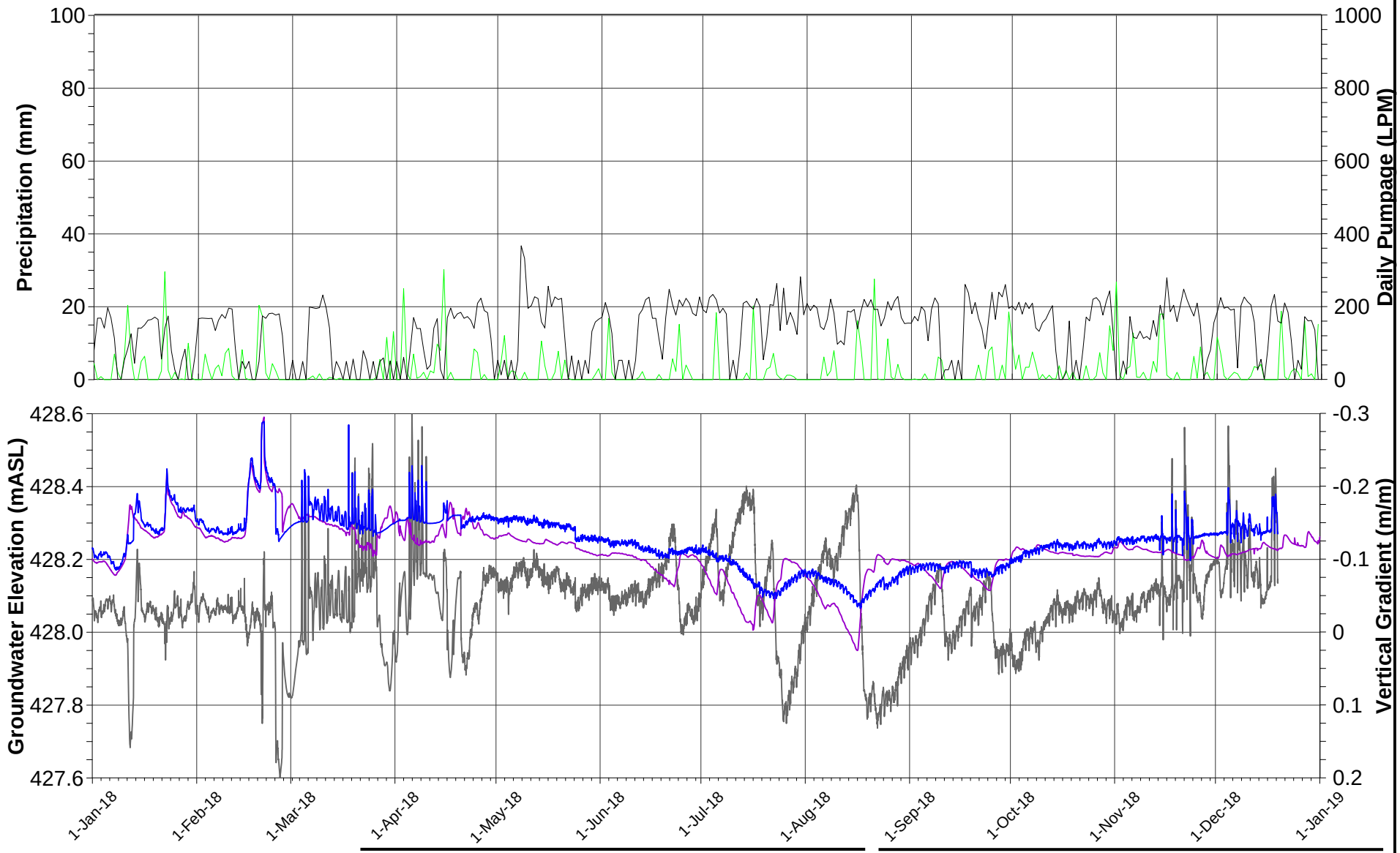
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P10-05 NEST HYDROGRAPHS AND VERTICAL GRADIENTS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E5a



PROJECT

NESTLE WATERS CANADA

Town of Erin, Ontario

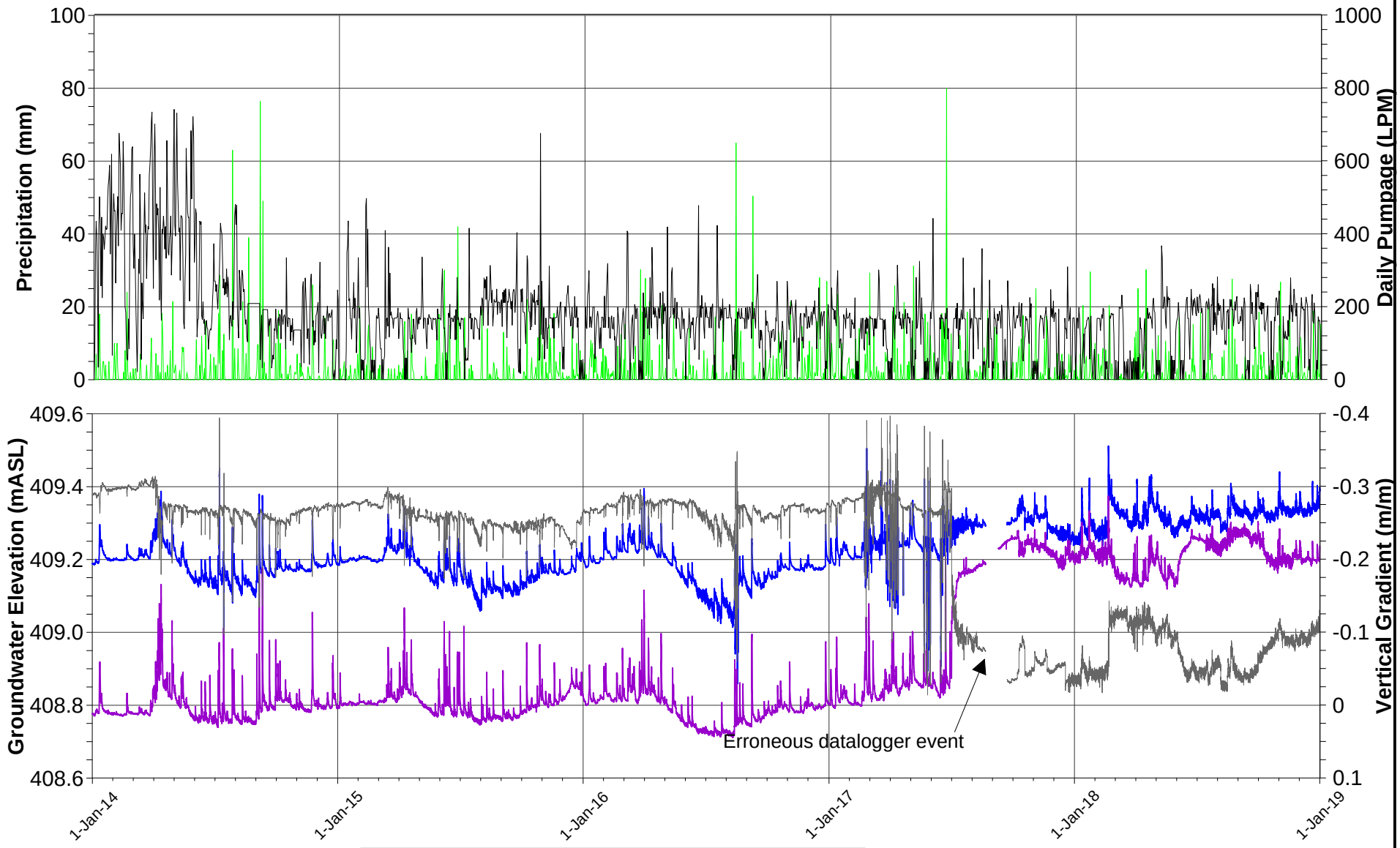
TITLE

P10-05 NEST HYDROGRAPHS AND VERTICAL GRADIENTS (2018 DATA) 2018 ANNUAL MONITORING REPORT

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E5b



NOTE:
Beaver activity caused the high water level in stream at P12A/B

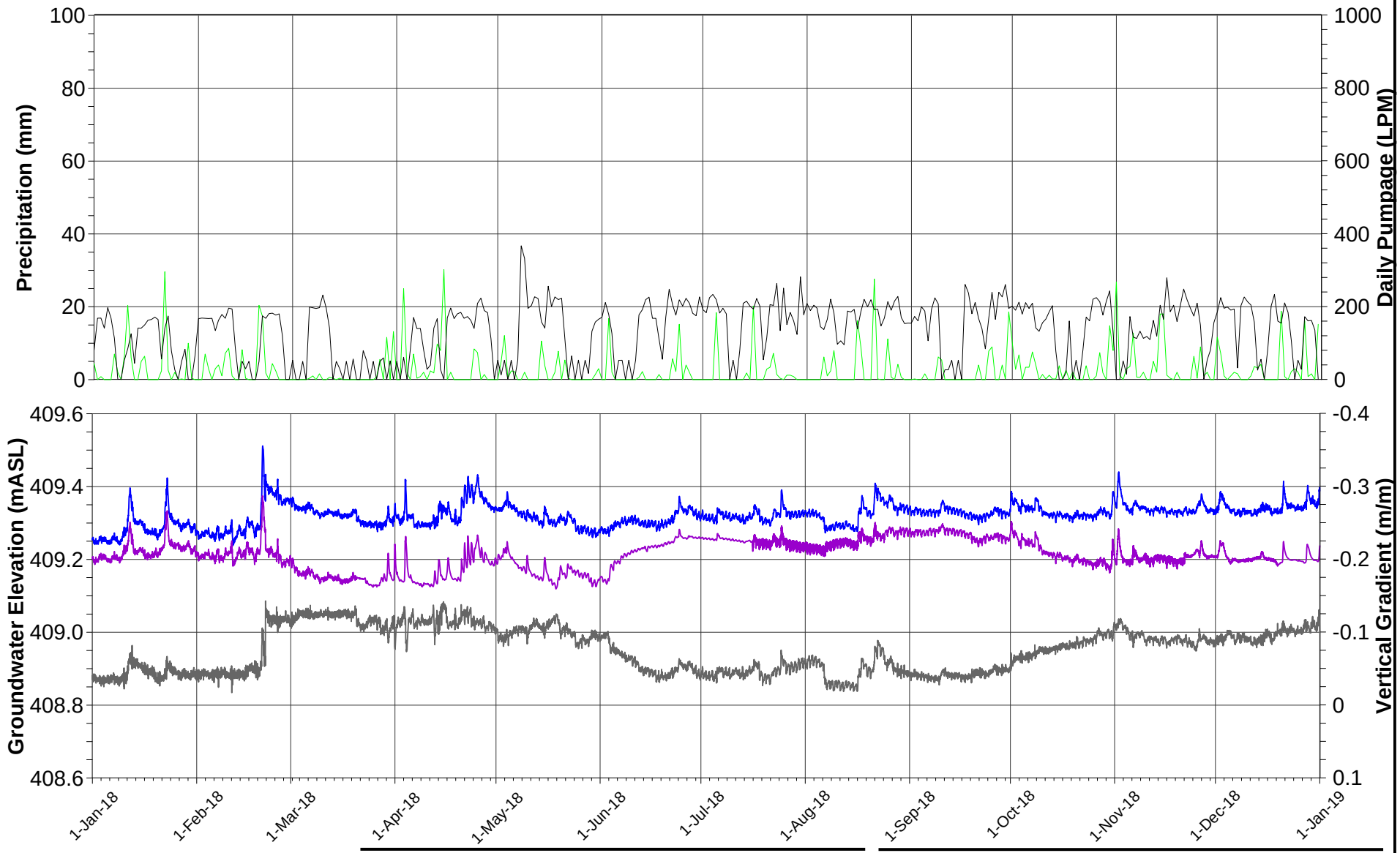
GOLDER

DATE	December 2018
DESIGN	JH
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE
P12-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E6a



