REPORT

MCCARTHY QUARRY

2023 Permit To Take Water Compliance Report

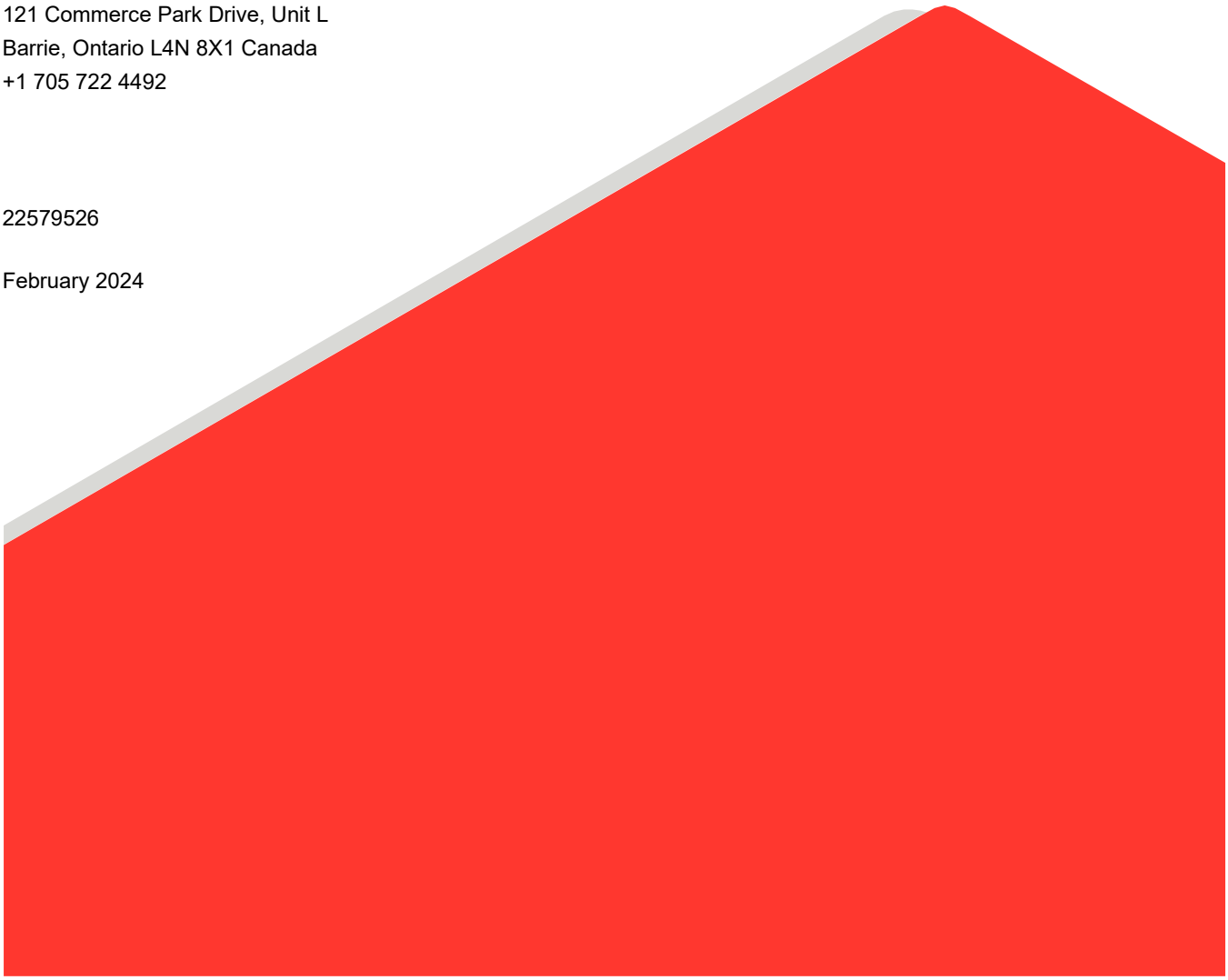
Submitted to:

Chris Hyde

Ontario Ministry of Environment, Conservation and Parks
Barrie District Office
1203-54 Cedar Pointe Drive
Barrie, ON L4N 5R7

Submitted by:

WSP Canada Inc.
121 Commerce Park Drive, Unit L
Barrie, Ontario L4N 8X1 Canada
+1 705 722 4492



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1.0 INTRODUCTION

WSP Canada Inc. (WSP) was retained by QBJR/Green Infrastructure Partners Inc. (Green) to prepare the annual Permit To Take Water (PTTW) report for the McCarthy Quarry (the Site) located in the Township of Ramara, County of Simcoe (Figure 1). The monitoring activities documented in this report were conducted as a requirement of Permit To Take Water (PTTW) No. 1603-BKTPQH (the 'Permit'; Appendix A). The Permit is in place from January 31, 2020 to January 31, 2025. Disposal of water from the Site is governed by Environmental Compliance Approval (ECA) No. ECA No. 7737-BH6QEA, issued on October 22, 2019.

2.0 PHYSICAL SETTING

2.1 Site Development and Land Use

The Site is located approximately six kilometres south-east of the Community of Brechin at Lot 1, Concession 1, Township of Ramara former Mara, Simcoe County (Figure 1). The Site began operations with the advancement of the sinking cut on March 15, 2013. Currently, the quarry floor is approximately 22 metres below (historic) ground level (mbgl) or 233 metres above sea level (masl). The current quarry footprint is approximately 430 m by 260 m (11.2 ha) (Figure 2). The ultimate quarry extent is expected to be approximately 30 ha.

Land use surrounding the Site is primarily rural, consisting of woodlots, pasture and scattered single-family homes. To the south and east along the Talbot River and Canal Lake are seasonal and year-round residences.

2.2 Geology

The elevation of the land the vicinity of the Site ranges from 250 masl to 255 masl, with the higher elevations on the western potion of the property. The overburden thickness on the Site ranges from 0.3 m in the north (OW9) to approximately 8 m in the south (OW4) (Figure 3 and Figure 4).

The quarry is located in a broad, arching, low relief upland area within a clay and limestone plain typical of the physiography to the east of Lake Simcoe (Chapman & Putman, 1984). Underlying the overburden material are Middle Ordovician aged limestone deposits including, from bedrock surface downward: the Verulam, Bobcaygeon and Gull River Formations.

The Verulam Formation consists of thinly bedded limestone and shale or shaley limestone and is relatively thin at the Site (0 to 4 m in thickness).

The Bobcaygeon Formation consists of thin to medium bedded limestones and ranges in thickness from approximately 31 m (OW6) to 40 m (OW9) (Figures 3 and 4). Quarrying at the Site is primarily within the Bobcaygeon Formation.

The Gull River Formation consists of fine grained limestone with minor interbeds of shale or shaley limestone with an approximate thickness of 16 m. The Gull River Formation remains intact at the Site.

2.3 Aquifers and Local Water Use

Overburden aquifer deposits within the vicinity of the Site, where sufficiently thick, likely provide sufficient water for domestic purposes as evidenced by the presence of dug and bored wells in the area. A review of measured overburden water levels suggests the flow system approximately mimics topographic trends and thus flow in a generally south to southeast direction towards the Talbot River.

Wells constructed in the bedrock are generally completed within the Bobcaygeon or Gull River Formations. As indicated above, quarrying at the Site is primarily within the Bobcaygeon Formation. The regional groundwater flow direction in the Bobcaygeon Formation is generally to the southwest towards Lake Simcoe (Figure 5).

The Ministry of Environment, Conservation and Parks (MECP) water well database was reviewed to identify accessible private water wells located in the vicinity of the Site. Nine wells, three dug and six drilled, were located within 1,000 m of Site. Seven wells are on Concession Road 1 and two wells are on the Mara-Eldon Boundary Road (Figure 1).

2.4 Quarry Dewatering

The Permit authorizes a maximum daily water taking volume of 6,544,800 L/day with a maximum of 250 days of taking. The maximum annual water taking is capped at 196,500,000 L/year.

Groundwater and precipitation entering the quarry is collected in a sump in the quarry floor originally located in the northwest corner of the quarry floor which collects groundwater and surface water (hereafter referred to as “quarry discharge”) accumulating at the base of the quarry. QBJR/Green finalized set-up of a new sump location in the southeast corner of the quarry floor in March 2022 and started utilized this new sump location for pumping in April 2022. The sump is equipped with a pump with a maximum discharge rate of 35 L/sec which is attached to a 4-inch (101 mm) diameter discharge line. On April 11, 2023, McCarthy staff replaced the pump with a rental from Sunbelt following issues with the previous pump and continues to be used while a permanent replacement is being worked on. This pump is rated for a maximum discharge rate of up to 1417 L/min (24 L/sec) and is attached to the discharge line. The water is pumped from the quarry floor up the quarry face via the discharge line to a 4-inch (101 mm) diameter pipeline that directs the water to a ditch that runs southward through the McCarthy property to the 14,000 m^3 settling pond. The water in the settling pond discharges via a Hickenbottom control structure to the roadside ditches along Concession Road 1. The water in the roadside ditch travels eastward along the north side of Concession Road 1 to a municipal drain and eventually discharges to the Talbot River, which in turn discharges to Lake Simcoe.

3.0 MONITORING PROGRAM AND RESULTS

The monitoring program for the Site, which is outlined in Section 4 of the Permit (Appendix A), directs Green to record daily water takings, monitor groundwater levels in 22 monitoring wells and seven residential wells and analyze groundwater quality in select monitoring and residential wells. Green is also required to maintain a publicly accessible internet site containing the required monitoring data and reporting and to establish a Public Liaison Committee (PLC) that is to meet once every four months.

3.1 Quarry Operations Update

The current quarry footprint is approximately 430 m by 260 m (11.2 hectares) with the ultimate limit of extraction (30 ha) shown in Figure 2. Green staff reported there they resumed aggregate extraction in 2021 after no extraction was completed in 2020.

3.2 Monitoring Condition 4.1: Water Level Monitoring of Sump

Condition 4.1 of the Permit stipulates that the water level in the quarry cannot be lowered below an elevation of 232.0 masl. Green staff indicated the sump pump is installed such that water level in the quarry remains above 232.0 masl.

3.3 Monitoring Condition 4.2, 4.3 and 4.4: Groundwater Elevations

Water level monitoring has been ongoing at the Site since the early stages of quarry development in 2002. Both on-Site observation wells and off-Site residential wells have been incorporated into the monitoring program in order to meet the requirements of Conditions 4.2, 4.3 and 4.4 of the Permit. Groundwater elevation readings at the Site are collected through a combination of monthly manual water level measurements at all the wells, and pressure transducers installed in select wells for automated daily monitoring. The wells included in the 2023 monitoring program are listed in Table 1 and shown on Figure 1 and Figure 2.

Table 1: Groundwater Monitoring Locations and Measurement Frequency

	Daily Monitoring **	Monthly Monitoring
Monitoring Wells	OW4-1, OW4-2, OW5-1, OW6-1, OW6-2, OW8-3, OW9-2, Bored, CKL-1	AM1b, AMx-R, TW1-1, OW4-1, OW4-2, OW5-1, OW5-2, OW5-3, OW6-1, OW6-2, OW6-3, OW7-1, OW7-2, OW7-3, OW8-1, OW8-2, OW8-3, OW9-1, OW9-2, Bored, CKL-1 and CKL-2
Residential Wells	-	DW3, DW1, DW2, DW4, DW6*, DW7* and DW8*

*Monitored at least once every two months
**Daily monitoring completed with a pressure transducer

Table 3 presents the manual groundwater level readings collected at each of the monitoring locations. Groundwater hydrographs are presented in Figures 6 through 10 and include data from 2014 through 2023. Appendix B provides groundwater hydrographs at each of the wells over the period from 2006 through 2023. Due to the Covid-19 pandemic, private residential wells were not monitored between April and July of 2020. Starting in August of 2020, WSP attempted to contact each homeowner to confirm they still wanted to be included in the monitoring program during the Covid-19 pandemic. The homeowner of DW3 had previously requested they be contacted via telephone before each monitoring round. Permission to continue monitoring at DW7 was received in April 2021 and permission to continue monitoring at DW3 was received in June 2021.

In 2023 most of the monitoring wells displayed a pattern of rising groundwater levels through the spring period with subsequent decline in the summer. This pattern is consistent with historical behaviour at the Site. In addition, the measured maxima and minima of 2023 groundwater elevations were generally within historical ranges for most wells. Exceptions to historical trends include:

- Well DW4 (Overburden): The groundwater levels at DW4 have decreased slightly since 2018 in comparison to historical norms. It is noted the decline in water levels is most significant in the summer months. Groundwater levels increased at DW4 towards the end of 2021 and appears to have stabilized in 2023 but with noted decreases during the late summer and fall season.
- Well AMx-R (Verulam Formation): Well AMx was monitored until April 2015 when it was removed due to the advance of the south quarry face. Well AMx-R was installed as a replacement for AMx along the western property boundary between the quarry face and OW4 in late 2017; groundwater level monitoring started in April 2018. Groundwater levels at AMx-R rose by approximately 10 m between April 2018 and August 2021; thereafter groundwater levels appeared to stabilize (Figure 7).

- Wells OW9-1 and OW9-2 (Bobcaygeon Formation): The groundwater level at OW9-1 has declined approximately 12 m since 2014 and the well at this location is now generally dry. The groundwater level at OW9-2 has declined approximately 15 m since 2014 (Figure 7). The groundwater level at this location has declined to near or below the bottom of the well.
- Well OW6-3 (Gull River Formation): Groundwater levels have risen by approximately 10 m since the start of 2014 and has relatively stabilized since then besides a small decrease in levels in the late months of 2023 (Figure 9).
- Well OW8-3 (Gull River Formation): Groundwater levels have declined by approximately 4 m at OW8-3 since the start of 2017 (Figure 9). Following this decline, water levels fluctuated in 2019 and 2020, but appear to have stabilized since July of 2020. However, it is to be noted that groundwater levels rose in 2023 to be a closer match with historic levels.

A review of the results described above provides for the following inferences:

- Wells where the 2023 groundwater levels were consistent with historical trends are inferred to be beyond the influence of dewatering activities at the quarry. It is particularly noted that no private wells displayed evidence of quarry impact. Based on the water level monitoring results, drawdown is currently limited to a distance of not more than 150 m from the quarry face (see below comments on OW9).
- Well DW4: Given that this well is located approximately 850 m from the current quarry face, the lower groundwater levels noted during the summer months since 2018 are not considered to be related to quarrying operations but instead seasonal declines during the summer months.
- Well AMx-R: The gradual rise and stabilization of the groundwater levels at this well is attributed to the water level reaching “static” conditions following installation. The relatively long time period for stabilization is assumed to be due to the low conductivity of the surrounding bedrock.
- Well OW9-1 and OW9-2: the decline in water levels at both OW9-1 and OW9-2 is attributed to the on-going dewatering operations at the Site. OW9 was installed after extraction had begun at the quarry and as such there are no pre-extraction water level data. However, groundwater levels were stable until the quarry face reached approximately 150 m from OW9. The OW9 wells are currently approximately 10 m from the working face of the quarry and the water levels in the lower screen have declined approximately 15 m since 2014 in response to the lowering of the groundwater table in the quarry footprint.
- Wells OW6-3 and OW8-3: each of these wells are completed in the Gull River Formation, which is located more than 30 m below the current quarry floor. Based on the vertical separation and the presence of (thin) shale and shaley limestone layers within the formation it is assumed that the Gull River Formation is hydraulically isolated from the quarry dewatering operations and the measured water level fluctuations are unrelated to quarry development.