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

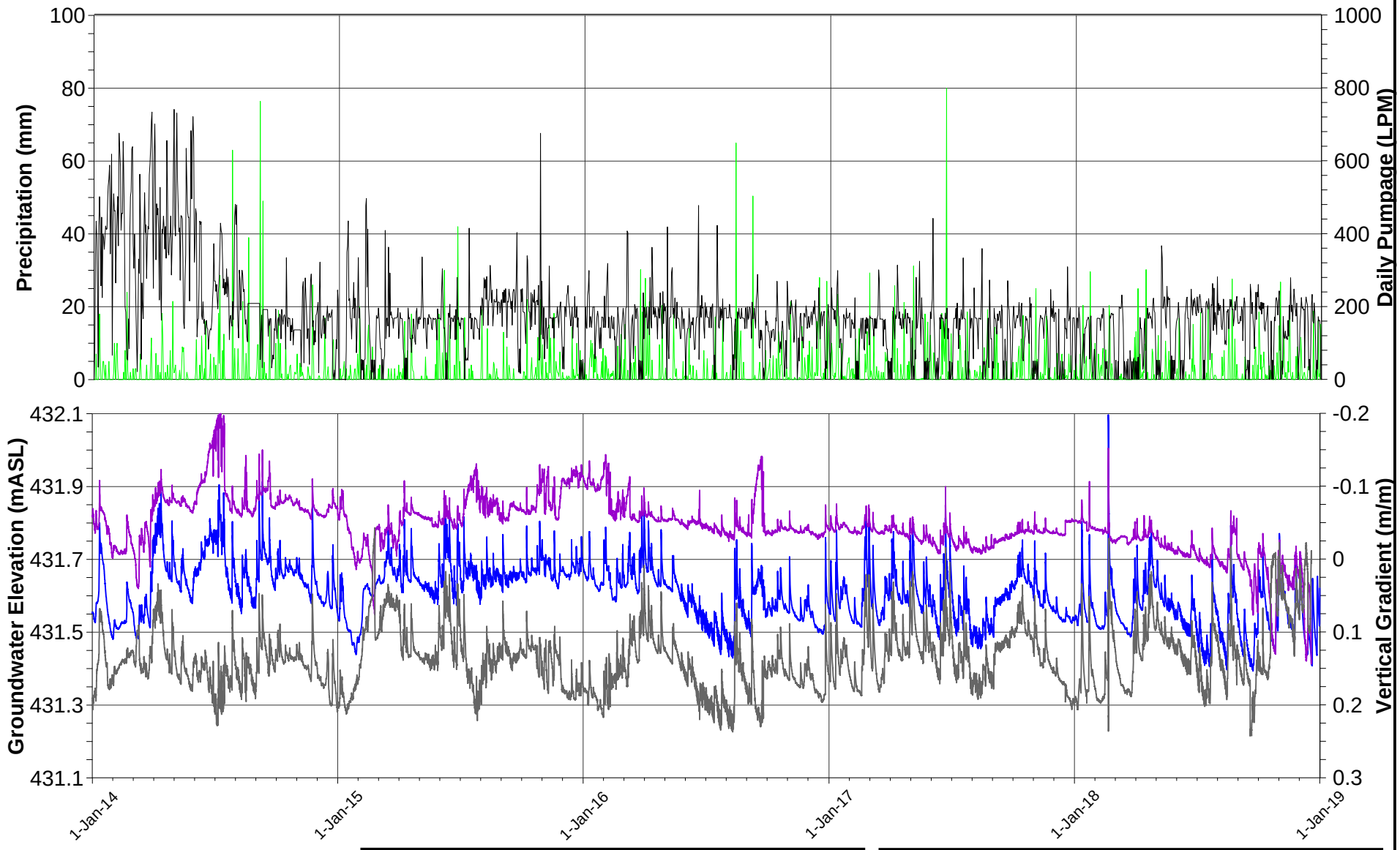
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P12-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E6b



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

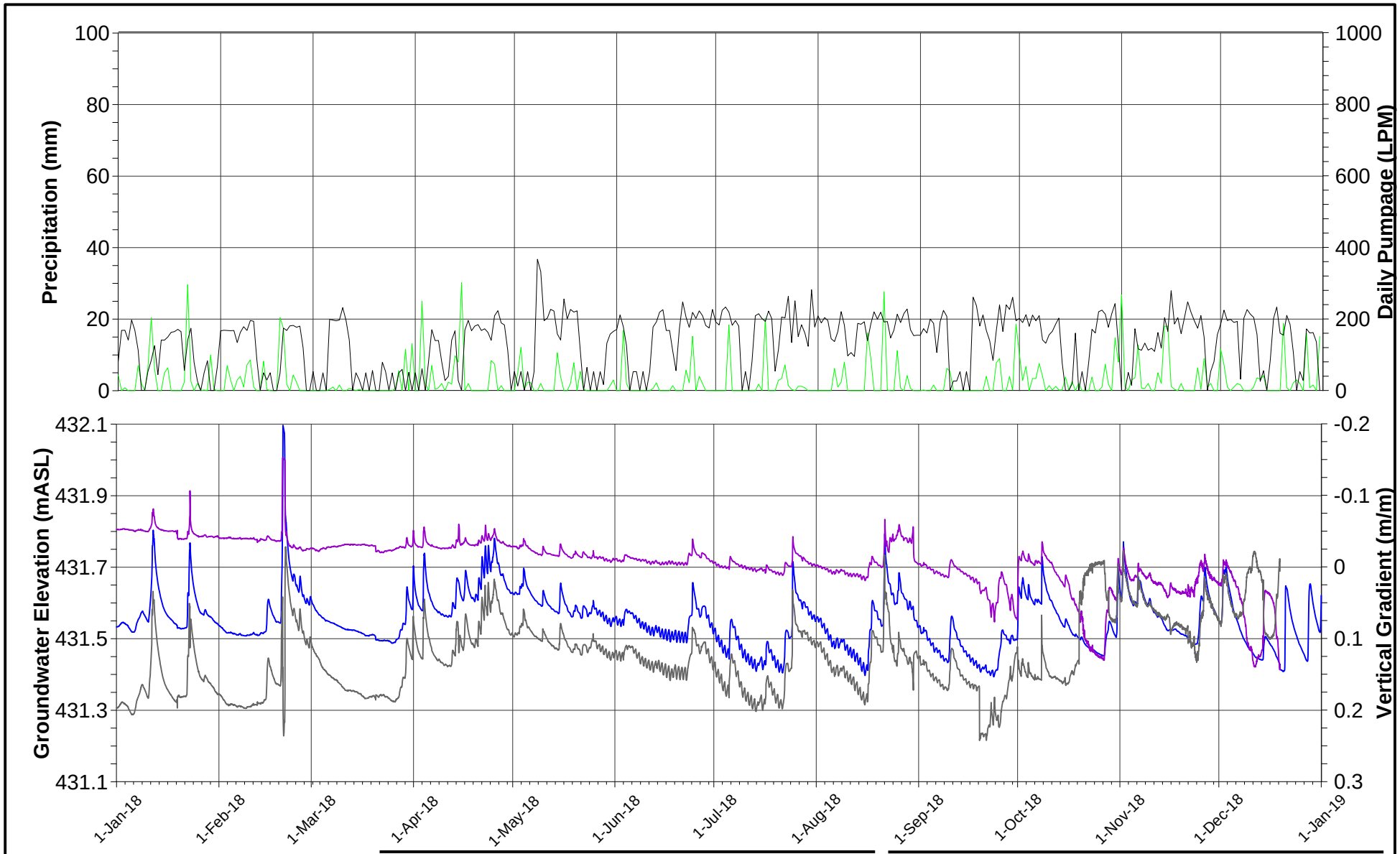
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P13-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E7a



GOLDER

DATE	December 2018
DESIGN	JH
REVIEW	GP
APPROVED	GP

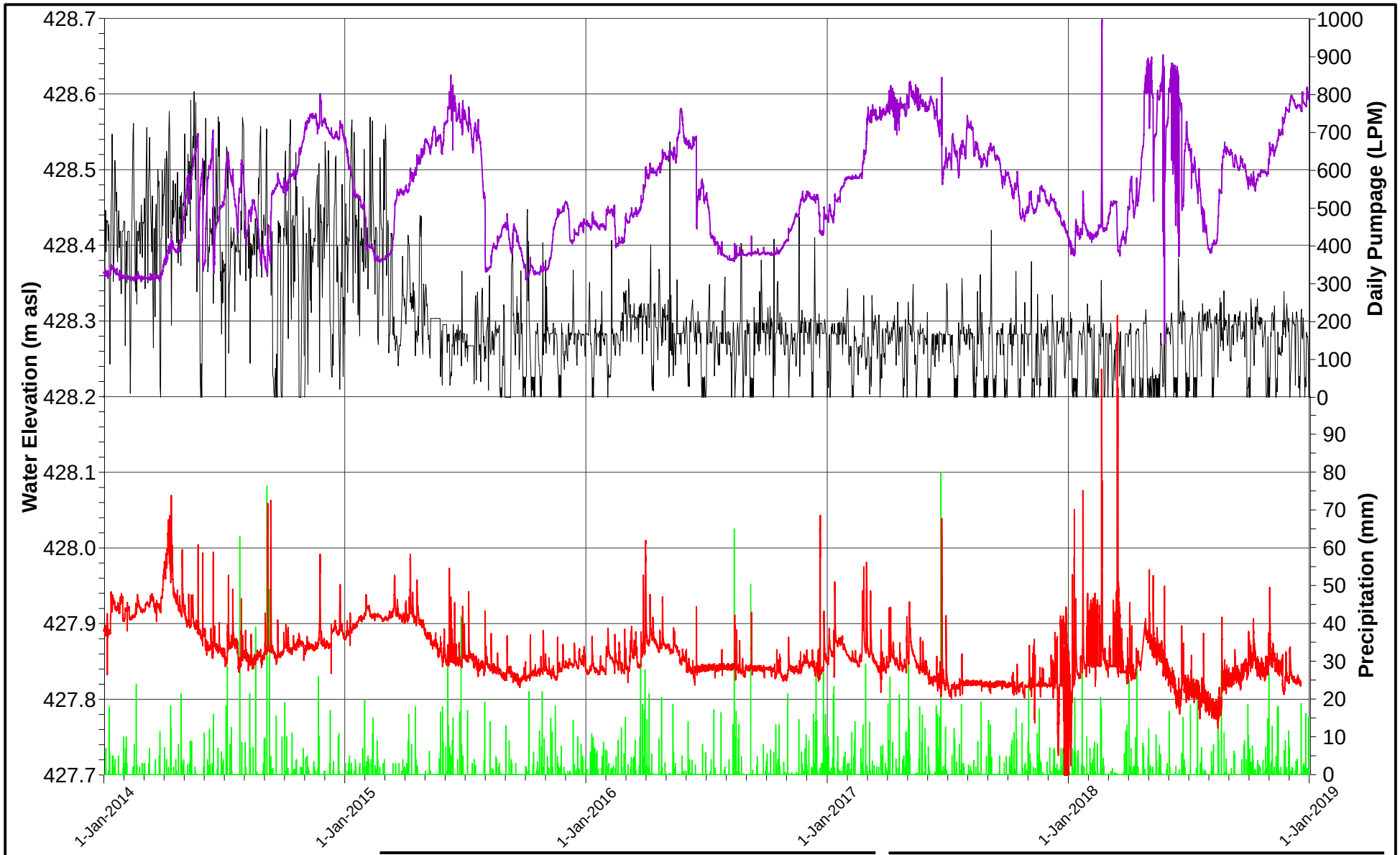
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