3.4 Monitoring Condition 4.5 and 4.6: Groundwater Quality

Groundwater quality sampling is typically conducted on a semi-annual basis at both on-Site monitoring wells and off-Site residential wells. No sampling was completed at OW5-2 in 2020 (and until June 2021) as a result of a suspected pipe offset. Green staff had planned to repair this OW5-2 before the end of 2020, however access to well was limited due to implement weather and repair of OW5-2. The repair was completed in the June 2021 and

two samples at OW5-2 were collected in 2022 and continues to be sample on the semi-annual basis in 2023. A summary of the sampled parameters and the wells included in the sampling program are provided in Table 2.

Table 2: Groundwater Quality Sampling Program

	Monitoring Locations	Water Quality Parameters
Monitoring Wells	AM1b, AMx, TW1-1, Bored, OW4-1, OW4-2, OW5-1, OW5-2, OW5-3, OW6-2, OW7-1, OW7-2, OW8-1, OW8-2, OW9-1, and OW9-2	pH, alkalinity, bicarbonate, fluoride, chloride, magnesium, calcium, sodium, potassium, ammonia, sulphate, nitrate, nitrite, phosphate, phosphorous, conductivity, DOC, colour, TDS, hardness
Residential Wells	DW1, DW2 and DW3	pH, alkalinity (CaCO3), bicarbonate, conductivity, fluoride, chloride, nitrate, nitrite, chromium, tannins, sulphate, magnesium, calcium, sodium, potassium, ammonia (N), phosphate, phosphorous, anion sum, cation sum, DOC, colour, turbidity, aluminium, arsenic, barium, boron, cadmium, ion ratio, % difference, copper, iron, lead, manganese, selenium, zinc, hardness (CaCO3), TDS (iron sum calc.), Langelier Index

The laboratory analytical results for the 2023 sampling events are provided in Appendix C, and the results are summarized in Table 4 (Residential Wells) and Table 5 (Monitoring Wells). Tables 4 and 5 provide a comparison of the laboratory results to Ontario Drinking Water Standards (ODWS).

The water quality at residential wells DW1, DW2 and DW3 met the ODWS for the 2023 sampling events for the parameters tested with the exception of total dissolved solids (TDS) at DW1 and hardness (as $CaCO_3$) at all three locations. None of these exceedances are attributed to the effects of the dewatering activities but are instead considered a reflection of background water quality (see below).

The water quality at the on-Site monitoring wells for the 2023 sampling events, notably elevated hardness and TDS, was consistent with the pre-quarry conditions (Whitewater Hydrogeology Ltd., 2013). In addition, dissolved sodium and chloride continue to be present in elevated levels across most of the on-Site monitoring wells. AMx-R also continues to show a decreased pH level compared to the rest of the on-site monitoring wells.

3.5 Monitoring Condition 4.8 Water Taking Measurements and Reporting

The rate and volume of groundwater extraction and discharge from the quarry are provided to WSP by McCarthy Quarry staff. The pumping records for January 2023 to December 2023 are presented in Table 6. The daily discharge rate (L/min) between January 1, 2023 and December 31, 2023, ranged from 0 to 850,200 L/day (Table 6). These water taking rates were below the permitted rate of 4,545 L/min (6,544,800 L/day). The total volume of water removed (40,012,380 L) was less than the maximum taking of 196,500,000 L/year. Pumping was conducted on a total of 54 days in 2023, which was less than the maximum of 250 days per year. The predicted dewatering activities over the next twelve months are expected to remain consistent with those in 2023.

The McCarthy Quarry dewatering system includes a sump located in the northwest corner of the quarry floor which collects groundwater and surface water (hereafter referred to as “quarry discharge”) accumulating at the base of the quarry. The sump is equipped with a pump which is rated for a maximum discharge rate of up to 2,100 L/min (35 L/sec) and is attached to a discharge line. On April 11, 2023, McCarthy staff replaced the pump with a rental from Sunbelt following issues with the previous pump and continues to be used while a permanent

replacement is being worked on as previously discussed in section 2.4. This pump is rated for a maximum discharge rate of up to 1417 L/min (24 L/sec) and is attached to the discharge line. The water is pumped from the quarry floor up the quarry face via the discharge line to a 4-inch (101 mm) diameter pipeline that directs the water to a ditch that runs southward through the McCarthy property to the 14,000 m^3 settling pond. Water is pumped from the quarry floor up the quarry face via the discharge line to a pipeline that directs the water to a 14,000 m^3 settling pond (Figure 1). QBJR finalized set-up of a new sump location in March 2022 and started utilized this new sump location for pumping in April 2022. The initial sump location was creating operational issues as QBJR was not able to properly dewater the southern portion of the quarry. In addition, the previous set up was very inefficient due to the length of piping required from the sump to the horse-shoe shaped settling pond. QBJR has also adjusted the discharge piping that runs from the pump to the horse-shoe shaped settling pond. No changes were made to the discharge pond. The settling pond is equipped with a Hickenbottom control structure via which the water discharges to the roadside ditch along Concession Road 1. The water flows eastward along the north side of Concession Road 1 to a municipal drain and eventually discharges to the Talbot River approximately 1.1 km downstream of the Quarry, which eventually discharges into Lake Simcoe.

The proportion of surface water and groundwater contributions to quarry inflow may be inferred by performing a simple water budget. First, the total surface water contribution to the quarry is estimated by calculating the direct surplus contribution over the 11.2 ha quarry area plus the additional contributing runoff from the surrounding 5 ha catchment area (i.e., the stripped area). A surplus value of 501 mm/yr for the quarry footprint and runoff value of 250 mm/yr for the stripped area was applied based on meteorological data from the Meteorological Service of Canada Thornthwaite water budgets (Orillia Brain MET station in Orillia, Ontario between 1993 to 2016).

The volume of water entering the quarry from direct surplus was calculated as 56,111,200 L and the volume of water entering the quarry from surrounding runoff was calculated as 12,500,000 L; thus the total contribution of surface water to the overall water taking was approximately 68,611,200 L. As the total volume of water pumped form the quarry from January 1 to December 31, 2023 was 40,012,380 L, it is inferred that the reduced pumping volumes were due to lower contribution of surface water to the quarry than estimated. The change in pumping rates and volumes from the new sump location will continue to be evaluated based on future monitoring at this stage.

3.6 Condition 4.11 Publicly Accessible Internet Site

The water quality and quantity monitoring data that is required by the PTTW is available at: [McCarthy Quarry – Green Infrastructure Partners (gipi.com)]

3.7 Condition 4.12 Public Liaison Committee

A Public Liaison Committee have been maintained in previous years. However, there was no meetings held in 2023.

4.0 CONCLUSIONS

Based on the 2023 Monitoring Program established under PTTW No. 1603-BKTPQH, the following is concluded:

- In 2023. most of the monitoring wells displayed a pattern of rising groundwater levels through the spring period with subsequent decline in the summer. This pattern is consistent with historical trends at the Site.

- Wells where the 2023 groundwater levels were consistent with historical trends are inferred to be beyond the influence of dewatering activities at the quarry. It is particularly noted that no private wells displayed evidence of quarry impact. Based on the water level monitoring results, observable drawdown is currently limited to a distance of not more than 150 m from the quarry face.
- The daily discharge rate between January 1, 2023 and December 31, 2023, ranged from 0 to 850,200 L/day, which is below the permitted rate of 6,544,800 L/day. The total volume of water removed (40,012,380 L) was less than the maximum taking of 196,500,000 L/year.

5.0 LIMITATIONS AND USE OF REPORT

The services performed as described in this report were conducted in a manner consistent with the level of care and skill normally exercised by other members of the engineering and science professions currently practicing under similar conditions, subject to the time limits and financial and physical constraints applicable to the services.

Any use which a third party makes this report, or any reliance on, or decisions to be made based on it, are the responsibilities of such third parties. WSP accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

This report is based on data and information collected during the hydrogeological and hydrological assessment of the Site conducted by WSP. The assessment is based solely on the Site conditions encountered at the time of the assessment, supplemented by other information and data obtained by WSP as described in this report. No assurance is made regarding changes in conditions at the Site subsequent to the time of the assessment. Furthermore, and as with all subsurface investigations, this study necessarily utilizes information at a relatively small number of discrete locations (for example, monitoring wells) to infer geologic and groundwater conditions across the Site and for areas where no such information exists.

In evaluating the Site, WSP has, in part, relied in good faith on information provided by Green and their agents. WSP has assumed that the information is factual and accurate. No responsibility is accepted by WSP for any deficiencies, misstatements or inaccuracies contained in this report as a result of errors, omissions, misinterpretations or misrepresentations related to the information provided by Green and their agents.

6.0 CLOSURE

In closure, we recommend that the groundwater monitoring continue as outlined in PTTW No. 1603-BKTPQH. We trust that this report meets your needs at the present time. If you have any questions or require clarification, please do not hesitate to contact the undersigned.

Signature Page

WSP Canada Inc.

Colin Imrie, G.I.T.
Geo-Environmental Consultant

Sean McFarland, PhD, PGeo
Senior Principal/Fellow, Senior Hydrogeologist

CSI/SM/lb

https://golderassociates.sharepoint.com/sites/157344/project files/6 deliverables/pttw 2023 annual/22579526-r-rev0-2023 pttw annual report-1Mar2024 final.docx

Tables

Well	Unit	Elevation (masl)	Stick up (m)	31-Jan-23	28-Feb-23	29-Mar-23	19-Apr-23	23-May-23	2023-Jun-15	2023-Jul-29	31-Aug-23	2023-Sept-22	2023-Oct-16	2023-Nov-27	2023-Dec-12
				Water Levels (mbgl)											
DW3	Verulam	246.52	0.46	2.93	2.75	2.21	4.31	4.01	2.97	2.86	Missed	4.31	4.51	2.8	2.5
OW4-1	Verulam	249.57	0.88	3.93	3.63	3.67	3.79	3.93	3.74	3.77	4.23	4.55	4.515	4.1	4.09
OW4-2	Bobcaygeon	249.62	0.86	3.93	3.65	3.6	3.81	3.91	3.69	3.76	4.23	4.51	4.57	4.13	4.06
Bored	Overburden	248.86	0.66	1.27	1.26	0.98	1.18	1.24	1.23	1.5	Missed	2.24	2.18	1.71	1.44
OW6-1	Verulam	247.60	0.61	1.97	1.68	1.63	1.86	1.975	1.73	1.77	1.84	2.54	Blocked	2.14	1.81
OW6-2	Bobcaygeon	247.52	0.53	2.63	2.43	2.2	2.32	2.18	2.22	2.04	2.257	2.07	4	2.78	2.6
OW6-3	Gull River	247.46	0.47	2.51	2.47	2.38	2.38	3.405	2.36	2.25	2.74	2.96	4.555	4.59	4.51
DW4	Overburden	250.19	0.24	1.24	Lid frozen	0.65	0.98	1.46	1.1	2.02	2.53	4.12	4.1	3.59	2.63
DW1	Overburden	249.83	0.3	Lid frozen	Lid frozen	0.9	1.01	1.66	1.5	2.15	1,91	2.1	1.96	1.79	1.27
OW5-1	Overburden	249.84	0.8	1.72	1.71	1.34	1.66	1.66	1.58	1.86	2.08	2.39	2.77	1.67	1.55
OW5-2	Bobcaygeon	249.76	1.0	1.14	F @ 0.86	0.63	0.65	0.97	0.93	1.1	1.2	1.6	1.54	1.03	0.91
OW5-3	Bobcaygeon	249.70	1.0	0.86	F @ 0.85	0.87	0.88	1.08	1.02	0.9	1.12	1.6	1.54	1.1	0.94
DW2	Overburden	247.50	0.8	Lid frozen	Lid frozen	1.56	1.75	1.66	1.71	1.98	2.08	2.64	2.36	2.03	1.76
DW7	Overburden		0.32	1.38	1.1	0.34	0.41	1.1	1	1.29	1.84	2.13	2.18	2.01	1.25
DW8	Overburden			3.51	3.37	2.26	3.14	3.27	3.27	3.63	3.74	4.03	3.89	3.73	2.52
DW6	Overburden		0.5	3.64	2.81	2.42	2.66	3.17	3.29	2.82	2.685	4.08	4.88	4.18	4.29
OW7-1	Verulam	249.80	0.62	Frozen surface	Frozen surface	Flowing	Flowing	At Surface	At Surface	1.02	1.86	1.54	0.85	At Surface	At Surface
OW7-2	Bobcaygeon	249.78		Frozen surface	Frozen surface	Flowing	Flowing	At Surface	At Surface	0.8	1.65	1.73	1.8	At Surface	At Surface
OW7-3	Gull River	249.74	0.61	3.01	2.87	3.27	3.39	3.29	3.23	3.59	3.87	4.19	4.29	3.86	3.21
OW8-1	Verulam	251.47	0.76	1.18	1.06	0.62	1.01	0.915	1.17	1.84	2.295	3.22	3.3	1.47	1.07
OW8-2	Bobcaygeon	251.44	0.83	1.14	0.95	0.59	0.94	0.77	0.97	Dry @ 1.78	Dry @1.78	Dry	Dry	1.06	0.72
OW8-3	Gull River	251.40	0.8	7.22	6.58	6.64	6.28	6.3	6.73	6.29	6.47	7.66	Missed	8.55	8.32
TW1-1	Bobcaygeon	254.10	0.6	4.35	4.21	3.76	4.17	4.1	4.22	4.94	5.445	6.35	6.6	4.21	3.93
TW1-2	Precambrian	254.10	0.52	9.88	9.92	9.75	9.95	9.89	10.26	10.06	10.17	10.33	10.45	10.55	9.58
OW9-1	Bobcaygeon	253.40	0.41	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
OW9-2	Bobcaygeon	253.31	0.35	25.25	25.21	25.2	25.26	25.25	25.22	25.29	25.3	25.17	25.21	25.2	25.15
CKL-1	Verulam		0.6	1.65	1.45	1.18	1.27	1.74	1.65	Ants	Ants	2.46	1.36	2.26	2.02
CKL-2	Bobcaygeon		0.65	F @ 0.19	F @ 0.3	0.31	0.36	0.31	0.32	Ants	Ants	0.79	0.87	0.25	0.19
AM1b	Overburden	249.45	0.2	1.33	1.35	1.07	1.27	1.335	1.32	1.61	2.01	2.34	2.295	1.82	1.5
AMX-R	Verulam			3.87	3.61	3.83	3.8	3.7	3.64	3.98	4.19	4.37	4.64	4.34	4.23

Notes:

1. Highlighted cells represent groundwater measurements in terms of meters above sea level (masl)

2. Not Accessible (NA)

3. Not Measured (NM)

		Sample	DW1									DW2								
		Date	09-May-19	04-Oct-19	30-Oct-20	07-May-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23	09-May-19	04-Oct-19	30-Oct-20	07-May-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23
		ODWS																		
Anion Sum	Sum		10.7	12.6	12.8	7.21	13.4		15.3	13.00	14.8	7.59	11.2	8.5	8.53	8.49	8.50	9.04	6.84	6.61
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		340	320	320	260	330	330	340	330	340	320	310	330	340	370	360	330	310	300
Calculated TDS	mg/L	500 (AO)	**570**	**690**	**700**	380	**730**		**850**	**720**	**820**	390	**590**	460	450	450	450	500	380	360
Cation Sum	Sum		10.8	13.2	13.7	7.12	13.7		16.8	14.10	15.9	7.11	11.4	8.93	8.48	8.46	8.73	9.93	7.77	7.40
Hardness (CaCO3)	mg/L	80-100 (OG)	**470**	**550**	**580**	**320**	**570**	**580**	**690**	**590**	**650**	**330**	**490**	**400**	**390**	**380**	**390**	**450**	**350**	**340**
Ion Balance (% Difference)	%		0.440	2.31	3.33	0.630	1.29		4.68	4.290	3.38	3.24	1.02	2.43	0.320	0.160	1.36	4.68	6.35	5.64
Langelier Index (@ 20C)	NA		0.874	0.847	0.977	0.983	1.20		0.862	1.010	0.809	0.920	0.821	0.989	1.04	1.02	0.969	0.987	1.060	0.913
Langelier Index (@ 4C)	NA		0.627	0.600	0.73	0.734	0.949		0.616	0.764	0.563	0.671	0.574	0.741	0.794	0.771	0.720	0.740	0.814	0.665
Saturation pH (@ 20C)	NA		6.81	6.79	6.76	6.96	6.74		6.68	6.73	6.70	6.87	6.98	6.83	6.79	6.79	6.77	6.83	6.86	6.91
Saturation pH (@ 4C)	NA		7.05	7.04	7.01	7.21	6.99		6.92	6.98	6.95	7.12	7.22	7.08	7.04	7.04	7.02	7.08	7.11	7.16
Total Ammonia-N	mg/L		<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Colour	TCU	5 (AO)	2	<2	<2	**8**	<2	<2	<2	<2	<2	4	<2	3	4	3	2	<2	3	<2
Conductivity	uS/cm		1000	1300	1300	680	1400	1500	1500	1400	1600	720	1100	820	780	760	800.0	780	670.0	620
Fluoride (F-)	mg/L	1.5	<0.10	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	0.1	<0.10	<0.10	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Organic Carbon	mg/L	5 (AO)	2.0	1.0	1.2	3.2	1.1	1.5	1.4	1.4	1.1	3.2	1.6	2.8	3.6	2.8	3.2	1.8	2.6	1.6
Orthophosphate (P)	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	units	6.5-8.5 (OG)	7.68	7.64	7.74	7.95	7.94	7.55	7.54	7.74	7.51	7.79	7.80	7.82	7.83	7.81	7.74	7.82	7.93	7.82
Dissolved Sulphate (SO4)	mg/L	500 (AO)	20	33	29	8.6	30	28	32	25	28	19	40	31	28	26	28	68	16	13
Tannins & Lignins	mg/L		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Turbidity	NTU	5	<0.1	<0.1	0.2	0.6	0.3	0.1	0.2	1.1	0.2	<0.1	2.3	0.5	0.2	0.3	0.3	0.8	0.3	0.2
Alkalinity (Total as CaCO3)	mg/L	30-500 (OG)	340	320	320	270	330	330	340	330	350	320	310	340	340	370	360	330	310	300
Dissolved Chloride (Cl)	mg/L	250 (OG)	120	200	200	59	220	250	270	210	260	26	140	41	41	17	23	35	8	9
Nitrite (N)	mg/L	1	<0.010	0.025	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	10	0.83	<0.10	<0.10	0.47	0.25	0.29	0.23	0.18	0.10	0.13	1.77	<0.10	<0.10	<0.10	<0.10	0.19	0.16	0.18
Nitrate + Nitrite	mg/L	10	0.83	0.12	<0.10	0.47	0.25	0.29	0.23	0.18	0.10	0.13	1.77	<0.10	<0.10	<0.10	<0.10	0.19	0.16	0.18
Dissolved Aluminum (Al)	mg/L	0.1 (OG)	<0.005	<0.005	<0.005	14	<4.9	<4.9	5.8	<4.9	<4.9	<0.005	0.0056	<0.005	0.0067	<4.9	<4.9	7.0	<4.9	<4.9
Dissolved Antimony (Sb)	ug/L	6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium (Ba)	ug/L	1000	150	190	180	63	190	180	210	190	210.00	50	230	69	56	71	66	86	59	53
Dissolved Beryllium (Be)	ug/L		<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40	<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40	<0.40
Dissolved Boron (B)	ug/L	5000	27	37	39	11	41	22	48	55	41	55	26	19	21	22	27	19	42	23
Dissolved Cadmium (Cd)	ug/L	5	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	mg/L		140	160	170	110	180	170	210	180	190	110	100	130	140	120	130	130	120	110
Dissolved Chromium (Cr)	ug/L	50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50
Dissolved Copper (Cu)	ug/L	1000 (AO)	69	42	44	1.7	43	39	25	36	25.00	3.5	1.5	<0.90	<0.90	1.7	1.3	2.4	2.7	1.5
Dissolved Iron (Fe)	mg/L	0.3 (AO)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dissolved Lead (Pb)	ug/L	10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50
Dissolved Magnesium (Mg)	mg/L		28	37	36	10	33	30	42	34	40	10	56	20	11	16	15	29	12	15
Dissolved Manganese (Mn)	ug/L	50 (AO)	<2.0	31	**240**	<2.0	44	20	35	20	70.00	<2.0	7.7	4.8	3.7	5.1	19	50	8.8	13
Dissolved Molybdenum (Mo)	ug/L		<0.50	0.60	0.64	<0.50	<0.50	<0.50	<0.50	<0.5	<0.50	<0.50	1.0	0.71	<0.50	<0.50	<0.50	0.56	<0.5	<0.50
Dissolved Nickel (Ni)	ug/L		<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.9	<1.0	<1.0
Dissolved Phosphorus (P)	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.11	<0.1	<0.1
Dissolved Potassium (K)	mg/L		1.6	2.3	2.2	1.3	2.1	1.5	2	1.8	2.20	5.2	3.2	4.4	5.3	7.9	7.2	5.9	7.7	4.9
Dissolved Selenium (Se)	ug/L	50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	mg/L		7.2	9	8.8	3.9	8.5	6.6	9.8	7.5	9.10	3.4	9.4	6.1	3.8	5.9	4.2	7.7	3.46	6.4
Dissolved Silver (Ag)	ug/L		<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	mg/L	200 (OG)	33	48	47	15	51	44	66	51	66.00	11	35	19	13	17	15	19	14	13
Dissolved Strontium (Sr)	mg/L		0.510	0.620	0.68	0.280	0.610	0.560	0.67	0.640	0.67	0.270	0.580	0.350	0.310	0.330	0.340	0.440	0.37	0.300
Dissolved Thallium (Tl)	mg/L		<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.000050	<0.000050	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005	<0.00005
Dissolved Titanium (Ti)	ug/L		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	mg/L	0.02	0.0013	0.0016	0.0015	0.00064	0.0015	0.0013	0.0015	0.0014	0.0014	0.00028	0.00260	0.00043	0.00031	0.00034	0.00036	0.00072	0.0003	0.00033
Dissolved Vanadium (V)	ug/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.5	<0.5	<0.50	0.64	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	5000 (AO)	5.6	7.7	18	<5.0	34	20	10	26	17.00	<5.0	<5.0	<5.0	<5.0	5.4	<5.0	11	13	6

		Sample	MOE 5727662 (DW3)							
		Date	09-May-19	08-Oct-19	29-Jun-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23
		ODWS								
Anion Sum	Sum		8.73	9.01	11.1	8.53	8.69	8.81	8.03	8.21
Bicarb. Alkalinity (calc. as CaCO3)	mg/L		220	220	320	230	220.00	240.00	230.00	230.00
Calculated TDS	mg/L	500 (AO)	480	490	**620**	450	480.00	490.00	450.00	450.00
Cation Sum	Sum		8.97	8.86	12.5	8.13	9.20	9.58	8.55	8.63
Hardness (CaCO3)	mg/L	80-100 (OG)	**200**	**190**	**530**	**180**	**200.00**	**190.00**	**180.00**	**190.00**
Ion Balance (% Difference)	%		1.33	0.820	5.85	2.43	2.88	4.19	3.15	2.45
Langelier Index (@ 20C)	NA		0.358	0.512	0.955	0.478	0.426	0.574	0.624	0.410
Langelier Index (@ 4C)	NA		0.110	0.264	0.708	0.230	0.178	0.326	0.376	0.162
Saturation pH (@ 20C)	NA		7.57	7.59	6.77	7.60	7.59	7.56	7.58	7.59
Saturation pH (@ 4C)	NA		7.82	7.84	7.02	7.85	7.83	7.81	7.83	7.83
Total Ammonia-N	mg/L		<0.050	0.33	<0.050	0.38	0.42	0.31	0.41	0.12
Colour	TCU	5 (AO)	<2	<2	2	<2	<2	<2	<2	<2
Conductivity	uS/cm		930	970	1100	870	930.00	890.00	880.00	860.00
Fluoride (F-)	mg/L	1.5	0.71	0.69	0.16	0.75	0.75	0.80	0.75	0.70
Dissolved Organic Carbon	mg/L	5 (AO)	0.50	0.69	1.5	0.41	<0.4	0.51	0.55	0.51
Orthophosphate (P)	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0010
pH	units	6.5-8.5 (OG)	7.93	8.10	7.72	8.08	8.01	8.14	8.21	8.00
Dissolved Sulphate (SO4)	mg/L	500 (AO)	7.3	1.2	20	5.2	4.70	2.5	4.60	2.5
Tannins & Lignins	mg/L		<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Turbidity	NTU	5	<0.1	0.2	0.1	<0.1	0.40	0.3	0.60	0.2
Alkalinity (Total as CaCO3)	mg/L	30-500 (OG)	230	220	320	230	220.00	240	230.00	230
Dissolved Chloride (Cl)	mg/L	250 (OG)	140	160	150	130	140.00	140	120.00	120
Nitrite (N)	mg/L	1	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	10	<0.10	<0.10	0.21	<0.10	<0.10	<0.10	<0.10	<0.1
Nitrate + Nitrite	mg/L	10	<0.10	<0.10	0.21	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Aluminum (Al)	mg/L	0.1 (OG)	<0.005	<5.0	9.0	<4.9	<4.9	<4.9	<4.9	<4.9
Dissolved Antimony (Sb)	ug/L	6	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Arsenic (As)	ug/L	25	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Barium (Ba)	ug/L	1000	200	220	160	210	210	220	200	200
Dissolved Beryllium (Be)	ug/L		<0.50	<0.50	<0.40	<0.40	<0.40	<0.40	<0.4	<0.40
Dissolved Boron (B)	ug/L	5000	840	730	24	800	750	870	880	770
Dissolved Cadmium (Cd)	ug/L	5	<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Calcium (Ca)	mg/L		34	34	160	31	34	33	33	32
Dissolved Chromium (Cr)	ug/L	50	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Cobalt (Co)	ug/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Copper (Cu)	ug/L	1000 (AO)	13	23	1.3	2.4	0.94	1.8	1.6	<0.90
Dissolved Iron (Fe)	mg/L	0.3 (AO)	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.13	<0.1
Dissolved Lead (Pb)	ug/L	10	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Magnesium (Mg)	mg/L		27	25	29	24	27	25	25	26
Dissolved Manganese (Mn)	ug/L	50 (AO)	<2.0	3.3	19	4.6	5.2	3.6	5	4.8
Dissolved Molybdenum (Mo)	ug/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Nickel (Ni)	ug/L		<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Dissolved Phosphorus (P)	mg/L		<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dissolved Potassium (K)	mg/L		7.1	7.1	1.9	6.9	7.3	7.6	6.8	6.7
Dissolved Selenium (Se)	ug/L	50	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0
Dissolved Silicon (Si)	mg/L		5.6	4.8	7.3	5.3	5.5	5.8	5.8	5.4
Dissolved Silver (Ag)	ug/L		<0.10	<0.10	<0.090	<0.090	<0.090	<0.090	<0.090	<0.090
Dissolved Sodium (Na)	mg/L	200 (OG)	110	110	44	100	120	130	110	110
Dissolved Strontium (Sr)	mg/L		2.5	3	0.61	2.2	2.4	2.5	2.3	2.4
Dissolved Thallium (Tl)	mg/L		<0.00005	<0.00005	<0.00005	<0.00005	<0.000050	<0.000050	<0.00005	<0.00005
Dissolved Titanium (Ti)	ug/L		<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
Dissolved Uranium (U)	mg/L	0.02	<0.0001	<0.0001	0.0012	<0.0001	<0.00010	<0.00010	<0.0001	<0.0001
Dissolved Vanadium (V)	ug/L		<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50
Dissolved Zinc (Zn)	ug/L	5000 (AO)	130	170	<5.0	10	5.1	41	13	7

		Sample	AM1B										BORED WELL									
		Date	08-May-19	04-Oct-19	14-May-20	30-Oct-20	06-May-21	21-Oct-21	13-Jun-22	28-Oct-22	23-May-23	16-Oct-23	08-May-19	04-Oct-19	14-May-20	30-Oct-20	06-May-21	21-Oct-21	13-Jun-22	28-Oct-22	23-May-23	16-Oct-23
Parameter	Units	ODWS																				
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		230	250	230	240	220	250	240	280	230	270	260	250	280	270	270	230	250	270	260	240
Total Ammonia-N	mg/L		0.11	0.12	0.11	0.088	<0.050	0.19	0.096	0.094	0.190	0.084	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Colour	TCU	**5 (AO)**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	uS/cm		480	510	500	499	496	448	520	550	500	570	550	520	570	562	551	461	530	550	540	510
Total Dissolved Solids	mg/L	**500 (AO)**	340	300	290	300	300	320	310	350	300	340	320	310	330	330	320	290	310	350	320	310
Fluoride (F-)	mg/L	**1.5**	0.23	0.22	0.23	0.22	0.21	0.24	0.23	0.20	0.20	0.21	0.13	0.13	0.13	0.13	0.15	0.13	0.12	0.14	0.11	0.12
Dissolved Organic Carbon	mg/L	**5 (AO)**	0.71	0.69	0.7	1.2	0.62	0.80	0.75	0.81	0.69	0.62	0.88	1.0	0.92	1.0	1.0	1.1	1.0	0.98	1.0	1.10
Hardness	mg/L	**80-100 (OG)**	340	260	240	250	250	260	270	320	250	310	270	240	270	270	270	220	260	300	260	240
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	units	**6.5-8.5 (OG)**	7.98	8.09	7.97	7.85	8.09	7.90	7.91	7.96	8.12	7.99	8.12	8.26	7.98	8.00	8.18	8.24	8.02	8.12	8.22	8.27
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	44	32	39	40	43	43	39	33	47	36	28	26	28	28	31	28	32	32	36	30
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	230	250	230	240	220	250	240	280	230	280	270	260	290	280	270	240	260	280	270	250
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	2.0	1.9	1.5	2.5	1.8	2.2	1.7	1.8	<1.0	<1.0	2.1	1.7	1.4	1.9	2.5	2.4	1.6	1.7	<1.0	<1.0
Nitrite (N)	mg/L	**1**	0.011	<0.010	<0.010	<0.010	0.010	0.023	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.30	0.32	0.25	0.26	0.22	0.35	0.24	0.18	0.18	0.27
Nitrate + Nitrite	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.30	0.32	0.25	0.26	0.22	0.35	0.24	0.18	0.18	0.27
Dissolved Calcium (Ca)	mg/L		84	52	47	47	49	52	53	67	50	63	64	54	63	62	62	47	58	69	60	54
Dissolved Magnesium (Mg)	mg/L		32	32	31	32	32	32	33	37	30	41	28	25	28	28	29	25	27	31	27	27
Dissolved Phosphorus (P)	mg/L		0.13	0.12	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<100	<0.1	<0.1	0.11	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Dissolved Potassium (K)	mg/L		2.4	2.2	2.2	2.3	2.3	2.4	2.3	2.6	2.1	2.5	6.0	7.6	5.0	6.2	5.4	8.7	4.7	0.11	4.3	8.10
Dissolved Sodium (Na)	mg/L	**200 (AO)**	6.8	6.2	6.0	7.0	6.8	7.0	6.2	5.9	5.9	6.1	14	19	12	16	13	21	14	20	14	20