P13-07 NEST HYDROGRAPHS AND VERTICAL GRADIENTS (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E7b



TW1-88 Daily Pumpage
Precipitation
SW1-08 (Creek d/s of on-Site Pond)
SW3-08 (on-Site Pond)

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

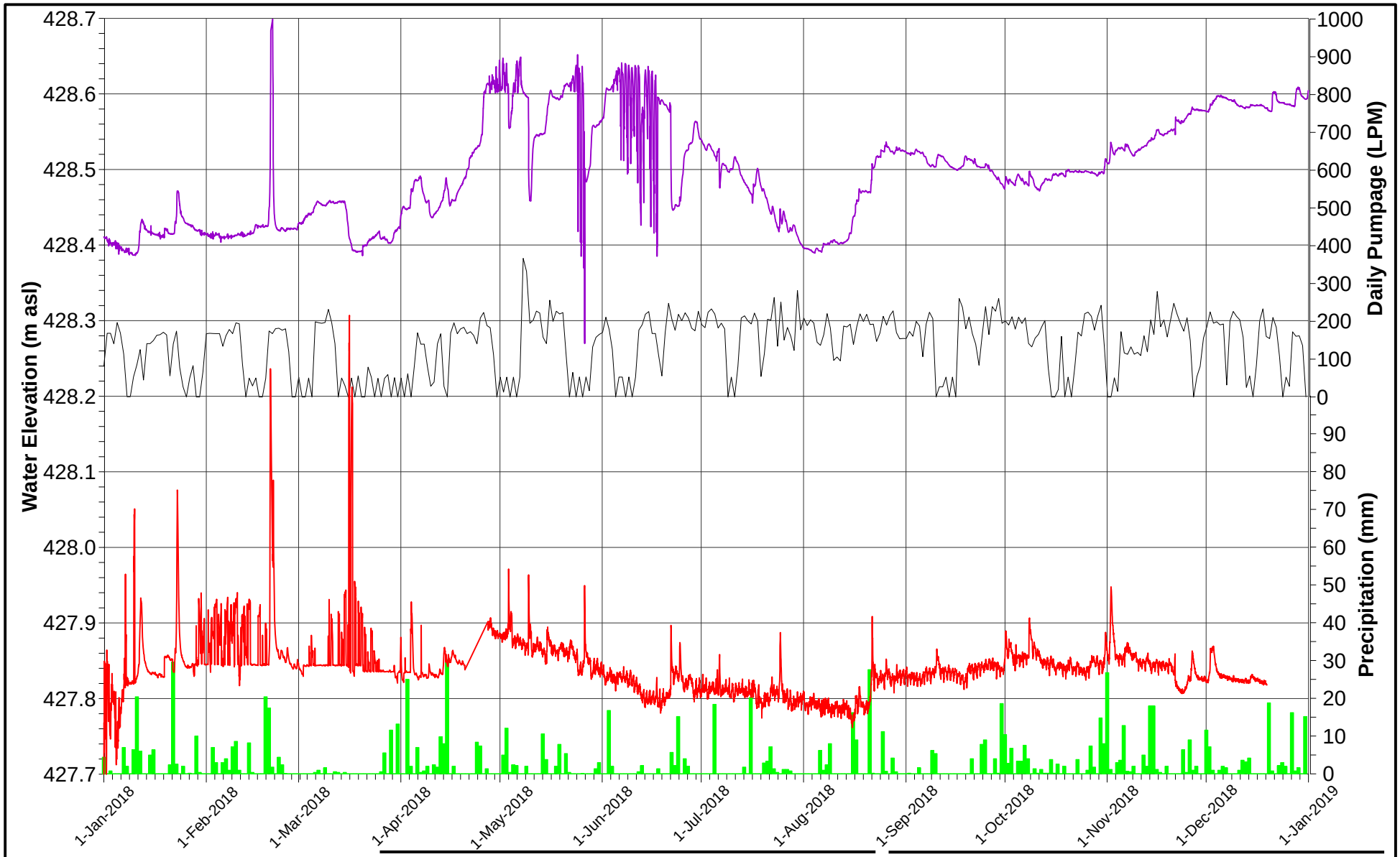
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR SURFACE WATER LEVELS IN VICINITY OF ON-SITE POND 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E8a



PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

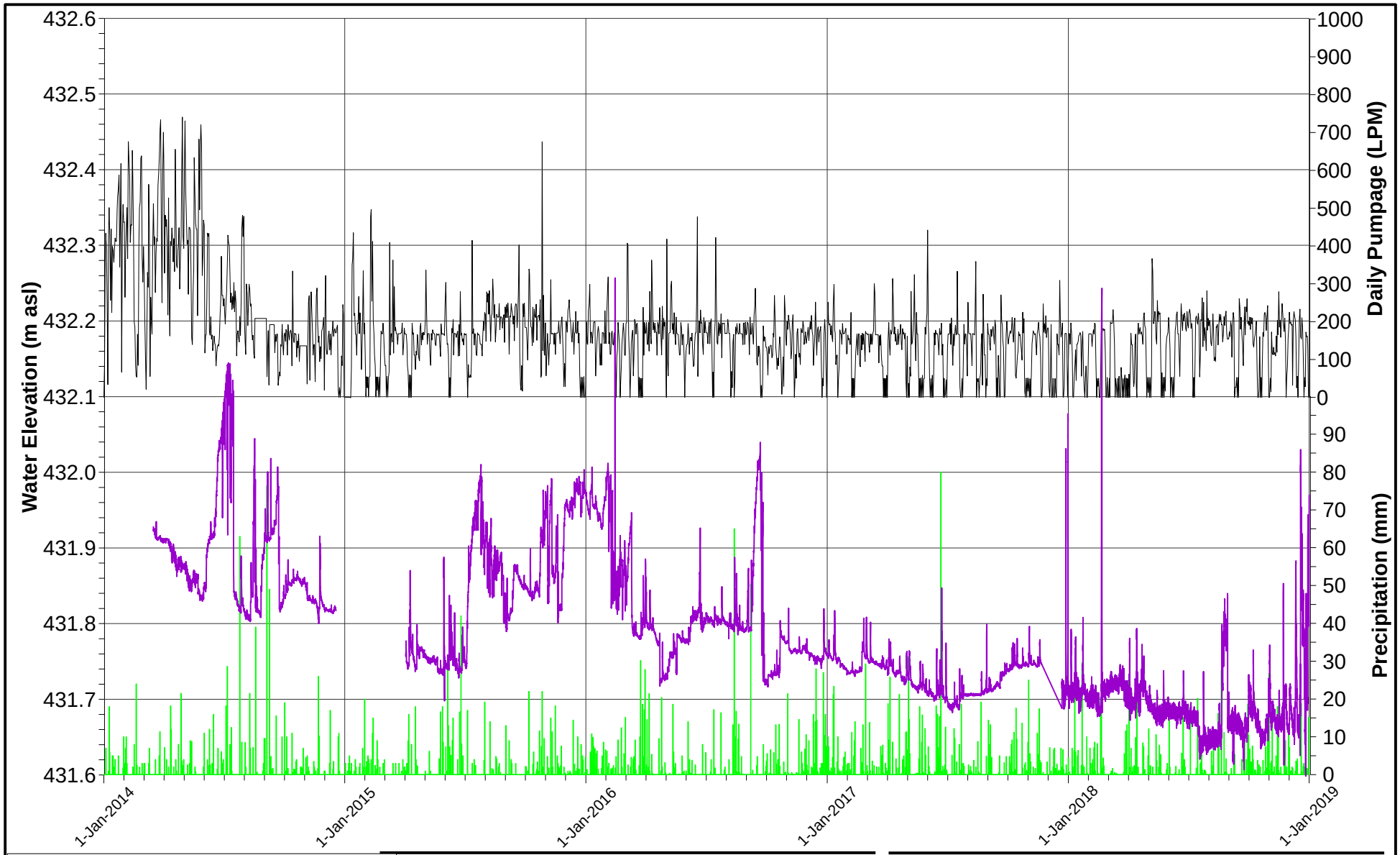
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

TITLE

HYDROGRAPHS FOR SURFACE WATER LEVELS IN VICINITY OF ON-SITE POND (2018 DATA)
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E8b



PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

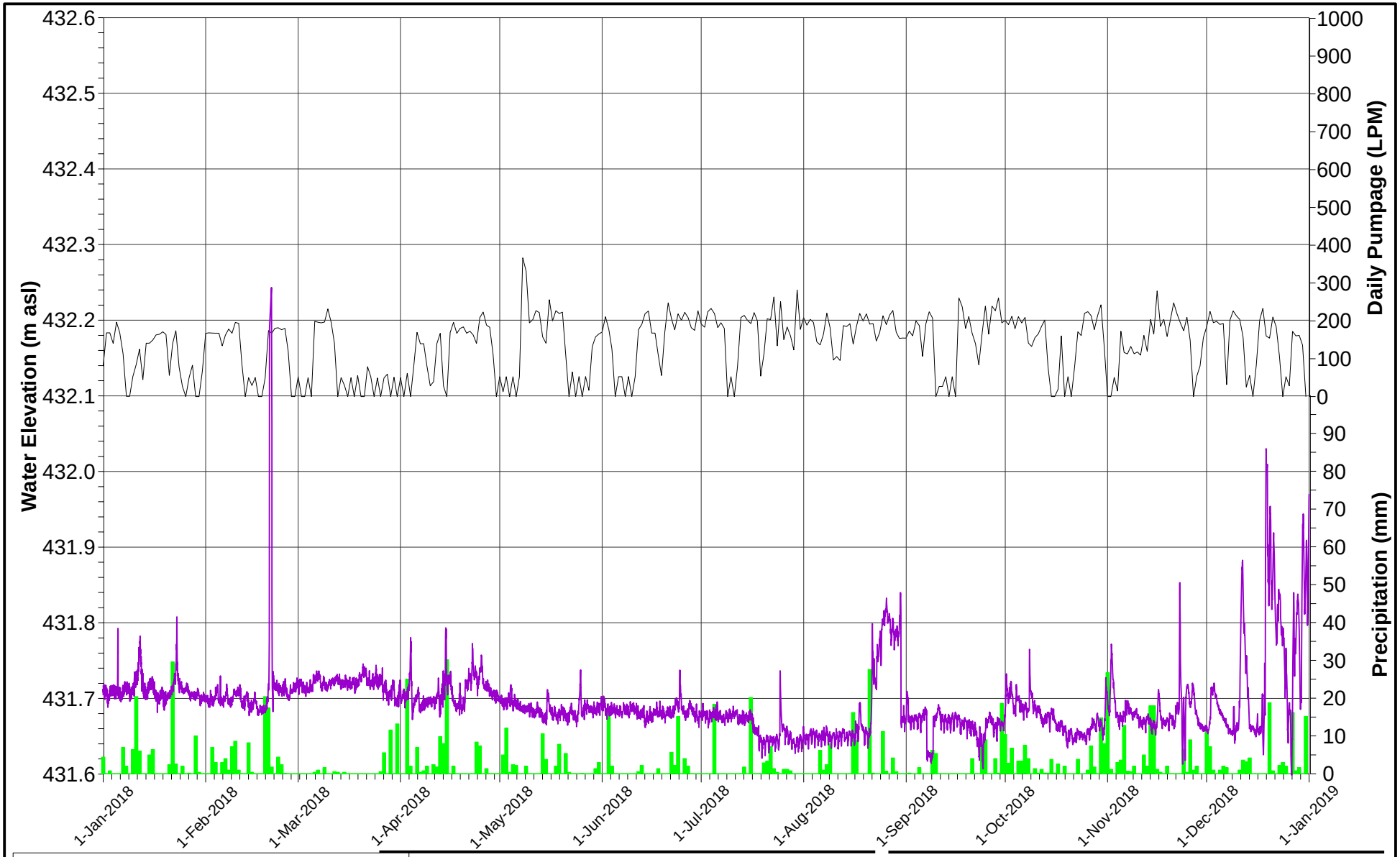
TITLE

HYDROGRAPHS FOR SURFACE WATER LEVELS IN ERIN BRANCH OF CREDIT RIVER 2018 ANNUAL MONITORING REPORT

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

GOLDER

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E9a



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

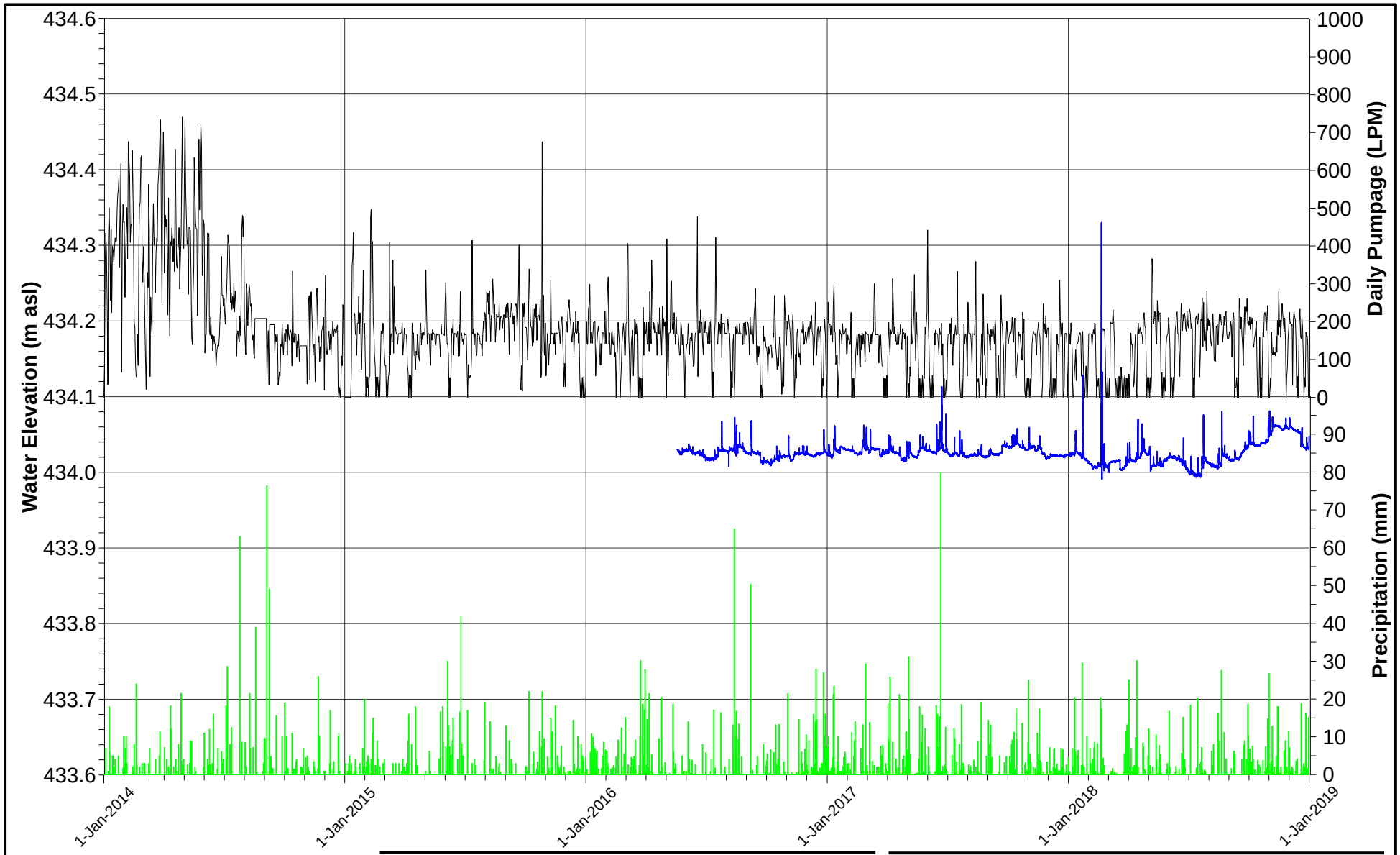
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR SURFACE WATER LEVELS IN ERIN BRANCH OF CREDIT RIVER (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E9b



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

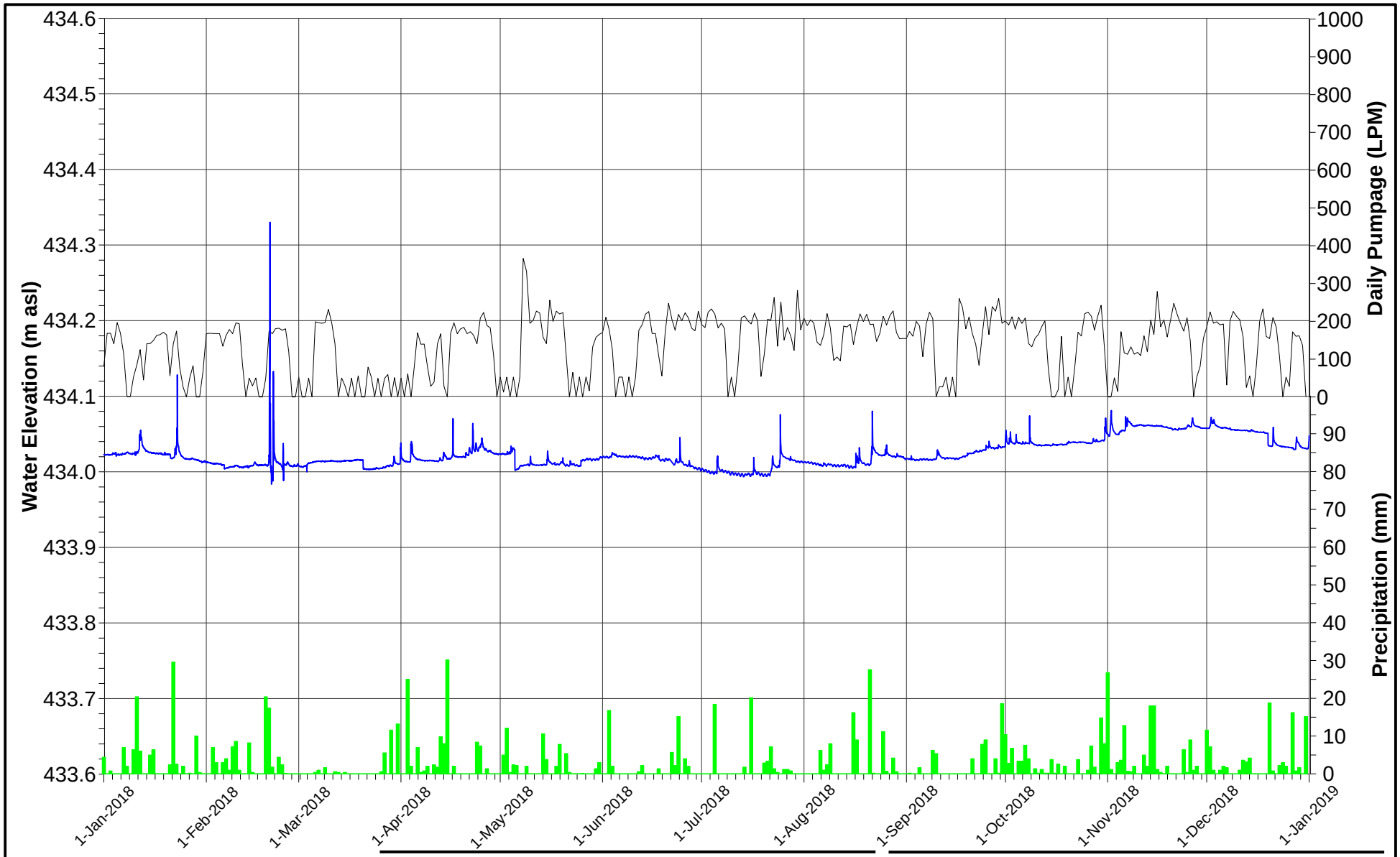
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPHS FOR SURFACE WATER LEVELS IN ERIN BRANCH OF CREDIT RIVER 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E10a



PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

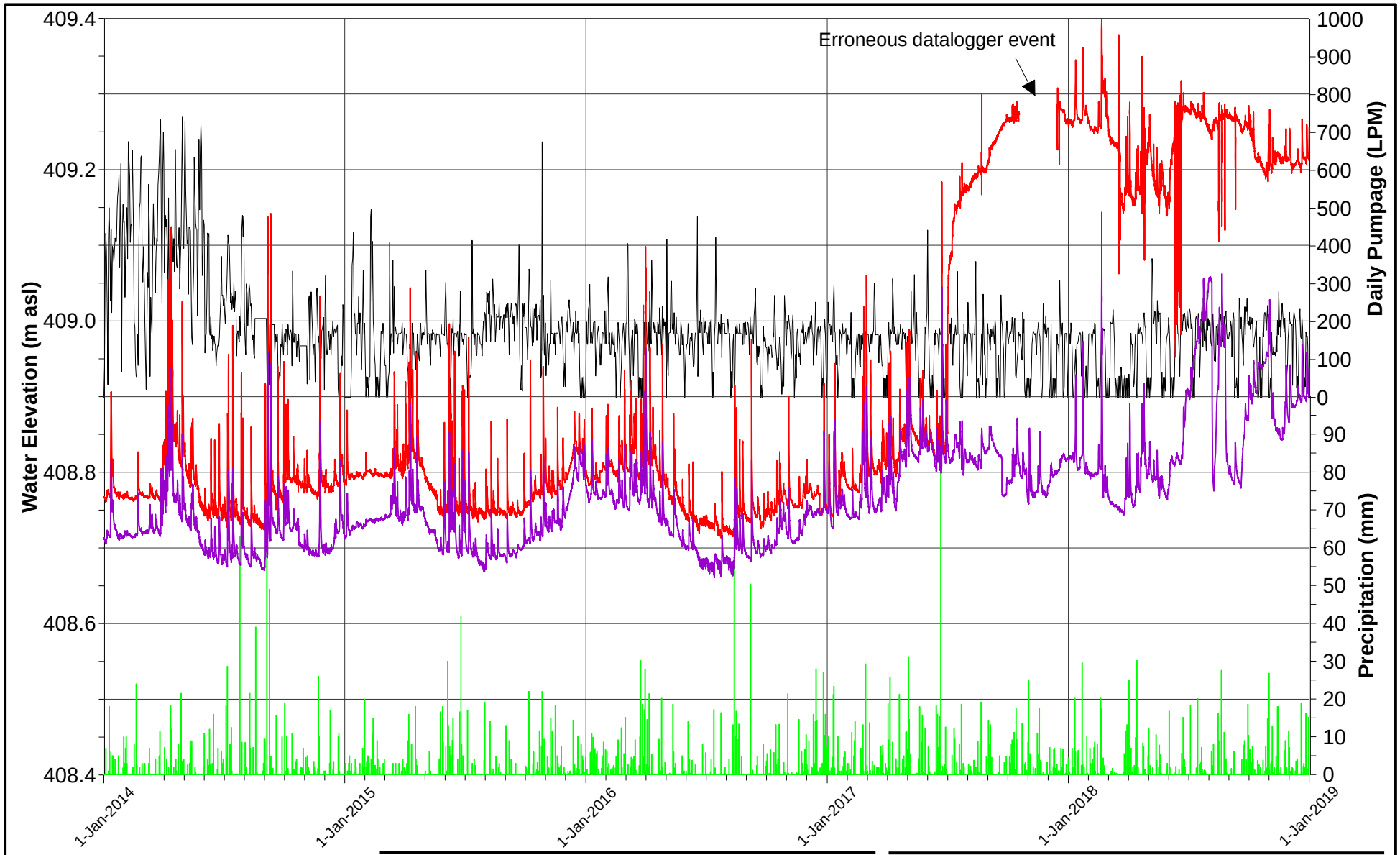
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