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

		Sample	OW4-I										OW4-II									
		Date	08-May-19	04-Oct-19	14-May-20	30-Oct-20	06-May-21	21-Oct-21	13-Jun-22	28-Oct-22	23-May-23	16-Oct-23	08-May-19	04-Oct-19	14-May-20	30-Oct-20	06-May-21	30-Oct-21	13-Jun-22	28-Oct-22	23-May-23	16-Oct-23
Parameter	Units	ODWS																				
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		210	230	220	220	220	260	240	220	210	260	230	230	240	240	250	250	250	240	240	250
Total Ammonia-N	mg/L		1.0	1.4	0.98	1.3	1.2	1.2	1.0		0.7	1.6	1.2	1.2	1	1.1	0.95	0.94	0.95	1.30	1.10	1.20
Colour	TCU	**5 (AO)**	<2	<2	<2	<2	<2	<2	<2	<2	<2	4	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Conductivity	uS/cm		1300	1400	1300	1390	1220	1160	1200	1200	1100	1300	1600	1800	1500	1740	1470	1280	1400	1700	1700	1800
Total Dissolved Solids	mg/L	**500 (AO)**	**630**	**680**	**670**	**720**	**630**	**670**	**640**	**630**	**590**	**730**	**840**	**920**	**740**	**880**	**780**	**770**	**710**	**960**	**850**	**920**
Fluoride (F-)	mg/L	**1.5**	1.0	0.99	1	0.99	1.1	1.1	1.2	1.1	1.0	0.9	0.96	0.88	1	0.91	1.0	1.0	1.2	0.95	1.0	0.95
Dissolved Organic Carbon	mg/L	**5 (AO)**	2.4	1.8	1.7	1.6	1.1	2.0	1.5	1.3	1.8	1.8	1.0	1.1	0.99	1.1	1.1	0.97	1.3	1.10	1.2	1.10
Hardness	mg/L	**80-100 (OG)**	140	140	150	160	150	150	140	130	110	140	230	260	180	230	200	200	170	280	220	250
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	units	**6.5-8.5 (OG)**	8.40	8.39	8.11	8.11	8.51	8.22	8.23	8.24	8.23	8.27	8.03	8.21	8	7.94	8.13	8.07	8.00	8.05	8.00	8.00
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	2.9	6.9	2.6	2.9	2.7	2.9	1.3	13.0	5.4	9.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	220	240	220	220	220	260	240	220	210	260	240	230	250	240	250	250	250	240	250	250
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	250	**260**	**260**	**300**	230	230	240	230	220	250	**350**	**400**	**290**	**390**	**310**	**300**	**270**	**410**	**370**	**390**
Nitrite (N)	mg/L	**1**	<0.010	0.010	<0.010	<0.010	<0.010	0.025	<0.010	0.016	0.033	0.065	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.052	0.041	0.029
Nitrate (N)	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.14	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate + Nitrite	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	0.12	<0.10	0.15	<0.10	0.12	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Calcium (Ca)	mg/L		27	27	30	30	29	28	26	25	20	27	43	49	35	45	38	37	32	53	42	47
Dissolved Magnesium (Mg)	mg/L		18	18	19	21	19	19	17	17	14	18	30	34	24	30	25	26	23	36	28	36
Dissolved Phosphorus (P)	mg/L		<0.1	0.13	<0.1	<0.1	<0.1	<0.1	<0.1	0.11	<0.11	<0.10	<0.1	0.13	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1
Dissolved Potassium (K)	mg/L		6.4	6.8	7.7	7.2	7.4	7.7	7.2	6.6	6	9	9.7	11	8.7	9.8	9.5	9.1	8.4	11.0	9	10
Dissolved Sodium (Na)	mg/L	**200 (AO)**	180	200	**210**	**210**	200	**210**	190	**200**	190	**240**	**250**	**270**	**220**	**250**	**240**	**230**	**210**	**290**	**250**	**280**

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

		Sample	OW5-I										OW5-II							
		Date	08-May-19	04-Oct-19	14-May-20	29-Oct-20	06-May-21	21-Oct-21	13-Jun-22	28-Oct-22	23-May-23	16-Oct-23	08-May-19	04-Oct-19	19-Jul-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23
Parameter	Units	ODWS																		
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		270	260	280	320	290	320	310	330	310	330	110	120	120	130	120	120	120	130
Total Ammonia-N	mg/L		0.54	0.62	0.39	0.52	0.46	0.59	0.62	0.65	0.46	0.33	8.6	9.1	15	8.1	8.8	10.0	9.3	9.4
Colour	TCU	**5 (AO)**	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	**12**	**12**	**48**	**6**	<2	**3**	**16**
Conductivity	uS/cm		740	620	740	737	728	635	730	710	710	770	27000	26000	32000	18100	25000	24000	26000	26000
Total Dissolved Solids	mg/L	**500 (AO)**	460	360	410	430	420	440	420	450	410	450	**16000**	**15000**	**17000**	**14000**	**14000**	**16000**	**16000**	**15000**
Fluoride (F-)	mg/L	**1.5**	0.56	0.70	0.56	0.63	0.55	0.62	0.59	0.61	0.53	0.52	0.40	0.41	0.40	0.44	0.44	0.45	0.40	0.44
Dissolved Organic Carbon	mg/L	**5 (AO)**	1.2	1.5	1	1.4	1.3	1.5	1.4	1.5	1.4	1.2	0.57	<0.50	0.99	23	3.00	0.66	1.30	4.80
Hardness	mg/L	**80-100 (OG)**	330	190	260	230	240	250	260	270	230	300	6000	5800	5900	5200	5900	6500	5200	6100
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.10	<0.010	<0.010	<0.010	<0.010	0.031	<0.010	<0.010	<0.010	<0.010
pH	units	**6.5-8.5 (OG)**	7.97	8.20	7.93	7.87	8.04	8.12	8.14	7.89	7.95	7.78	7.35	7.58	7.12	7.02	7.35	7.46	7.33	7.23
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	44	36	45	41	47	48	45	52	47	50	5.3	5.3	14	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	270	260	280	320	300	320	310	330	310	330	110	120	130	130	120	120	120	130
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	52	26	39	34	31	26	23	20	20	17	**10000**	**9400**	**10000**	**8600**	**7700**	**9700**	**11000**	**9300**
Nitrite (N)	mg/L	**1**	<0.010	0.046	0.046	0.057	0.011	0.025	0.128	0.024	0.089	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	**10**	0.59	0.26	0.46	0.29	0.46	0.51	0.22	0.26	0.26	0.40	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate + Nitrite	mg/L	**10**	0.59	0.31	0.5	0.35	0.47	0.53	0.35	0.29	0.35	0.40	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Calcium (Ca)	mg/L		84	33	50	44	45	48	49	52	44	60	1200	1200	1200	1100	1200	1300	1100	1300
Dissolved Magnesium (Mg)	mg/L		29	25	32	29	31	32	34	34	30	36	720	690	720	630	730	760	590	710
Dissolved Phosphorus (P)	mg/L		0.17	0.12	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.5	0.56	<0.5	0.87	<0.5	<0.5	<0.5	<0.5
Dissolved Potassium (K)	mg/L		6.6	6.8	6.5	7.7	6.6	8	7	7.9	6	8	66	67	67	74	78	75	57	73
Dissolved Sodium (Na)	mg/L	**200 (AO)**	66	59	59	65	62	63	58	61	56	56	**3400**	**3800**	**4100**	**3300**	**3800**	**4100**	**3500**	**3800**

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

		Sample	OW5-III										OW6-II									
		Date	08-May-19	04-Oct-19	14-May-20	29-Oct-20	06-May-21	21-Oct-21	13-Jun-22	28-Oct-22	23-May-23	16-Oct-23	08-May-19	04-Oct-19	14-May-20	29-Oct-20	29-Jun-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23
Parameter	Units	ODWS																				
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		110	110	88	120	110	120	110	110	120	110	140	150	140	160	150	160	150	170	140	160
Total Ammonia-N	mg/L		9.7	9.5	8.2	10	9.0	9.3	9.5	9.9	9.7	9.7	<0.050	1.4	<0.050	1.8	0.88	1.4	1.20	2.0	1.50	1.8
Colour	TCU	**5 (AO)**	<2	4	**32**	**16**	<2	3	<2	<2	<2	**59**	<2	<2	<2	<2	<2	3	<2	4	**9**	4
Conductivity	uS/cm		29000	28000	21000	31600	25700	18000	28000	26000	27000	29000	6500	6400	6400	6670	6500	4710	6300	6000	5300	6500
Total Dissolved Solids	mg/L	**500 (AO)**	**17000**	**16000**	**13000**	**18000**	**15000**	**15000**	**16000**	**16000**	**17000**	**17000**	**4000**	**4000**	**4000**	**4100**	**3900**	**3800**	**3800**	**4100**	**3000**	**3900**
Fluoride (F-)	mg/L	**1.5**	0.40	0.39	0.35	0.41	0.42	0.43	0.47	0.43	0.39	0.44	0.62	0.63	0.69	0.76	0.97	0.85	0.89	0.94	0.72	0.93
Dissolved Organic Carbon	mg/L	**5 (AO)**	0.99	0.79	1.3	1.2	0.90	1.2	0.61	0.58	0.61	0.52	0.58	0.57	0.56	0.83	1.8	0.44	0.63	0.45	1.90	0.49
Hardness	mg/L	**80-100 (OG)**	6700	6200	5900	7500	6600	6600	6300	7000	5400	6400	1600	1700	1700	1700	1600	1700	1600	1800	1300	1700
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.019	<0.010
pH	units	**6.5-8.5 (OG)**	7.39	7.53	7.22	7.21	7.50	7.22	7.32	7.46	7.46	7.33	7.69	7.86	7.66	7.69	7.48	7.69	7.65	7.84	7.62	7.64
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	34	11	<1.0	79	8.7	41	1.3	1.5	2.5	13	**960**	**930**	**960**	**1000**	**980**	**870**	**890**	**980**	**660**	**950**
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	110	110	88	120	110	120	110	110	120	110	140	150	140	170	150	160	150	170	140	160
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	**10000**	**10000**	**7300**	**11000**	**9200**	**8800**	**9500**	**9400**	**12000**	**11000**	**1500**	**1600**	**1600**	**1600**	**1500**	**1400**	**1500**	**1600**	**1200**	**1500**
Nitrite (N)	mg/L	**1**	<0.010	<0.010	<0.010	0.021	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	0.072	<0.010	0.024	0.425	0.034	0.041	0.050	0.103	<0.010
Nitrate (N)	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.95	<0.10	1.34	<0.10	0.44	<0.10	<0.10	<0.10	1.01	<0.10
Nitrate + Nitrite	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.95	<0.10	1.34	<0.10	0.86	<0.10	0.12	<0.10	1.11	<0.10
Dissolved Calcium (Ca)	mg/L		1400	1300	1200	1600	1300	1400	1300	1400	1200	1400	340	330	340	360	310	340	320	360	250	350
Dissolved Magnesium (Mg)	mg/L		770	730	700	880	790	770	770	820	610	750	190	200	200	210	190	200	190	210	170	190
Dissolved Phosphorus (P)	mg/L		<1	0.62	<1	0.57	<0.5	<0.5	<0.5	0.64	<0.5	<0.5	<0.1	0.10	<0.1	0.11	<0.1	<0.5	<0.5	<0.5	<0.1	<0.1
Dissolved Potassium (K)	mg/L		68	68	59	71	74	73	72	76	58	77	18	19	18	20	79	19	19	19	17	20
Dissolved Sodium (Na)	mg/L	**200 (AO)**	**4000**	**3800**	**3800**	**4600**	**4000**	**4100**	**3900**	**4000**	**3500**	**3800**	**810**	**800**	**780**	**840**	**740**	**800**	**790**	**860**	**640**	**770**