TITLE

HYDROGRAPHS FOR SURFACE WATER LEVELS IN ERIN BRANCH OF CREDIT RIVER (2018 DATA)
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E10b



NOTE:
Beaver activity caused higher stream water levels at SW4-08

TW1-88 Daily Pumpage
Precipitation
SW4-08 (Stream into Roman Lake)
SW5-08 (Roman Lake)

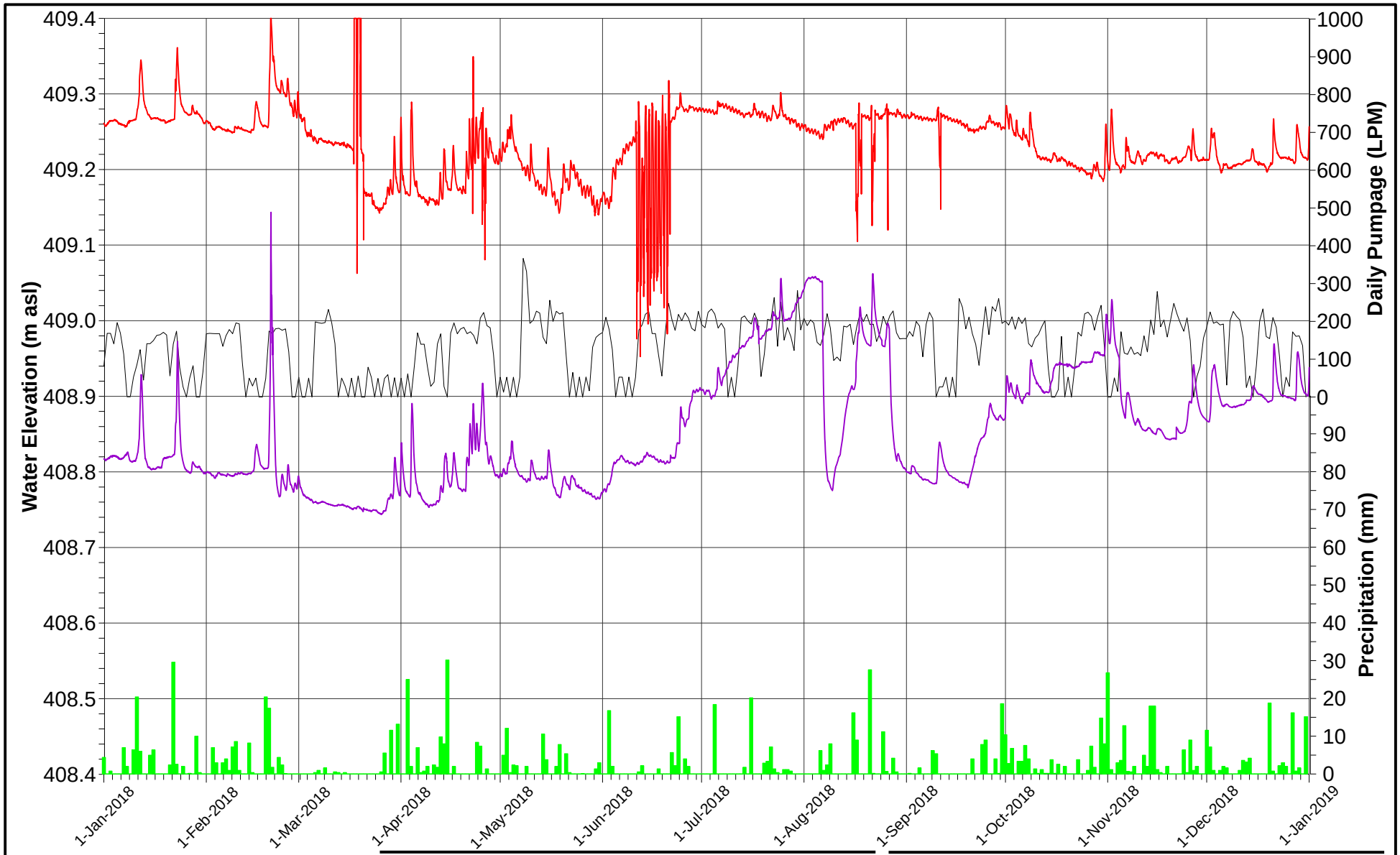
GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT
NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE
HYDROGRAPHS FOR SURFACE WATER LEVELS IN VICINITY OF ROMAN LAKE 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E11a



PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

TITLE

HYDROGRAPHS FOR SURFACE WATER LEVELS IN VICINITY OF ROMAN LAKE (2018 DATA)
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	E11b

TABLE E1

Manual Surface Water Elevations (Mini Piezometers)

2018 Annual Report

DATE	Water Level Elevation (masl)							
	P01A-07	P01B-07	P03A-05	P03B-05	P06A-07	P06B-07	P10A-05	P10B-05
19-Jan-18	428.06	428.05	428.43	428.43	Frozen	Frozen	Frozen	Frozen
21-Feb-18	428.52	428.23	428.55	428.54	428.61	428.53	Frozen	Frozen
20-Mar-18	428.01	428.00	Frozen	Frozen	428.37	428.39	Frozen	Frozen
20-Apr-18	428.03	428.02	428.52	428.51	428.47	428.49	428.31	428.27
24/25-May-18	428.05	428.04	428.65	428.65	428.59	428.62	428.29	428.24
21-Jun-18	428.03	428.02	428.60	428.59	428.55	428.57	428.20	428.13
16/18-Jul-18	428.08	428.03	428.47	428.49	428.43	428.45	428.14	428.02
24-Aug-18	428.04	428.04	428.54	428.54	428.50	428.52	428.15	428.20
19-Sep-18	428.02	428.03	428.52	428.52	428.47	428.51	428.19	428.15
19-Oct-18	428.04	428.03	428.51	428.51	428.47	428.49	428.23	428.22
21-Nov-18	428.00	427.99	428.56	428.54	Frozen	Frozen	428.23	428.26
19-Dec-18	428.01	428.00	428.56	428.53	428.50	428.54	Frozen	428.23

TABLE E1

Manual Surface Water Elevations (Mini Piezometers)

2018 Annual Report

DATE	Water Level Elevation (masl)					
	P11A-05	P11B-05	P12A-07	P12B-07	P13A-07	P13B-07
19-Jan-18	Frozen	427.88	Frozen	Frozen	431.54	431.80
21-Feb-18	428.21	427.99	409.36	409.27	431.83	431.79
20-Mar-18	427.88	427.86	409.33	409.12	431.51	431.75
20-Apr-18	427.91	427.88	409.33	409.18	431.64	431.76
24/25-May-18	427.92	427.88	409.30	409.16	431.59	431.74
21-Jun-18	427.88	427.86	409.31	409.25	431.52	431.71
16/18-Jul-18	427.89	427.87	409.34	409.26	431.43	431.69
24-Aug-18	427.90	427.87	409.35	409.26	431.61	431.77
19-Sep-18	427.89	427.87	409.31	409.24	431.43	431.66
19-Oct-18	427.91	427.86	409.31	409.19	431.50	431.58
21-Nov-18	427.89	427.86	Frozen	409.21	431.50	431.62
19-Dec-18	427.89	427.86	Frozen	409.19	431.43	431.42

TABLE E2

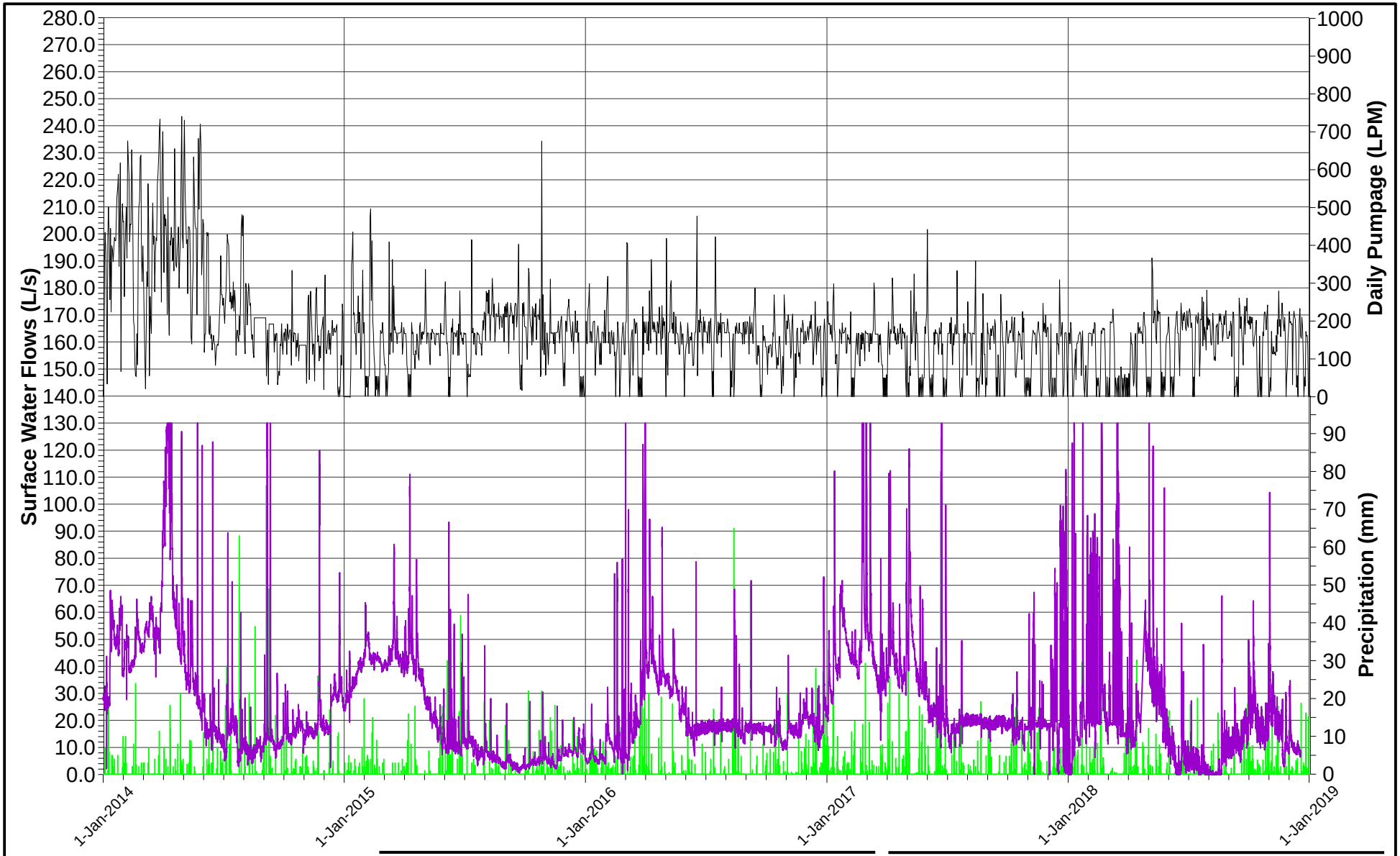
Manual Surface Water Elevations (Surface Water Stations)