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

		Sample	OW7-I										OW7-II									
		Date	08-May-19	04-Oct-19	14-May-20	29-Oct-20	06-May-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23	08-May-19	04-Oct-19	14-May-20	29-Oct-20	06-May-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23
Parameter	Units	ODWS																				
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		290	210	300	290	300	250	260	200	290	120	290	270	300	290	290	260	250	270	270	190
Total Ammonia-N	mg/L		2.0	1.8	2.4	2.4	2.3	3.0	2.8	3.0	2.6	4.1	2.4	1.6	2.1	2.3	2.0	2.6	2.6	2.6	2.5	3.2
Colour	TCU	**5 (AO)**	<2	**17**	**33**	**27**	2	**61**	**150**	**240**	3	**560**	<2	<2	<2	<2	<2	2	5	<2	2	**5**
Conductivity	uS/cm		6400	720	6400	6810	6190	7180	8300	2800	7700	8800	6200	2200	6500	7300	6350	6630	8500	5600	7800	12000
Total Dissolved Solids	mg/L	**500 (AO)**	**3500**	430	**3400**	**4000**	**3400**	**5000**	**4400**	**1700**	**4100**	**5200**	**3400**	**1100**	**3400**	**3900**	**3300**	**4600**	**4600**	**3200**	**3700**	**7000**
Fluoride (F-)	mg/L	**1.5**	**2.1**	0.46	**2.1**	**1.9**	**2.1**	1.5	**1.7**	0.54	**1.7**	1.10	**2.1**	0.75	**2.2**	**1.9**	**2.0**	**1.6**	**1.7**	**1.0**	**1.7**	**1.3**
Dissolved Organic Carbon	mg/L	**5 (AO)**	0.84	1.9	0.56	0.86	0.66	0.88	0.57	2.10	0.70	0.99	0.77	2.4	0.56	0.81	0.69	0.68	0.75	2.00	2.00	1.10
Hardness	mg/L	**80-100 (OG)**	910	320	860	1000	860	1600	1300	920	990	1900	830	500	910	1000	800	1600	1400	1300	1000	3100
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	units	**6.5-8.5 (OG)**	7.83	8.05	7.78	7.74	7.87	7.62	7.71	7.44	7.86	7.32	7.89	8.07	7.78	7.76	7.83	7.69	7.62	7.80	7.78	7.50
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	25	73	20	28	15	22	24	290	7.8	89	20	43	21	26	31	25	33	58	22	36
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	290	210	300	290	300	250	260	200	290	120	300	270	300	290	290	260	250	270	280	190
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	**1900**	47	**1900**	**2300**	**1800**	**2800**	**2400**	**680**	**2500**	**2800**	**1900**	**490**	**2000**	**2200**	**1900**	**2400**	**2600**	**1800**	**2200**	**3700**
Nitrite (N)	mg/L	**1**	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.012	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Nitrate + Nitrite	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Calcium (Ca)	mg/L		190	63	180	200	180	340	260	220	190	380	180	100	180	210	170	340	270	260	200	650
Dissolved Magnesium (Mg)	mg/L		100	39	100	120	100	190	160	88	120	240	95	60	110	120	94	180	170	150	130	370
Dissolved Phosphorus (P)	mg/L		<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.11	<0.1	<0.1	<0.1	0.10	<0.1	<0.1	<0.1	<0.1	<0.1	0.13	<0.1	<0.1
Dissolved Potassium (K)	mg/L		16	13	15	18	18	24	22	18	18	29	15	12	17	18	16	23	22	19	18	32
Dissolved Sodium (Na)	mg/L	**200 (AO)**	**1000**	50	**980**	**1100**	**1000**	**1500**	**1300**	250	**1000**	150	**960**	**250**	**950**	**1100**	**980**	**1500**	**1400**	**780**	**1100**	**2100**

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

		Sample	OW8-I										OW8-II						
		Date	08-May-19	04-Oct-19	14-May-20	29-Oct-20	06-May-21	29-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23	30-Oct-18	08-May-19	04-Oct-19	06-May-21	21-Oct-21	13-May-22	23-May-23
Parameter	Units	ODWS																	
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		250	300	310	300	290	300	280	300	300	280	290	300	310	290	290	270	280
Total Ammonia-N	mg/L		1.1	0.84	0.55	0.37	0.31	0.49	0.38	1.10	0.36	0.53	0.95	0.39	0.87	0.28	0.26	<0.050	<0.050
Colour	TCU	**5 (AO)**	<2	<2	<2	<2	<2	2	<2	<2	<2	<2	<2	<2	<2	<2	2	2	<2
Conductivity	uS/cm		2000	1600	1000	847	733	818	890	2,400	780	1,300	2500	760	2100	722	648	700	720
Total Dissolved Solids	mg/L	**500 (AO)**	**1200**	**880**	**560**	470	440	**520**	**510**	**1400**	**450**	**700**	**1400**	440	**1100**	430	420	420	420
Fluoride (F-)	mg/L	**1.5**	1.1	0.86	1.3	0.95	0.57	0.91	0.65	0.84	0.50	0.66	0.90	0.60	0.94	0.49	0.49	0.51	0.45
Dissolved Organic Carbon	mg/L	**5 (AO)**	1.5	1.5	1.5	1.6	1.5	1.5	1.3	1.3	1.5	1.3	1.4	1.7	1.4	1.9	1.7	2.6	1.8
Hardness	mg/L	**80-100 (OG)**	450	390	300	290	330	290	350	640	320	430	480	300	430	330	330	330	310
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	units	**6.5-8.5 (OG)**	8.04	7.98	7.88	7.8	7.69	7.75	7.79	7.77	7.80	7.70	7.96	7.85	7.99	7.71	8.03	8.01	8.04
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	58	38	38	45	57	52	57	35	61	47	22	51	22	55	53	57	64
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	250	300	310	300	290	300	280	300	300	290	300	300	310	290	290	280	280
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	**470**	**310**	110	65	31	93	85	610	39	210	**630**	33	**460**	28	27	29	28
Nitrite (N)	mg/L	**1**	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate (N)	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.30	0.17
Nitrate + Nitrite	mg/L	**10**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	0.10	<0.10	0.30	0.17
Dissolved Calcium (Ca)	mg/L		120	100	85	86	100	83	110	170	97	120	130	89	110	100	100	100	97
Dissolved Magnesium (Mg)	mg/L		39	34	22	19	19	20	21	52	19	30	41	18	38	18	18	18	17
Dissolved Phosphorus (P)	mg/L		<0.1	0.13	<0.1	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	0.11	<0.1	<0.1	<0.1	<0.1
Dissolved Potassium (K)	mg/L		8.5	7.0	4.6	4.1	3.9	4.6	3.8	8.9	4	6	8.5	4.0	7.2	3.7	3.7	3.7	4
Dissolved Sodium (Na)	mg/L	**200 (AO)**	**330**	200	96	68	36	80	53	**280**	39	100	**340**	51	**250**	34	31	34	30

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

		Sample	OW9-I			OW9-II			
		Date	23-May-17	26-Oct-17	29-May-18	08-May-19	14-May-20	21-Oct-21	28-Oct-22
Parameter	Units	ODWS							
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		170	130	200	170	160	140	130
Total Ammonia-N	mg/L		18	21	18	0.11	0.27	0.15	2.10
Colour	TCU	**5 (AO)**	**110**	**49**	**14**	3	3	**6**	**6**
Conductivity	uS/cm		81000	88000	73000	39000	50000	62200	60000
Total Dissolved Solids	mg/L	**500 (AO)**	**58000**	**57000**	**46000**	**23000**	**32000**	**39000**	**47000**
Fluoride (F-)	mg/L	**1.5**	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
Dissolved Organic Carbon	mg/L	**5 (AO)**	**12**	**9.1**	**8.7**	**7.8**	**8.1**	**8.5**	**9.0**
Hardness	mg/L	**80-100 (OG)**	27000	25000	22000	12000	17000	21000	26000
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	units	**6.5-8.5 (OG)**	6.73	6.95	6.93	7.09	7.13	7.15	7.15
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	180	160	120	**880**	**1000**	**1200**	**1300**
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	170	130	200	170	160	140	130
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	**37000**	**39000**	**30000**	**13000**	**20000**	**24000**	**28000**
Nitrite (N)	mg/L	**1**	<0.10	<0.010	<0.050	0.013	0.033	<0.010	<0.10
Nitrate (N)	mg/L	**10**	<1.0	<0.10	<0.50	0.51	0.99	2.19	1.60
Nitrate + Nitrite	mg/L	**10**	<1.0	<0.10	<0.50	0.52	1.02	2.19	1.60
Dissolved Calcium (Ca)	mg/L		5700	5000	4600	2900	3800	4800	5800
Dissolved Magnesium (Mg)	mg/L		3200	3100	2500	1200	1700	2100	2800
Dissolved Phosphorus (P)	mg/L		<2	<1	<1	<0.1	<1	<1	<1
Dissolved Potassium (K)	mg/L		140	140	120	69	92	110	130
Dissolved Sodium (Na)	mg/L	**200 (AO)**	**11000**	**10000**	**9000**	**4200**	**5800**	**6600**	**9000**

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

		Sample	TW1-1										AMx-R								
		Date	08-May-19	04-Oct-19	14-May-20	29-Oct-20	06-May-21	21-Oct-21	13-May-22	28-Oct-22	23-May-23	16-Oct-23	04-Oct-19	14-May-20	30-Oct-20	06-May-21	21-Oct-21	13-Jun-22	28-Oct-22	23-May-23	16-Oct-23
Parameter	Units	ODWS																			
Bicarb. Alkalinity (calc. as $CaCO_3$)	mg/L		280	280	280	260	280	250	220	200	290	300	39	1.6	22	14	5.1	4	3.6	2	2.2
Total Ammonia-N	mg/L		0.68	1.2	0.95	0.73	0.79	0.63	0.64	1.40	0.90	0.85	5.8	5.7	5.4	6.0	5.3	5.6	6.0	5.9	5.9
Colour	TCU	**5 (AO)**	<2	<2	<2	<2	<2	3	<2	<2	3	<2	**18**	<2	**260**	<2	**22**	**22**	**4**	**12**	**34**
Conductivity	uS/cm		1900	3100	2800	2460	2530	2260	2800	3400	2400	2000	21000	18000	18500	22500	12600	17000	15000	17000	17000
Total Dissolved Solids	mg/L	**500 (AO)**	**1000**	**1700**	**1400**	**1300**	**1300**	**1400**	**1500**	**1900**	**1200**	**1100**	**12000**	**10000**	**9800**	**12000**	**9500**	**9300**	**9300**	**8600**	**9100**
Fluoride (F-)	mg/L	**1.5**	0.51	0.50	0.5	0.47	0.48	0.56	1.10	**1.90**	0.50	**0.53**	0.57	0.56	0.6	0.61	0.62	0.69	0.65	0.60	0.65
Dissolved Organic Carbon	mg/L	**5 (AO)**	1.6	1.6	1.6	1.7	1.5	1.6	1.3	0.78	1.7	1.70	2.6	2	2.2	1.9	2.1	1.9	1.7	2.1	1.4
Hardness	mg/L	**80-100 (OG)**	490	830	610	540	580	630	610	720	580	510	4700	3800	3600	4900	3800	3400	3700	2800	3200
Phosphate	mg/L		<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
pH	units	**6.5-8.5 (OG)**	7.78	7.99	7.84	7.91	8.00	7.89	7.87	7.83	8.08	7.86	7.12	**6.06**	**6.39**	**6.43**	**5.82**	**5.77**	**5.70**	**5.52**	**5.70**
Dissolved Sulphate (SO_4)	mg/L	**500 (AO)**	28	33	30	29	38	39	80	160	28	32	37	<1.0	4.8	35	<1.0	<1.0	<1.0	<1.0	<1.0
Alkalinity (Total as $CaCO_3$)	mg/L	**30-500 (OG)**	280	280	290	260	280	260	220	200	290	300	39	1.6	22	14	5.1	4	3.6	1.8	2.2
Dissolved Chloride (Cl)	mg/L	**250 (AO)**	**420**	**830**	**660**	**610**	**600**	**700**	**700**	**910**	**560**	**450**	**7800**	**6300**	**6400**	**7400**	**6000**	**5900**	**5600**	**5800**	5800
Nitrite (N)	mg/L	**1**	<0.010	0.030	<0.010	0.023	<0.010	0.039	0.039	0.021	<0.010	0.039	<0.010	<0.010	<0.010	<0.010	0.024	0.031	0.032	0.036	0.048
Nitrate (N)	mg/L	**10**	0.18	0.14	<0.10	0.25	<0.10	0.46	1.31	<0.10	<0.10	0.11	<0.10	<0.10	<0.10	<0.10	<0.10	0.1	<0.10	<0.10	0.37
Nitrate + Nitrite	mg/L	**10**	0.18	0.17	<0.10	0.27	<0.10	0.50	1.34	<0.10	<0.10	0.15	<0.10	<0.10	<0.10	<0.10	<0.10	0.13	<0.10	0.11	0.42
Dissolved Calcium (Ca)	mg/L		110	180	130	100	130	130	130	140	130	110	910	680	690	920	710	660	700	530	630
Dissolved Magnesium (Mg)	mg/L		52	91	68	68	64	73	70	140	64	56	600	510	460	620	480	440	460	360	410
Dissolved Phosphorus (P)	mg/L		<0.1	0.11	<0.1	<0.1	<0.1	<0.1	<0.1	87	<0.1	<0.1	0.64	<0.5	0.54	<0.5	<0.1	<0.1	0.6	<0.5	<0.5
Dissolved Potassium (K)	mg/L		8.6	13	10	11	11	13	11	13	95	97	50	48	42	56	45	43	46	36	43
Dissolved Sodium (Na)	mg/L	**200 (AO)**	**210**	**400**	**290**	**290**	**280**	**320**	**340**	**480**	**260**	**230**	**2600**	**2400**	**2200**	**2900**	**2200**	**2200**	**2300**	**1900**	**2100**

Notes:
AO: aesthetic objective
OG: operational guideline
Exceedances of the OWDS (operational guidelines excluded) are shown in bold.

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
1-Jan-23	NO PUMP		0	0	-	-	-
2-Jan-23	NO PUMP		0	0	-	-	-
3-Jan-23	NO PUMP		0	0	-	-	-
4-Jan-23	NO PUMP		0	0	-	-	-
5-Jan-23	NO PUMP		0	0	-	-	-
6-Jan-23	NO PUMP		0	0	-	-	-
7-Jan-23	NO PUMP		0	0	-	-	-
8-Jan-23	NO PUMP		0	0	-	-	-
9-Jan-23	NO PUMP		0	0	-	-	-
10-Jan-23	NO PUMP		0	0	-	-	-
11-Jan-23	NO PUMP		0	0	-	-	-
12-Jan-23	NO PUMP		0	0	-	-	-
13-Jan-23	NO PUMP		0	0	-	-	-
14-Jan-23	NO PUMP		0	0	-	-	-
15-Jan-23	NO PUMP		0	0	-	-	-
16-Jan-23	NO PUMP		0	0	-	-	-
17-Jan-23	NO PUMP		0	0	-	-	-
18-Jan-23	NO PUMP		0	0	-	-	-
19-Jan-23	NO PUMP		0	0	-	-	-
20-Jan-23	NO PUMP		0	0	-	-	-
21-Jan-23	NO PUMP		0	0	-	-	-
22-Jan-23	NO PUMP		0	0	-	-	-
23-Jan-23	NO PUMP		0	0	-	-	-
24-Jan-23	NO PUMP		0	0	-	-	-
25-Jan-23	NO PUMP		0	0	-	-	-
26-Jan-23	NO PUMP		0	0	-	-	-
27-Jan-23	NO PUMP		0	0	-	-	-
28-Jan-23	NO PUMP		0	0	-	-	-
29-Jan-23	NO PUMP		0	0	-	-	-
30-Jan-23	NO PUMP		0	0	-	-	-
31-Jan-23	NO PUMP		0	0	-	-	-
1-Feb-23	NO PUMP		0	0	-	-	-
2-Feb-23	NO PUMP		0	0	-	-	-
3-Feb-23	NO PUMP		0	0	-	-	-
4-Feb-23	NO PUMP		0	0	-	-	-
5-Feb-23	NO PUMP		0	0	-	-	-
6-Feb-23	NO PUMP		0	0	-	-	-
7-Feb-23	NO PUMP		0	0	-	-	-
8-Feb-23	NO PUMP		0	0	-	-	-
9-Feb-23	NO PUMP		0	0	-	-	-
10-Feb-23	NO PUMP		0	0	-	-	-
11-Feb-23	NO PUMP		0	0	-	-	-
12-Feb-23	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
13-Feb-23	NO PUMP		0	0	-	-	-
14-Feb-23	NO PUMP		0	0	-	-	-
15-Feb-23	NO PUMP		0	0	-	-	-
16-Feb-23	NO PUMP		0	0	-	-	-
17-Feb-23	NO PUMP		0	0	-	-	-
18-Feb-23	NO PUMP		0	0	-	-	-
19-Feb-23	NO PUMP		0	0	-	-	-
20-Feb-23	NO PUMP		0	0	-	-	-
21-Feb-23	NO PUMP		0	0	-	-	-
22-Feb-23	NO PUMP		0	0	-	-	-
23-Feb-23	NO PUMP		0	0	-	-	-
24-Feb-23	NO PUMP		0	0	-	-	-
25-Feb-23	NO PUMP		0	0	-	-	-
26-Feb-23	NO PUMP		0	0	-	-	-
27-Feb-23	NO PUMP		0	0	-	-	-
28-Feb-23	NO PUMP		0	0	-	-	-
1-Mar-23	NO PUMP		0	0	-	-	-
2-Mar-23	NO PUMP		0	0	-	-	-
3-Mar-23	NO PUMP		0	0	-	-	-
4-Mar-23	NO PUMP		0	0	-	-	-
5-Mar-23	NO PUMP		0	0	-	-	-
6-Mar-23	NO PUMP		0	0	-	-	-
7-Mar-23	NO PUMP		0	0	-	-	-
8-Mar-23	NO PUMP		0	0	-	-	-
9-Mar-23	NO PUMP		0	0	-	-	-
10-Mar-23	NO PUMP		0	0	-	-	-
11-Mar-23	NO PUMP		0	0	-	-	-
12-Mar-23	NO PUMP		0	0	-	-	-
13-Mar-23	NO PUMP		0	0	-	-	-
14-Mar-23	NO PUMP		0	0	-	-	-
15-Mar-23	NO PUMP		0	0	-	-	-
16-Mar-23	NO PUMP		0	0	-	-	-
17-Mar-23	NO PUMP		0	0	-	-	-
18-Mar-23	NO PUMP		0	0	-	-	-
19-Mar-23	NO PUMP		0	0	-	-	-
20-Mar-23	NO PUMP		0	0	-	-	-
21-Mar-23	NO PUMP		0	0	-	-	-
22-Mar-23	NO PUMP		0	0	-	-	-
23-Mar-23	NO PUMP		0	0	-	-	-
24-Mar-23	7:00	5:00	36000	600	720,000	20	1,200
25-Mar-23	NO PUMP		0	0	-	-	-
26-Mar-23	NO PUMP		0	0	-	-	-
27-Mar-23	7:00	5:00	36000	600	720,000	20	1,200

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
28-Mar-23	7:00	5:00	36000	600	720,000	20	1,200
29-Mar-23	7:00	5:00	36000	600	720,000	20	1,200
30-Mar-23	7:00	5:00	36000	600	720,000	20	1,200
31-Mar-23	7:00	5:00	36000	600	720,000	20	1,200
1-Apr-23	NO PUMP		0	0	-	-	-
2-Apr-23	NO PUMP		0	0	-	-	-
3-Apr-23	7:00	5:00	36000	600	720,000	20	1,200
4-Apr-23	7:00	5:00	36000	600	720,000	20	1,200
5-Apr-23	7:00	5:00	36000	600	720,000	20	1,200
6-Apr-23	7:00	5:00	36000	600	720,000	20	1,200
7-Apr-23	7:00	5:00	36000	600	720,000	20	1,200
8-Apr-23	NO PUMP		0	0	-	-	-
9-Apr-23	NO PUMP		0	0	-	-	-
10-Apr-23	7:00	5:00	36000	600	720,000	20	1,200
11-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
12-Apr-23	NO PUMP		0	0	-	-	-
13-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
14-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
15-Apr-23	NO PUMP		0	0	-	-	-
16-Apr-23	NO PUMP		0	0	-	-	-
17-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
18-Apr-23	NO PUMP		0	0	-	-	-
19-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
20-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
21-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
22-Apr-23	NO PUMP		0	0	-	-	-
23-Apr-23	NO PUMP		0	0	-	-	-
24-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
25-Apr-23	NO PUMP		0	0	-	-	-
26-Apr-23	NO PUMP		0	0	-	-	-
27-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
28-Apr-23	7:00	5:00	36000	600	850,200	24	1,417
29-Apr-23	NO PUMP		0	0	-	-	-
30-Apr-23	NO PUMP		0	0	-	-	-
1-May-23	NO PUMP		0	0	-	-	-
2-May-23	NO PUMP		0	0	-	-	-
3-May-23	7:00	5:00	36000	600	850,200	24	1,417
4-May-23	7:00	5:00	36000	600	850,200	24	1,417
5-May-23	7:00	5:00	36000	600	850,200	24	1,417
6-May-23	NO PUMP		0	0	-	-	-
7-May-23	NO PUMP		0	0	-	-	-
8-May-23	NO PUMP		0	0	-	-	-
9-May-23	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
10-May-23	NO PUMP		0	0	-	-	-
11-May-23	NO PUMP		0	0	-	-	-
12-May-23	7:00	5:00	36000	600	850,200	24	1,417
13-May-23	NO PUMP		0	0	-	-	-
14-May-23	NO PUMP		0	0	-	-	-
15-May-23	NO PUMP		0	0	-	-	-
16-May-23	NO PUMP		0	0	-	-	-
17-May-23	7:00	5:00	36000	600	850,200	24	1,417
18-May-23	NO PUMP		0	0	-	-	-
19-May-23	7:00	5:00	36000	600	850,200	24	1,417
20-May-23	NO PUMP		0	0	-	-	-
21-May-23	NO PUMP		0	0	-	-	-
22-May-23	7:00	5:00	36000	600	850,200	24	1,417
23-May-23	7:00	5:00	36000	600	850,200	24	1,417
24-May-23	NO PUMP		0	0	-	-	-
25-May-23	NO PUMP		0	0	-	-	-
26-May-23	NO PUMP		0	0	-	-	-
27-May-23	NO PUMP		0	0	-	-	-
28-May-23	NO PUMP		0	0	-	-	-
29-May-23	NO PUMP		0	0	-	-	-
30-May-23	NO PUMP		0	0	-	-	-
31-May-23	NO PUMP		0	0	-	-	-
1-Jun-23	NO PUMP		0	0	-	-	-
2-Jun-23	NO PUMP		0	0	-	-	-
3-Jun-23	NO PUMP		0	0	-	-	-
4-Jun-23	NO PUMP		0	0	-	-	-
5-Jun-23	NO PUMP		0	0	-	-	-
6-Jun-23	NO PUMP		0	0	-	-	-
7-Jun-23	7:00	5:00	36000	600	850,200	24	1,417
8-Jun-23	7:00	5:00	36000	600	850,200	24	1,417
9-Jun-23	NO PUMP		0	0	-	-	-
10-Jun-23	NO PUMP		0	0	-	-	-
11-Jun-23	NO PUMP		0	0	-	-	-
12-Jun-23	7:00	5:00	36000	600	850,200	24	1,417
13-Jun-23	7:00	5:00	36000	600	850,200	24	1,417
14-Jun-23	NO PUMP		0	0	-	-	-
15-Jun-23	NO PUMP		0	0	-	-	-
16-Jun-23	NO PUMP		0	0	-	-	-
17-Jun-23	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
18-Jun-23	NO PUMP		0	0	-	-	-
19-Jun-23	7:00	5:00	36000	600	850,200	24	1,417
20-Jun-23	NO PUMP		0	0	-	-	-
21-Jun-23	NO PUMP		0	0	-	-	-
22-Jun-23	NO PUMP		0	0	-	-	-
23-Jun-23	NO PUMP		0	0	-	-	-
24-Jun-23	NO PUMP		0	0	-	-	-
25-Jun-23	NO PUMP		0	0	-	-	-
26-Jun-23	7:00	5:00	36000	600	850,200	24	1,417
27-Jun-23	NO PUMP		0	0	-	-	-
28-Jun-23	NO PUMP		0	0	-	-	-
29-Jun-23	NO PUMP		0	0	-	-	-
30-Jun-23	NO PUMP		0	0	-	-	-
1-Jul-23	NO PUMP		0	0	-	-	-
2-Jul-23	NO PUMP		0	0	-	-	-
3-Jul-23	7:00	5:00	36000	600	850,200	24	1,417
4-Jul-23	7:00	5:00	36000	600	850,200	24	1,417
5-Jul-23	NO PUMP		0	0	-	-	-
6-Jul-23	NO PUMP		0	0	-	-	-
7-Jul-23	NO PUMP		0	0	-	-	-
8-Jul-23	NO PUMP		0	0	-	-	-
9-Jul-23	NO PUMP		0	0	-	-	-
10-Jul-23	NO PUMP		0	0	-	-	-
11-Jul-23	NO PUMP		0	0	-	-	-
12-Jul-23	NO PUMP		0	0	-	-	-
13-Jul-23	NO PUMP		0	0	-	-	-
14-Jul-23	NO PUMP		0	0	-	-	-
15-Jul-23	NO PUMP		0	0	-	-	-
16-Jul-23	NO PUMP		0	0	-	-	-
17-Jul-23	7:00	5:00	36000	600	850,200	24	1,417
18-Jul-23	NO PUMP		0	0	-	-	-
19-Jul-23	NO PUMP		0	0	-	-	-
20-Jul-23	NO PUMP		0	0	-	-	-
21-Jul-23	NO PUMP		0	0	-	-	-
22-Jul-23	NO PUMP		0	0	-	-	-
23-Jul-23	NO PUMP		0	0	-	-	-
24-Jul-23	NO PUMP		0	0	-	-	-
25-Jul-23	NO PUMP		0	0	-	-	-
26-Jul-23	NO PUMP		0	0	-	-	-
27-Jul-23	NO PUMP		0	0	-	-	-
28-Jul-23	7:00	2:00	25200	420	595,140	24	1,417
29-Jul-23	NO PUMP		0	0	-	-	-
30-Jul-23	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
31-Jul-23	NO PUMP		0	0	-	-	-
1-Aug-23	NO PUMP		0	0	-	-	-
2-Aug-23	NO PUMP		0	0	-	-	-
3-Aug-23	NO PUMP		0	0	-	-	-
4-Aug-23	7:00	12:00	18000	300	425,100	24	1,417
5-Aug-23	NO PUMP		0	0	-	-	-
6-Aug-23	NO PUMP		0	0	-	-	-
7-Aug-23	NO PUMP		0	0	-	-	-
8-Aug-23	NO PUMP		0	0	-	-	-
9-Aug-23	NO PUMP		0	0	-	-	-
10-Aug-23	NO PUMP		0	0	-	-	-
11-Aug-23	NO PUMP		0	0	-	-	-
12-Aug-23	NO PUMP		0	0	-	-	-
13-Aug-23	NO PUMP		0	0	-	-	-
14-Aug-23	NO PUMP		0	0	-	-	-
15-Aug-23	NO PUMP		0	0	-	-	-
16-Aug-23	NO PUMP		0	0	-	-	-
17-Aug-23	NO PUMP		0	0	-	-	-
18-Aug-23	NO PUMP		0	0	-	-	-
19-Aug-23	NO PUMP		0	0	-	-	-
20-Aug-23	NO PUMP		0	0	-	-	-
21-Aug-23	NO PUMP		0	0	-	-	-
22-Aug-23	NO PUMP		0	0	-	-	-
23-Aug-23	NO PUMP		0	0	-	-	-
24-Aug-23	NO PUMP		0	0	-	-	-
25-Aug-23	NO PUMP		0	0	-	-	-
26-Aug-23	NO PUMP		0	0	-	-	-
27-Aug-23	NO PUMP		0	0	-	-	-
28-Aug-23	NO PUMP		0	0	-	-	-
29-Aug-23	NO PUMP		0	0	-	-	-
30-Aug-23	NO PUMP		0	0	-	-	-
31-Aug-23	NO PUMP		0	0	-	-	-
1-Sep-23	NO PUMP		0	0	-	-	-
2-Sep-23	NO PUMP		0	0	-	-	-
3-Sep-23	NO PUMP		0	0	-	-	-
4-Sep-23	NO PUMP		0	0	-	-	-
5-Sep-23	NO PUMP		0	0	-	-	-
6-Sep-23	NO PUMP		0	0	-	-	-
7-Sep-23	NO PUMP		0	0	-	-	-
8-Sep-23	NO PUMP		0	0	-	-	-
9-Sep-23	NO PUMP		0	0	-	-	-
10-Sep-23	NO PUMP		0	0	-	-	-
11-Sep-23	7:00	11:00	14400	240	340,080	24	1,417

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
12-Sep-23	NO PUMP		0	0	-	-	-
13-Sep-23	NO PUMP		0	0	-	-	-
14-Sep-23	NO PUMP		0	0	-	-	-
15-Sep-23	NO PUMP		0	0	-	-	-
16-Sep-23	NO PUMP		0	0	-	-	-
17-Sep-23	NO PUMP		0	0	-	-	-
18-Sep-23	NO PUMP		0	0	-	-	-
19-Sep-23	NO PUMP		0	0	-	-	-
20-Sep-23	NO PUMP		0	0	-	-	-
21-Sep-23	NO PUMP		0	0	-	-	-
22-Sep-23	NO PUMP		0	0	-	-	-
23-Sep-23	NO PUMP		0	0	-	-	-
24-Sep-23	NO PUMP		0	0	-	-	-
25-Sep-23	7:00	9:00	7200	120	170,040	24	1,417
26-Sep-23	NO PUMP		0	0	-	-	-
27-Sep-23	NO PUMP		0	0	-	-	-
28-Sep-23	NO PUMP		0	0	-	-	-
29-Sep-23	NO PUMP		0	0	-	-	-
30-Sep-23	NO PUMP		0	0	-	-	-
1-Oct-23	NO PUMP		0	0	-	-	-
2-Oct-23	NO PUMP		0	0	-	-	-
3-Oct-23	NO PUMP		0	0	-	-	-
4-Oct-23	NO PUMP		0	0	-	-	-
5-Oct-23	NO PUMP		0	0	-	-	-
6-Oct-23	NO PUMP		0	0	-	-	-
7-Oct-23	NO PUMP		0	0	-	-	-
8-Oct-23	NO PUMP		0	0	-	-	-
9-Oct-23	NO PUMP		0	0	-	-	-
10-Oct-23	NO PUMP		0	0	-	-	-
11-Oct-23	NO PUMP		0	0	-	-	-
12-Oct-23	NO PUMP		0	0	-	-	-
13-Oct-23	NO PUMP		0	0	-	-	-
14-Oct-23	NO PUMP		0	0	-	-	-
15-Oct-23	NO PUMP		0	0	-	-	-
16-Oct-23	7:00	11:00	14400	240	340,080	24	1,417
17-Oct-23	NO PUMP		0	0	-	-	-
18-Oct-23	NO PUMP		0	0	-	-	-
19-Oct-23	NO PUMP		0	0	-	-	-
20-Oct-23	NO PUMP		0	0	-	-	-
21-Oct-23	NO PUMP		0	0	-	-	-
22-Oct-23	NO PUMP		0	0	-	-	-
23-Oct-23	NO PUMP		0	0	-	-	-
24-Oct-23	NO PUMP		0	0	-	-	-