2018 Annual Report

DATE	Water Level Elevation (masl)						
	SW1-08	SW3-00 (d/s)	SW3-08	SW4-08	SW5-08	SW7-08	SW7A-16
19-Jan-18	427.84	427.90	Frozen	409.26	Frozen	431.72	434.03
21-Feb-18	427.98	428.09	428.48	409.34	408.90	431.73	434.03
20-Mar-18	427.81	427.85	428.39	409.16	Frozen	431.74	434.02
20-Apr-18	427.84	427.86	428.49	409.20	408.78	431.70	434.02
24/25-May-18	427.86	427.89	428.64	409.21	408.78	431.75	434.01
21-Jun-18	427.81	427.88	428.59	409.26	408.81	431.73	434.02
16/18-Jul-18	427.82	427.88	428.46	409.28	408.99	431.69	434.00
24-Aug-18	427.83	427.89	428.52	409.27	408.97	431.79	434.02
19-Sep-18	427.82	427.87	428.52	409.26	408.78	431.66	434.02
19-Oct-18	427.83	427.88	428.49	409.21	408.94	431.66	434.04
21-Nov-18	427.83	427.84	428.55	Frozen	Frozen	Frozen	434.06
19-Dec-18	427.82	428.04	428.58	409.20	Frozen	Frozen	434.05

APPENDIX F

Surface Water Flow Monitoring



PROJECT

NESTLE WATERS CANADA

Town of Erin, Ontario

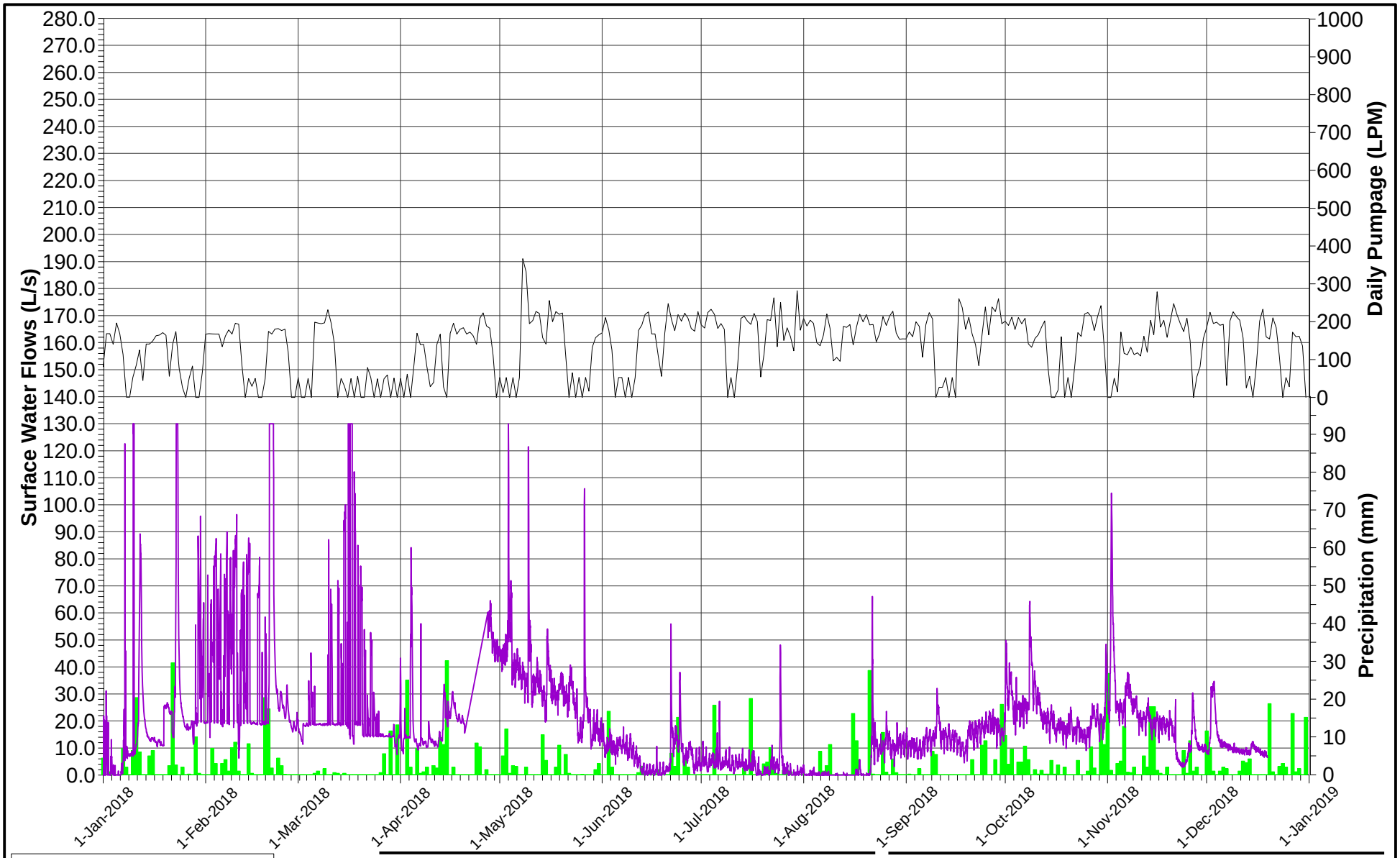
TITLE

HYDROGRAPH FOR SURFACE WATER FLOW AT SW1-08
2018 ANNUAL MONITORING REPORT

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	F1a



PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

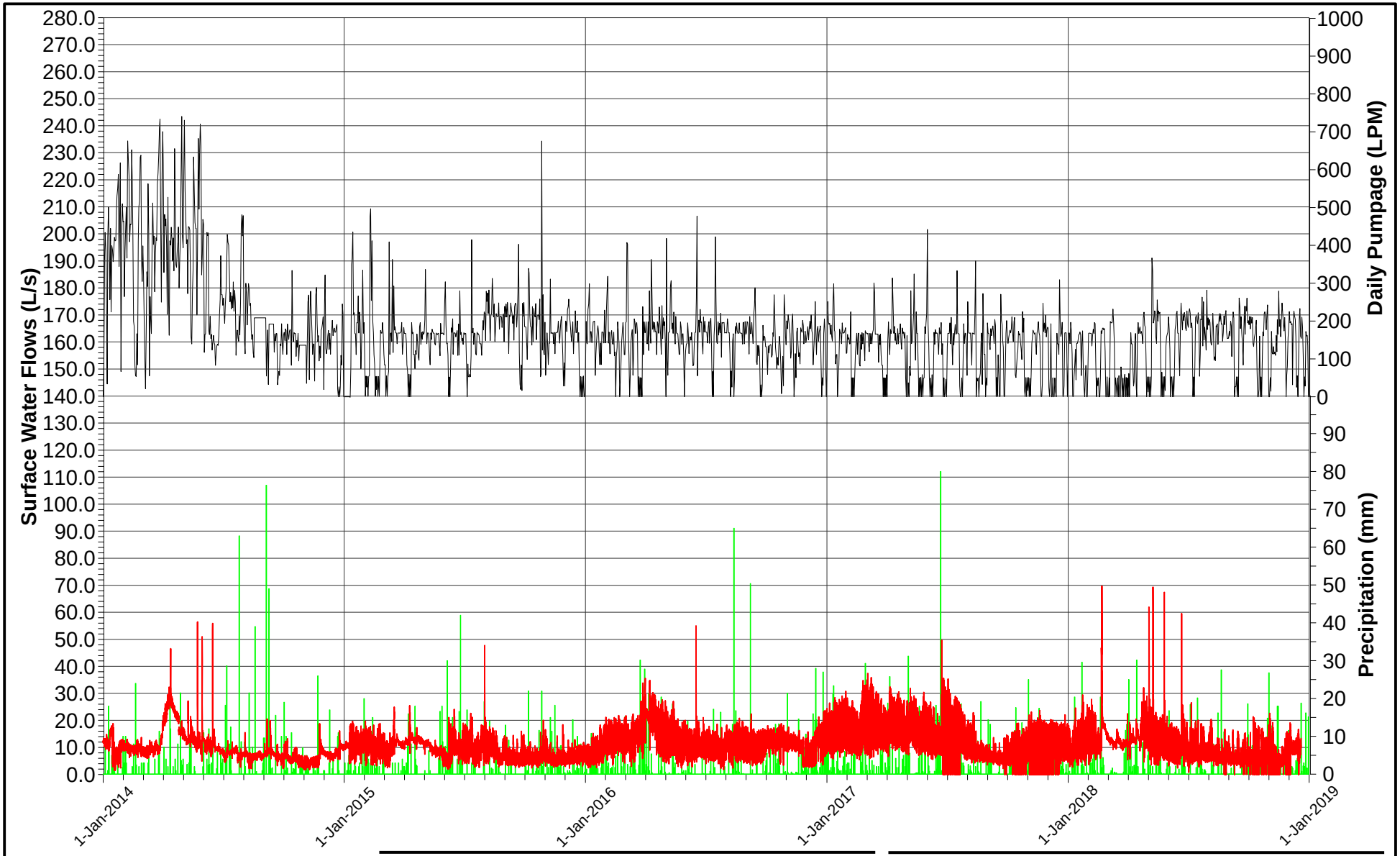
TITLE

HYDROGRAPH FOR SURFACE WATER FLOWS AT SW1-08 (2018 DATA)
2018 ANNUAL MONITORING REPORT

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	F1b



GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

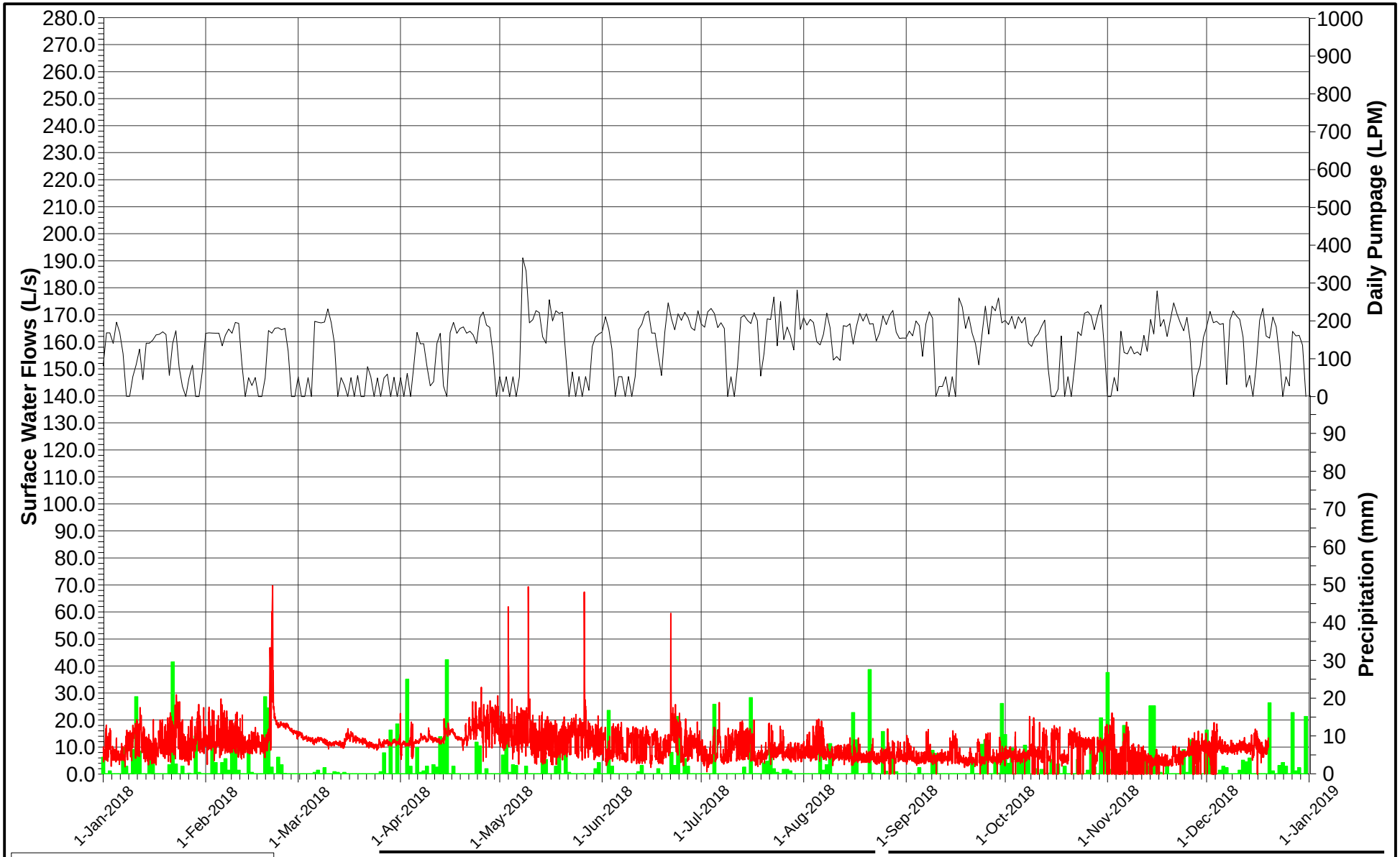
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR SURFACE WATER FLOW AT SW3-00
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	F2a



PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

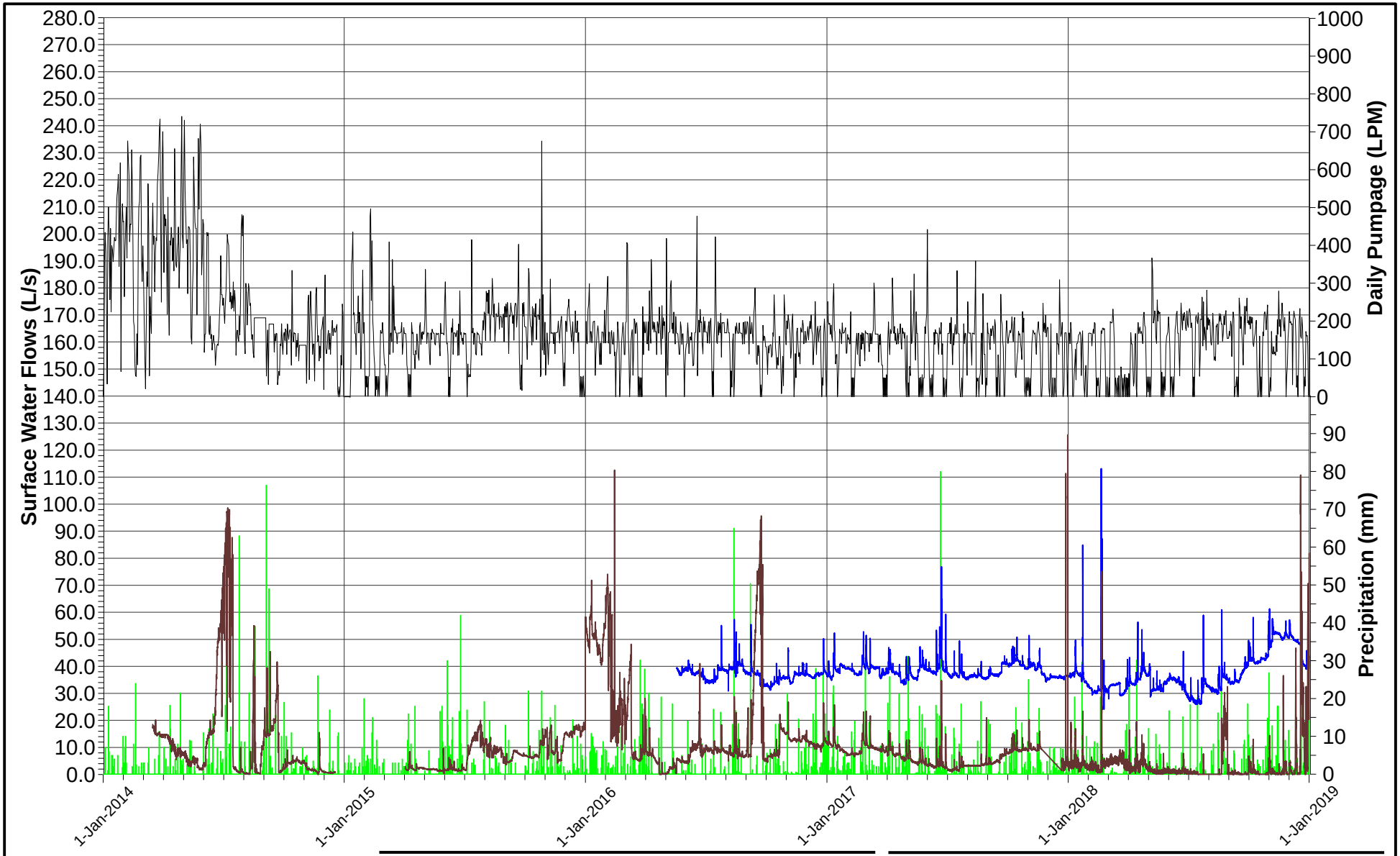
TITLE

HYDROGRAPH FOR SURFACE WATER FLOWS AT SW3-00 (2018 DATA)
2018 ANNUAL MONITORING REPORT

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	F2b



Water level measurements recorded during winter months is influenced by frozen conditions. Data is reported with lower confidence.

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

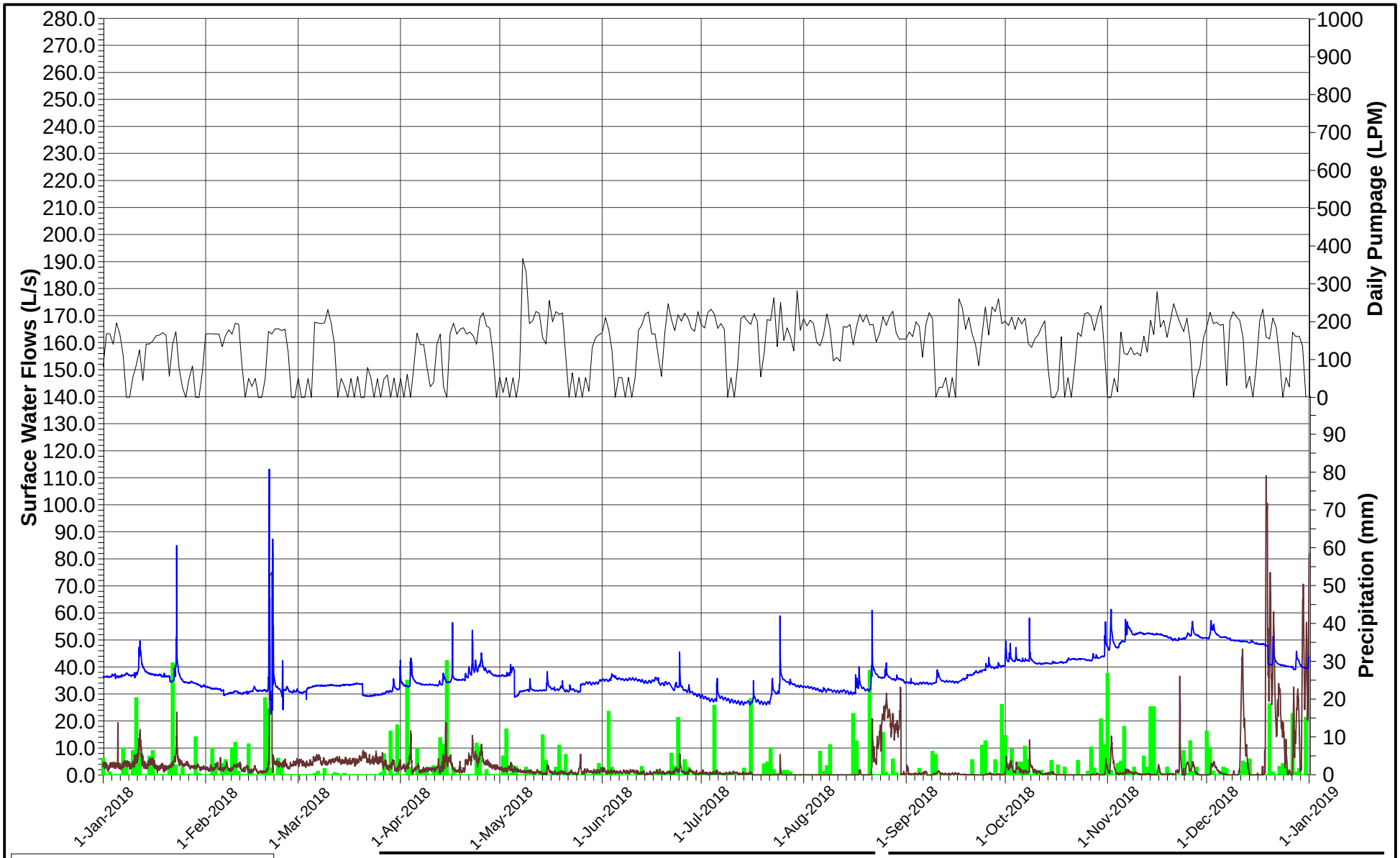
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR SURFACE WATER FLOW AT SW7-08 AND SW7A-16
2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	F3a



Water level measurements recorded during winter months is influenced by frozen conditions. Data is reported with lower confidence.