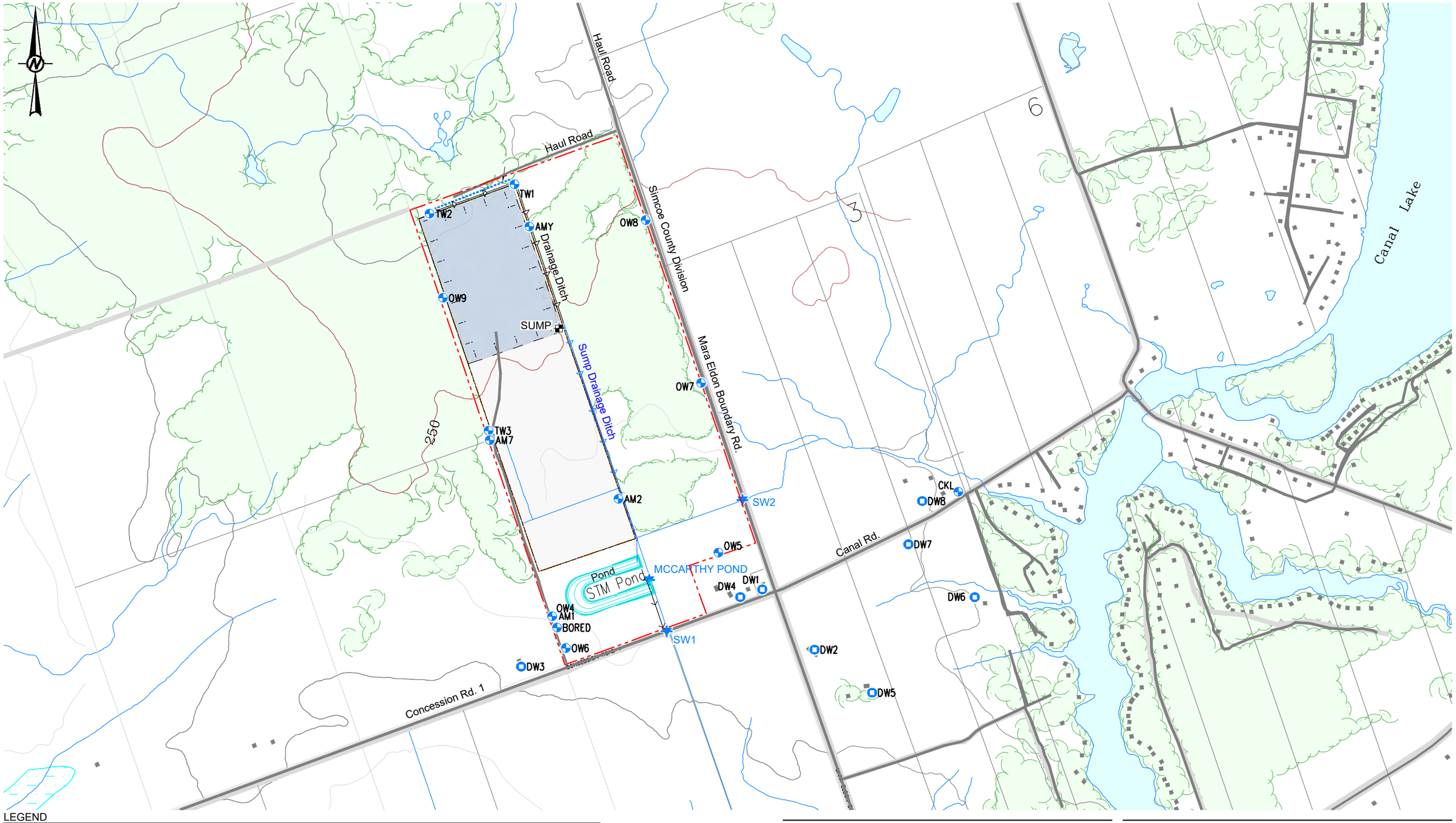
Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
25-Oct-23	NO PUMP		0	0	-	-	-
26-Oct-23	NO PUMP		0	0	-	-	-
27-Oct-23	NO PUMP		0	0	-	-	-
28-Oct-23	NO PUMP		0	0	-	-	-
29-Oct-23	NO PUMP		0	0	-	-	-
30-Oct-23	7:00	2:00	25200	420	595,140	24	1,417
31-Oct-23	NO PUMP		0	0	-	-	-
1-Nov-23	NO PUMP		0	0	-	-	-
2-Nov-23	NO PUMP		0	0	-	-	-
3-Nov-23	NO PUMP		0	0	-	-	-
4-Nov-23	NO PUMP		0	0	-	-	-
5-Nov-23	NO PUMP		0	0	-	-	-
6-Nov-23	7:00	12:00	18000	300	425,100	24	1,417
7-Nov-23	7:00	2:00	18000	300	425,100	24	1,417
8-Nov-23	NO PUMP		0	0	-	-	-
9-Nov-23	NO PUMP		0	0	-	-	-
10-Nov-23	NO PUMP		0	0	-	-	-
11-Nov-23	NO PUMP		0	0	-	-	-
12-Nov-23	NO PUMP		0	0	-	-	-
13-Nov-23	NO PUMP		0	0	-	-	-
14-Nov-23	7:30	4:30	32400	540	765,180	24	1,417
15-Nov-23	7:00	4:00	32400	540	765,180	24	1,417
16-Nov-23	NO PUMP		0	0	-	-	-
17-Nov-23	NO PUMP		0	0	-	-	-
18-Nov-23	NO PUMP		0	0	-	-	-
19-Nov-23	NO PUMP		0	0	-	-	-
20-Nov-23	NO PUMP		0	0	-	-	-
21-Nov-23	NO PUMP		0	0	-	-	-
22-Nov-23	NO PUMP		0	0	-	-	-
23-Nov-23	7:30	4:30	32400	540	765,180	24	1,417
24-Nov-23	7:30	4:30	32400	540	765,180	24	1,417
25-Nov-23	NO PUMP		0	0	-	-	-
26-Nov-23	NO PUMP		0	0	-	-	-
27-Nov-23	NO PUMP		0	0	-	-	-
28-Nov-23	NO PUMP		0	0	-	-	-
29-Nov-23	7:30	4:30	32400	540	765,180	24	1,417
30-Nov-23	NO PUMP		0	0	-	-	-
1-Dec-23	NO PUMP		0	0	-	-	-
2-Dec-23	NO PUMP		0	0	-	-	-
3-Dec-23	NO PUMP		0	0	-	-	-
4-Dec-23	NO PUMP		0	0	-	-	-
5-Dec-23	NO PUMP		0	0	-	-	-
6-Dec-23	NO PUMP		0	0	-	-	-

Table 6: Measured Water Volume and Rate of Discharge from Quarry Sump

Date	Start	Stop	Total Sec.	Total Min.	Total Litres	Rate of Taking (L/sec)	Rate of Taking (L/min)
ECA Permitted Rate					**6,544,800**	**76**	**4,545**
7-Dec-23	NO PUMP		0	0	-	-	-
8-Dec-23	NO PUMP		0	0	-	-	-
9-Dec-23	NO PUMP		0	0	-	-	-
10-Dec-23	NO PUMP		0	0	-	-	-
11-Dec-23	7:00	5:00	36000	600	850,200	24	1,417
12-Dec-23	7:30	12:00	18000	300	425,100	24	1,417
13-Dec-23	NO PUMP		0	0	-	-	-
14-Dec-23	NO PUMP		0	0	-	-	-
15-Dec-23	NO PUMP		0	0	-	-	-
16-Dec-23	NO PUMP		0	0	-	-	-
17-Dec-23	NO PUMP		0	0	-	-	-
18-Dec-23	NO PUMP		0	0	-	-	-
19-Dec-23	NO PUMP		0	0	-	-	-
20-Dec-23	NO PUMP		0	0	-	-	-
21-Dec-23	NO PUMP		0	0	-	-	-
22-Dec-23	NO PUMP		0	0	-	-	-
23-Dec-23	NO PUMP		0	0	-	-	-
24-Dec-23	NO PUMP		0	0	-	-	-
25-Dec-23	NO PUMP		0	0	-	-	-
26-Dec-23	NO PUMP		0	0	-	-	-
27-Dec-23	NO PUMP		0	0	-	-	-
28-Dec-23	NO PUMP		0	0	-	-	-
29-Dec-23	NO PUMP		0	0	-	-	-
30-Dec-23	NO PUMP		0	0	-	-	-
31-Dec-23	NO PUMP		0	0	-	-	-

Figures



LEGEND

- Property Boundary
- Approximate Licenced Boundary
- Approximate Extent of Quarry
- Private Well Monitoring Location
- Observation Well Monitoring Location
- Surface Water Sampling Location

REFERENCES AND NOTES

1. Projection UTM NAD83 Zone 17
2. Mapping based on ESRI Geography Network OBM Features and 2012 Road Network
3. All Mapped features are Approximate and Not to Scale

0 250 500
1:10,000 METRES

CLIENT
GREEN INFRASTRUCTURE PARTNERS INC. / QBJR

CONSULTANT
wsp

YYYY-MM-DD	2024-02-23
PREPARED	JPR
DESIGN	
REVIEW	CI
APPROVED	

PROJECT
STAN McCARTHY QUARRY
2023 ANNUAL MONITORING REPORT

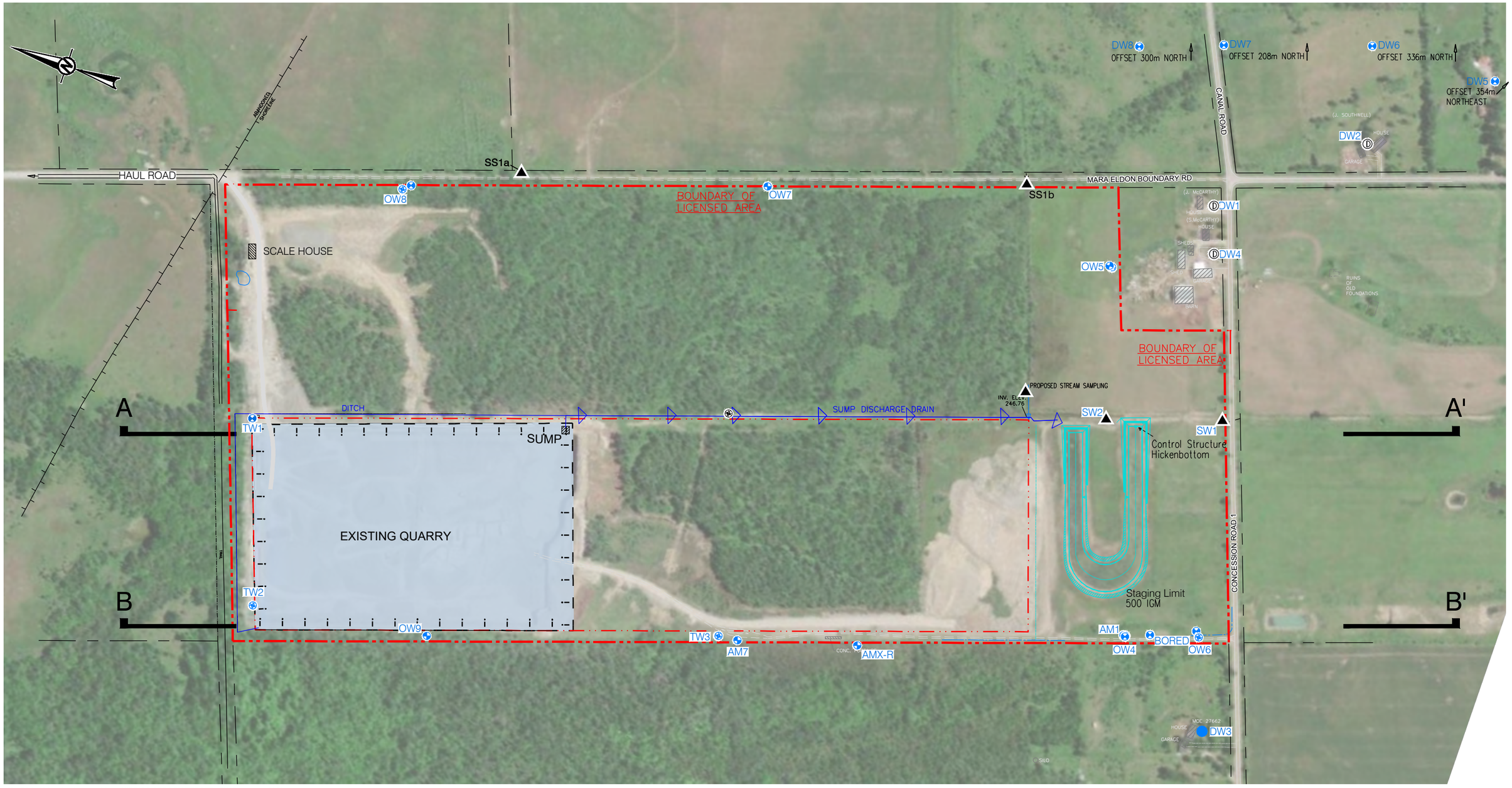
TITLE
LOCATION MAP

PROJECT No.	CONTROL	Rev.	FIGURE
22579526	0002	----	1

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

25 mm

Path: \\golder.gds\gal\Barrie\Complete\Data\SIM\Clients\Coco_Paving\McCarthy_Quarry\99_PRO\22579526\40_PROD\0002-AMR-2023\ | File Name: 22579526-0002-CH-0001.dwg



Site Digital Mapping Licenced from KIRBY & ASSOCIATES LTD, BING Imagery 2022

0 100 200
1:5,000 METRES

LEGEND

- Quarry Boundary
- Limit of Extraction
- Swales and Drainage Plan
- Surface Water Sampling Location
- Private Dug Well
- Private Drilled Well
- Standpipe
- Observation Well

NOTES

1. Test Well AM7 inaccessible
2. DW1 Formally Degroot
3. DW2 Formally Southwell
4. DW3 Formally Lamarre
5. DW4 Formally McCarthy
6. AMX decommissioned replaced with AMX-R