GOLDER

DATE	December 2018
DESIGN	KS
REVIEW	GP
APPROVED	GP

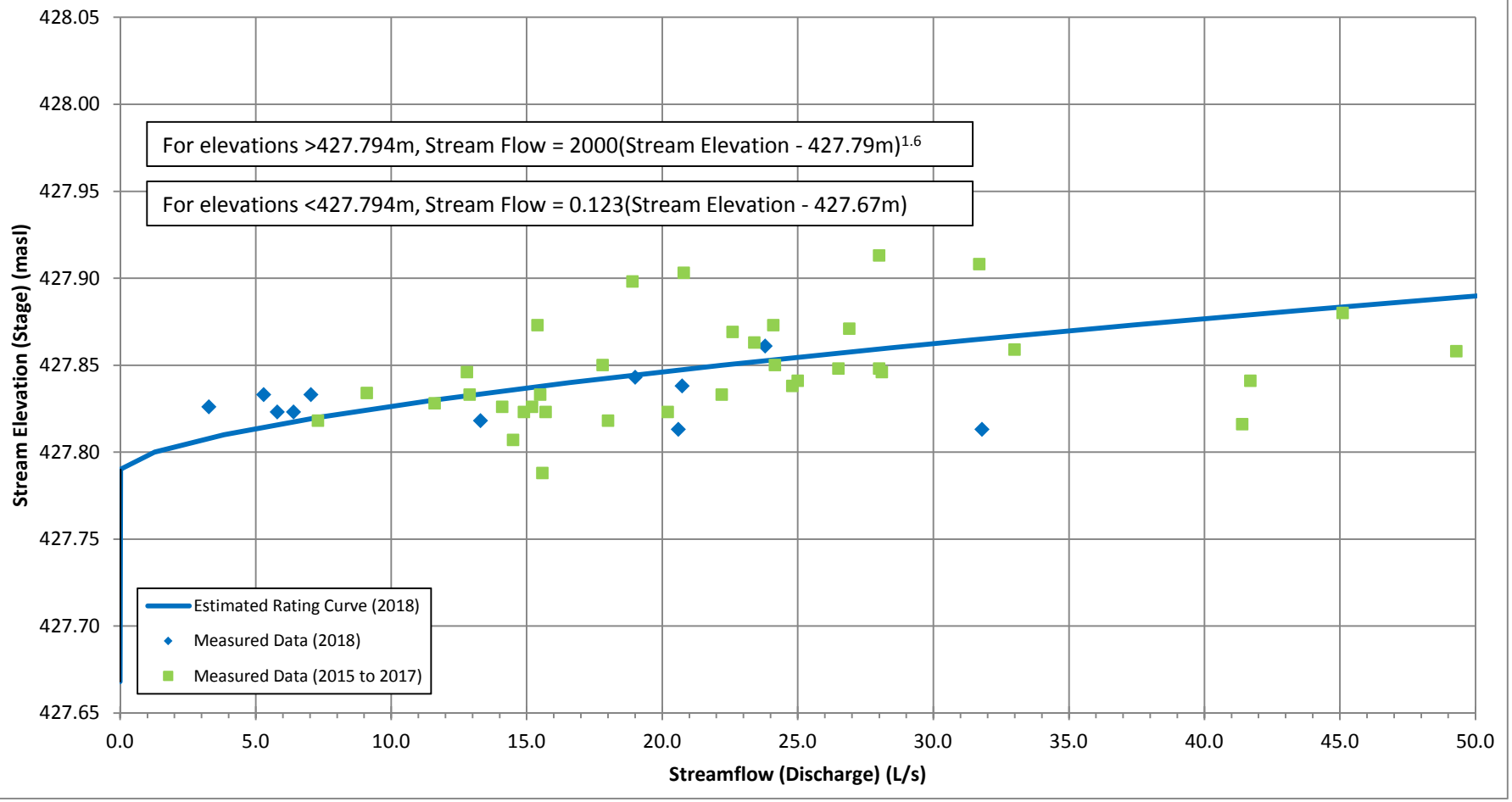
PROJECT

NESTLE WATERS CANADA
Town of Erin, Ontario

TITLE

HYDROGRAPH FOR SURFACE WATER FLOWS AT SW7-08 AND SW7A-16 (2018 DATA) 2018 ANNUAL MONITORING REPORT

PROJECT NO.	REV	FIGURE
13-1152-0250 (2000)	A	F3b

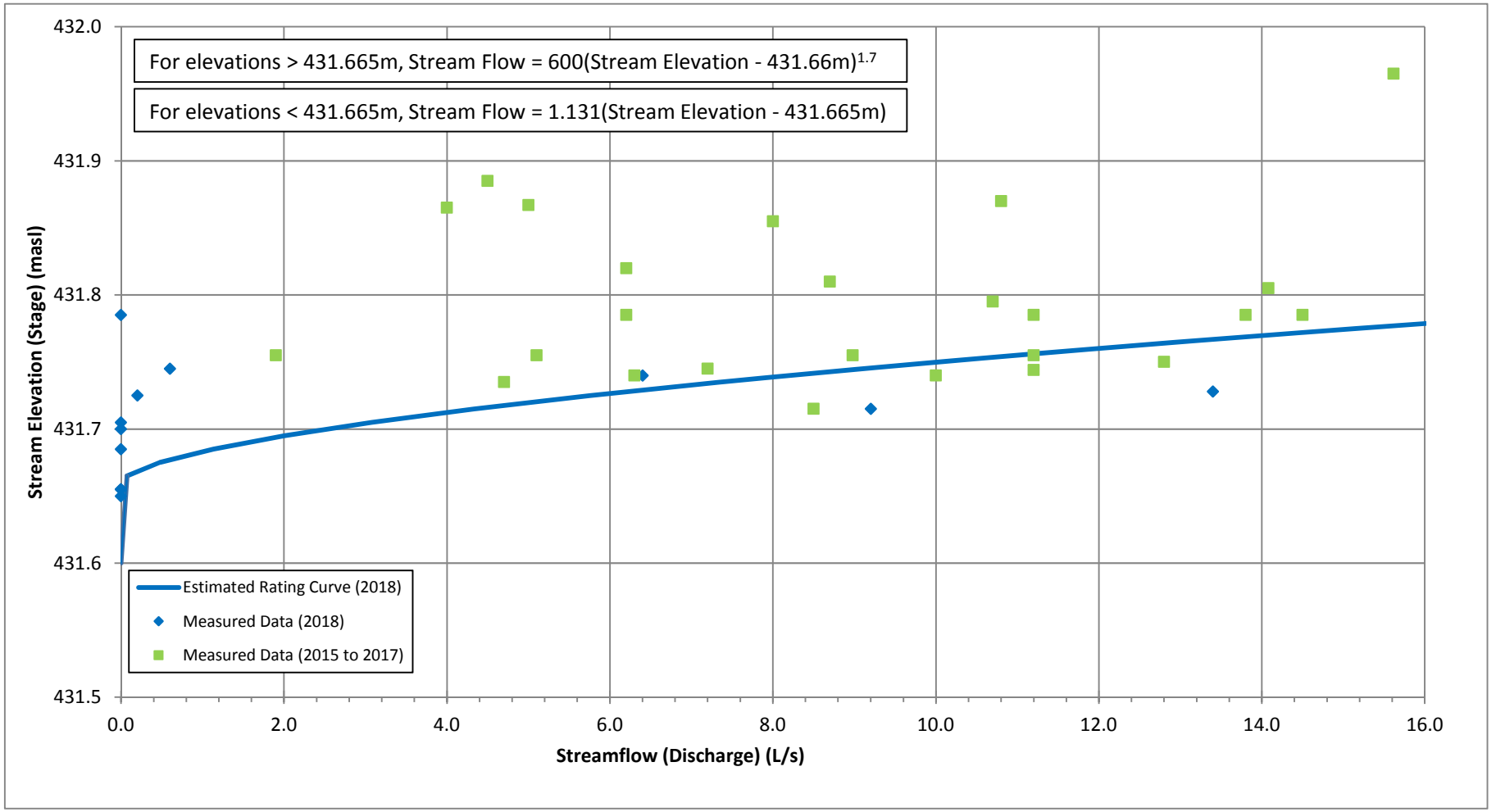


2018 Data Notes:
In 2018, the range of water levels recording during manual flow measurements= 427.81 to 427.98 masl. The full range of water levels recorded in 2018 = ~427.67 to ~428.31 masl.

Figure F4

STAGE-DISCHARGE MEASUREMENTS FOR SW1 (2018)
2018 ANNUAL MONITORING REPORT
NESTLE WATERS CANADA
Town of Erin, Ontario

GOLDER

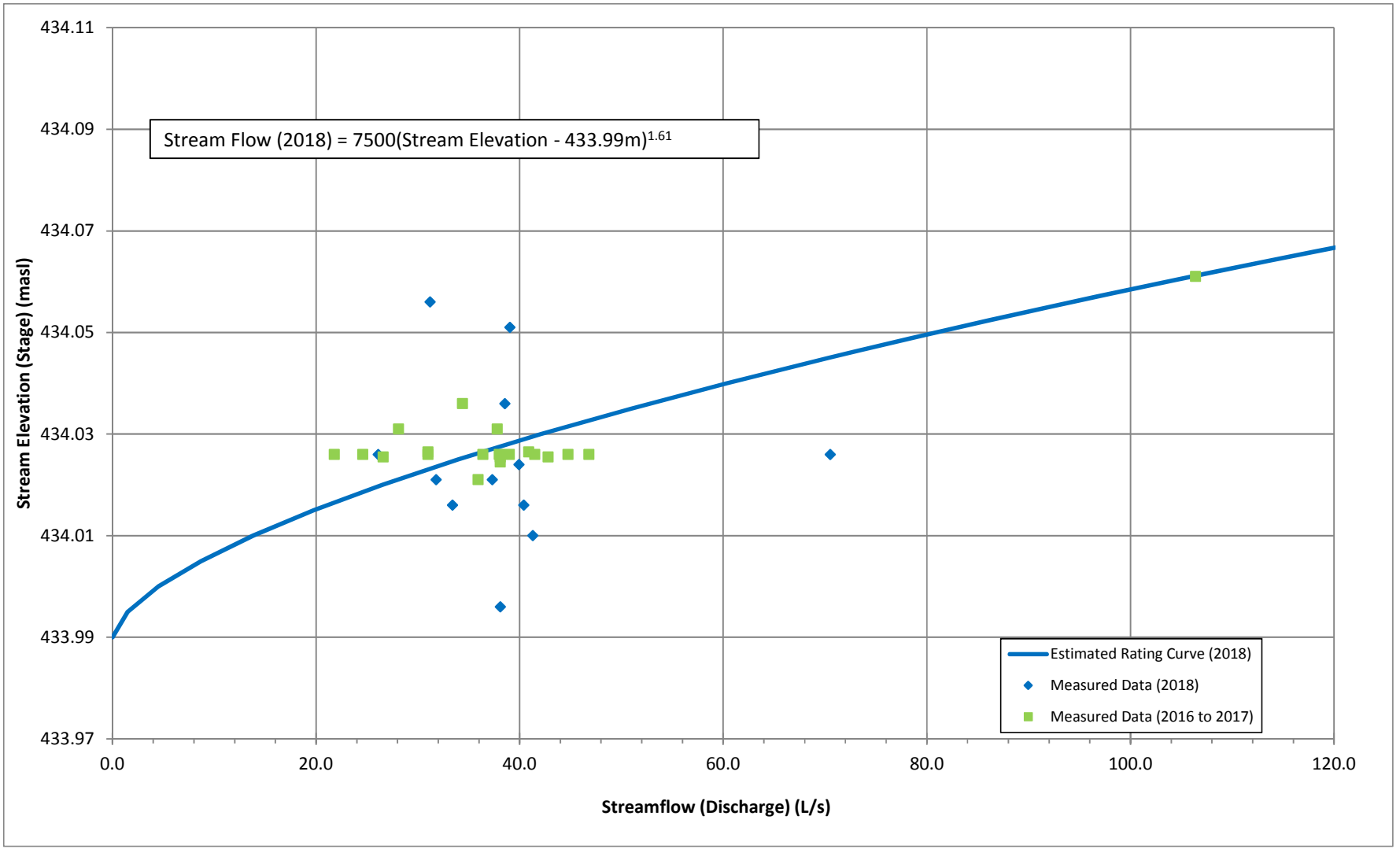


2018 Data Notes:
In 2018, the range of water levels recorded during manual flow measurements= 431.65 to 431.78 masl. The full range of water levels recorded in 2018 = ~431.60 to ~432.24 masl.

Figure F5

STAGE-DISCHARGE MEASUREMENTS FOR SW7 (2018)
2018 ANNUAL MONITORING REPORT
NESTLE WATERS CANADA
Town of Erin, Ontario

GOLDER



2018 Data Notes:
In 2018, the range of water levels recorded during manual flow measurements= 434.00 to 434.06 masl. The full range of water levels recorded in 2018 = ~433.98 to ~434.33 masl.

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Figure F6
STAGE-DISCHARGE MEASUREMENTS FOR SW7A (2018)
2018 ANNUAL MONITORING REPORT
NESTLE WATERS CANADA
Town of Erin, Ontario

TABLE F1

Surface Water Flow

2017 Annual Report

DATE	SW1-99 FLOW (L/sec)	SW3-00 FLOW (L/sec)	SW7-08 FLOW (L/sec)	SW7A-16 FLOW (L/sec)
19-Jan-18	19.0	9.0	9.2	26.1
21-Feb-18	119.0	68.4	13.4	70.5
20-Mar-18	31.8	10.1	6.4	40.4
20-Apr-18	20.7	19.8	0.0	39.9
24/25-May-18	23.8	5.4	0.6	41.3
21-Jun-18	20.6	6.5	0.2	33.4
16-Jul-18	6.4	8.7	0.0	38.1
24-Aug-18	3.3	4.1	0.0	31.8
19-Sep-18	5.8	1.8	0.0	37.3
19-Oct-18	7.0	3.2	0.0	38.5
21-Nov-18	5.3	4.3	0.0	31.2
19-Dec-18	13.3	4.5	9.0	39.0

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