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR

wsp

2024-02-23

JPR

CI

STAN McCARTHY QUARRY
2023 ANNUAL MONITORING REPORT

SITE PLAN

CONTROL 0002 ---- FIGURE 2

25 mm
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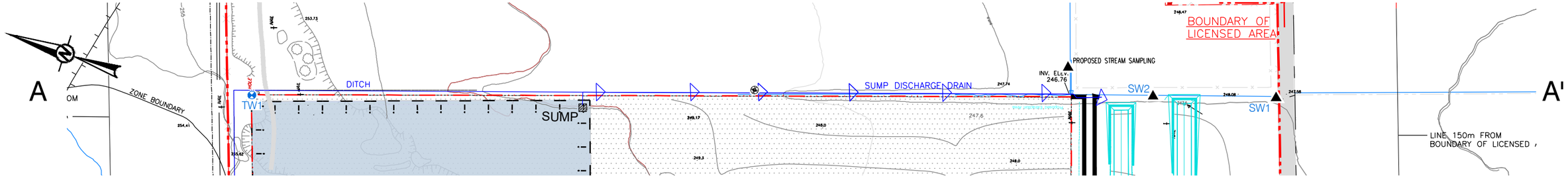
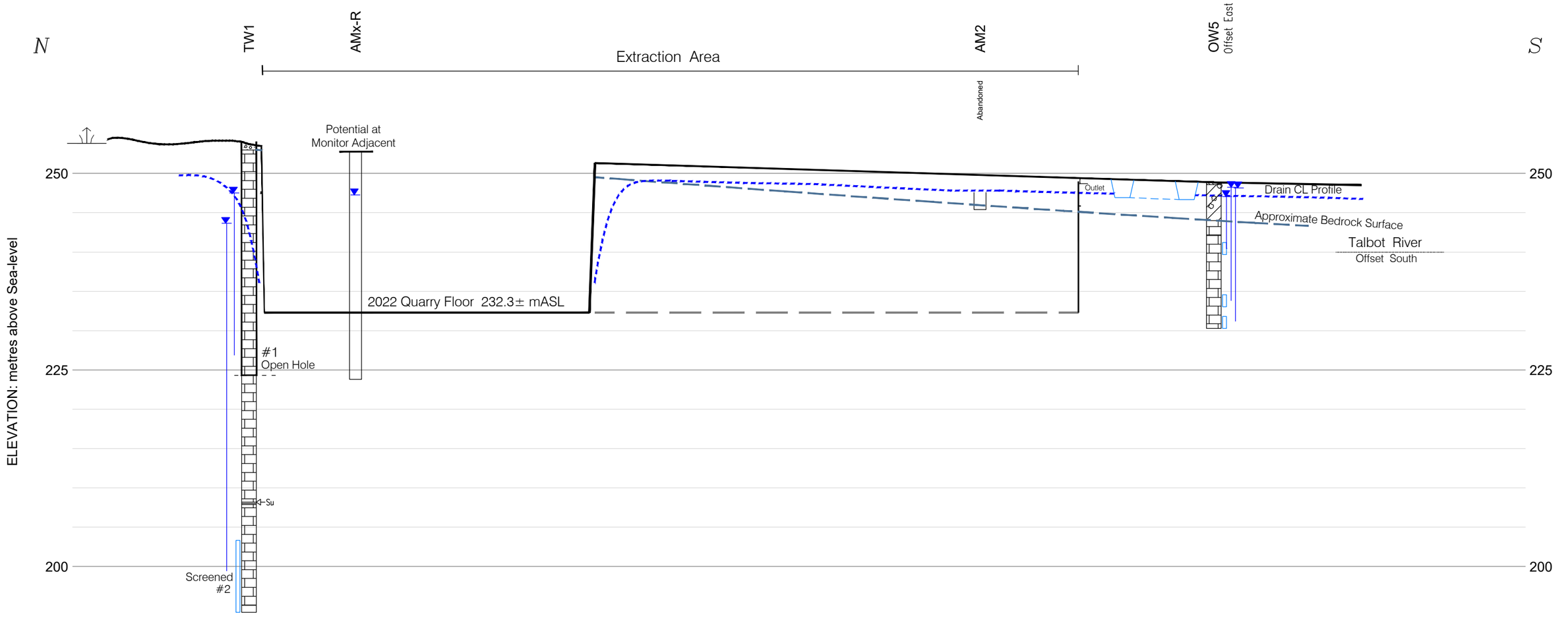




0 100 200
1:5,000 METRES

On all sections, boundaries between soil strata have been determined only at well and test well locations. Between the wells and test wells, boundaries are not proven but are assumed from geological evidence.

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR

STAN McCARTHY QUARRY
2023 ANNUAL MONITORING REPORT

2024-02-23

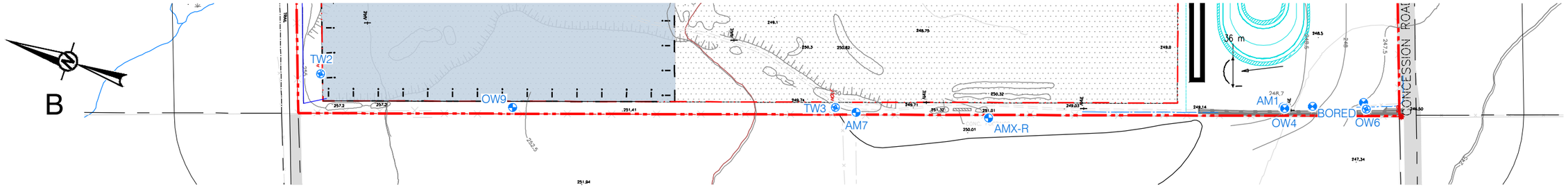
JPR

CI

SITE SECTION A - A'

CONTROL		FIGURE
22579526	0002	---- 3

25 mm
0



N

S

TW2
Testhole

OW9

TW3

POND

OW4

BORED
7115501

OW6

Extraction Area Offset

ELEVATION: metres above Sea-level

250

225

200

Offset Adjacent

DRY

Water Table 2023

Active Quarry Area
Quarry Floor 2022

Sump

Proposed Final Quarry Floor 232.3± mASL

Approximate Bedrock Surface

Outlet

Talbot River
Offset South

0 100 200
1:5,000 METRES

On all sections, boundaries between soil strata have been determined only at well and test well locations. Between the wells and test wells, boundaries are not proven but are assumed from geological evidence.

Depth of Quarry measured in offset Blast Hole drilling 2014 and reflecting maximum depth

CLIENT
GREEN INFRASTRUCTURE PARTNERS INC. / QBJR

CONSULTANT
wsp

YYYY-MM-DD	2024-02-23
DESIGNED	
PREPARED	JPR
REVIEWED	CI
APPROVED	

PROJECT
STAN McCARTHY QUARRY
2023 ANNUAL MONITORING REPORT

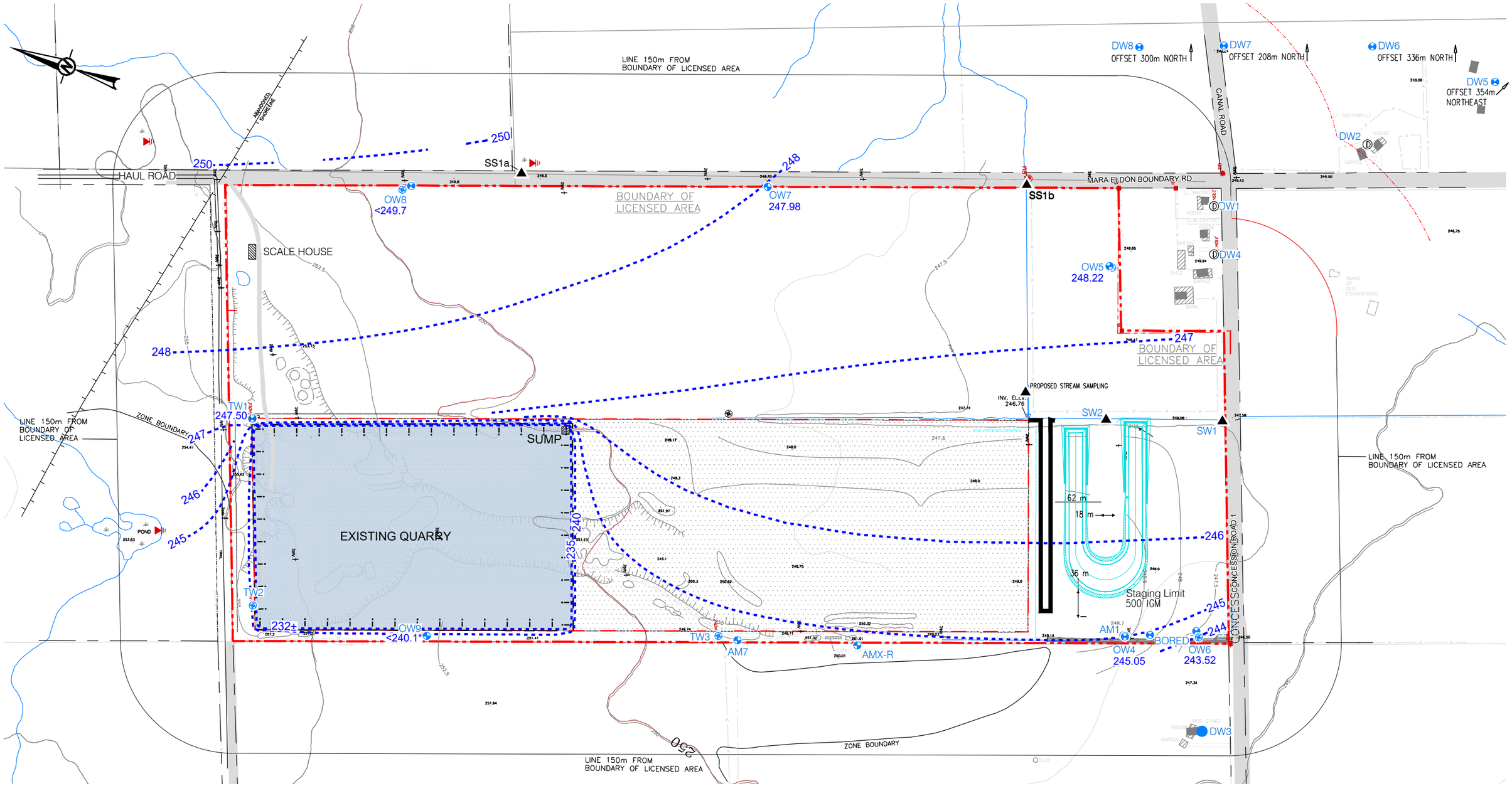
TITLE
SITE SECTION B - B'

PROJECT NO.	CONTROL	REV.	FIGURE
22579526	0002	----	4

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

25 mm

0



Site Digital Mapping Licenced from KIRBY & ASSOCIATES LTD

0 100 200
1:5,000 METRES

LEGEND

- Quarry Boundary
- Limit of Extraction
- Swales and Drainage Plan
- 245.67 Static Water Level (October 2023)
- Equipotential Line (masl)
- Inferred Groundwater Flow (Upper Bobcaygeon)
- ▲ Surface Water Sampling Location
- Ⓓ Private Dug Well
- ● Private Drilled Well
- ■ Standpipe
- Test Well

NOTES

1. Test Well AM7 inaccessible
2. DW1 Formally Degroot
3. DW2 Formally Southwell
4. DW3 Formally Lamarre
5. DW4 Formally McCarthy
6. AMX decommissioned replaced with AMX-R
7. Static levels taken October 2023
8. *OW9 #1 above Quarry Floor, #2 below Floor

CLIENT
GREEN INFRASTRUCTURE PARTNERS INC. / QBJR

CONSULTANT
wsp

YYYY-MM-DD	2024-02-23
DESIGNED	
PREPARED	JPR
REVIEWED	CI
APPROVED	

PROJECT
STAN McCARTHY QUARRY
2023 ANNUAL MONITORING REPORT

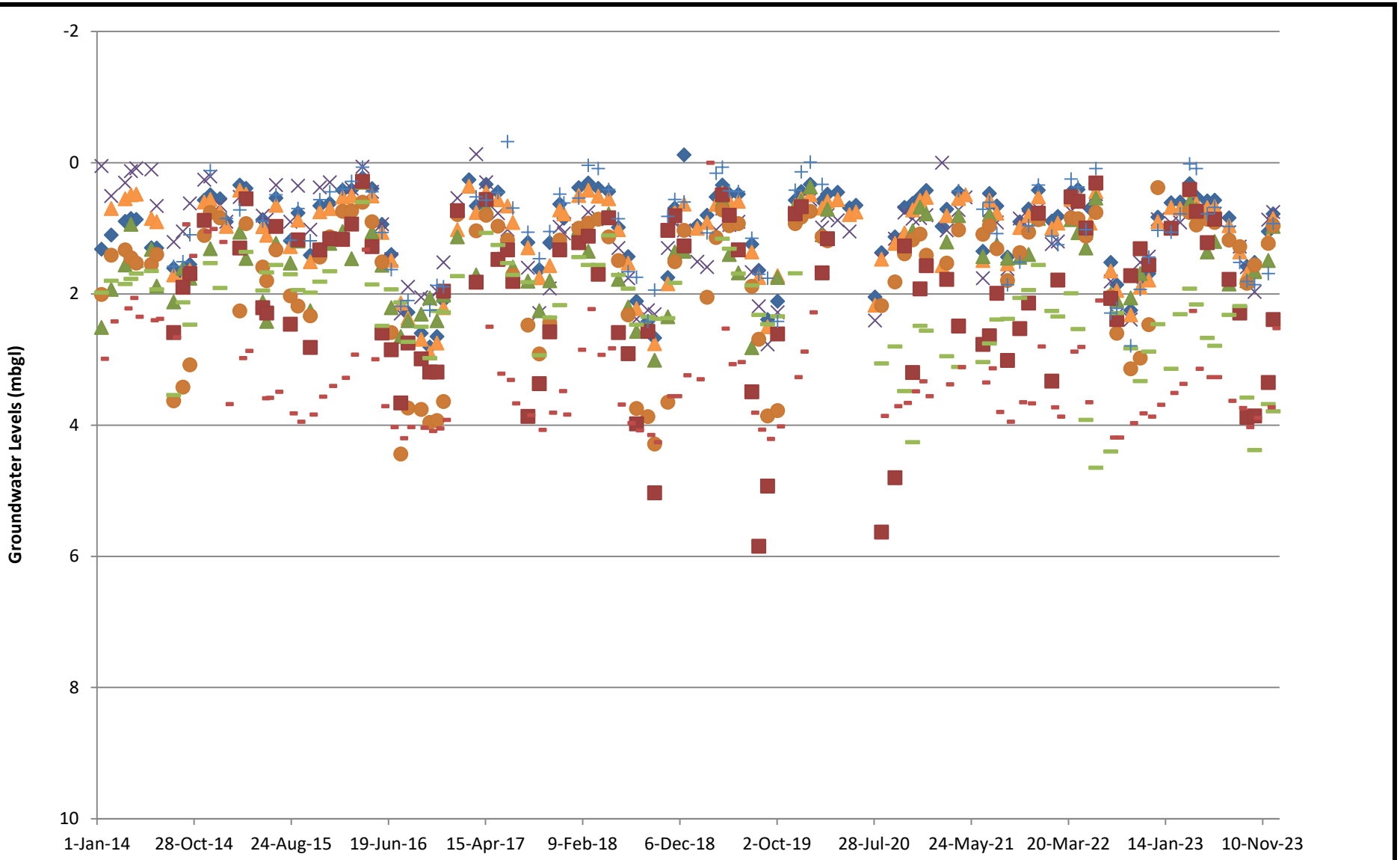
TITLE
GROUNDWATER FLOW BOBCAYGEON FORMATION

PROJECT NO.	CONTROL	REV.	FIGURE
22579526	0002	----	5

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

25 mm

0



◆ Bored	✕ OW5-1	▲ AM1b	
▲ DW1	● DW2	■ DW4	
– DW6	+ DW7	- DW8	

wsp

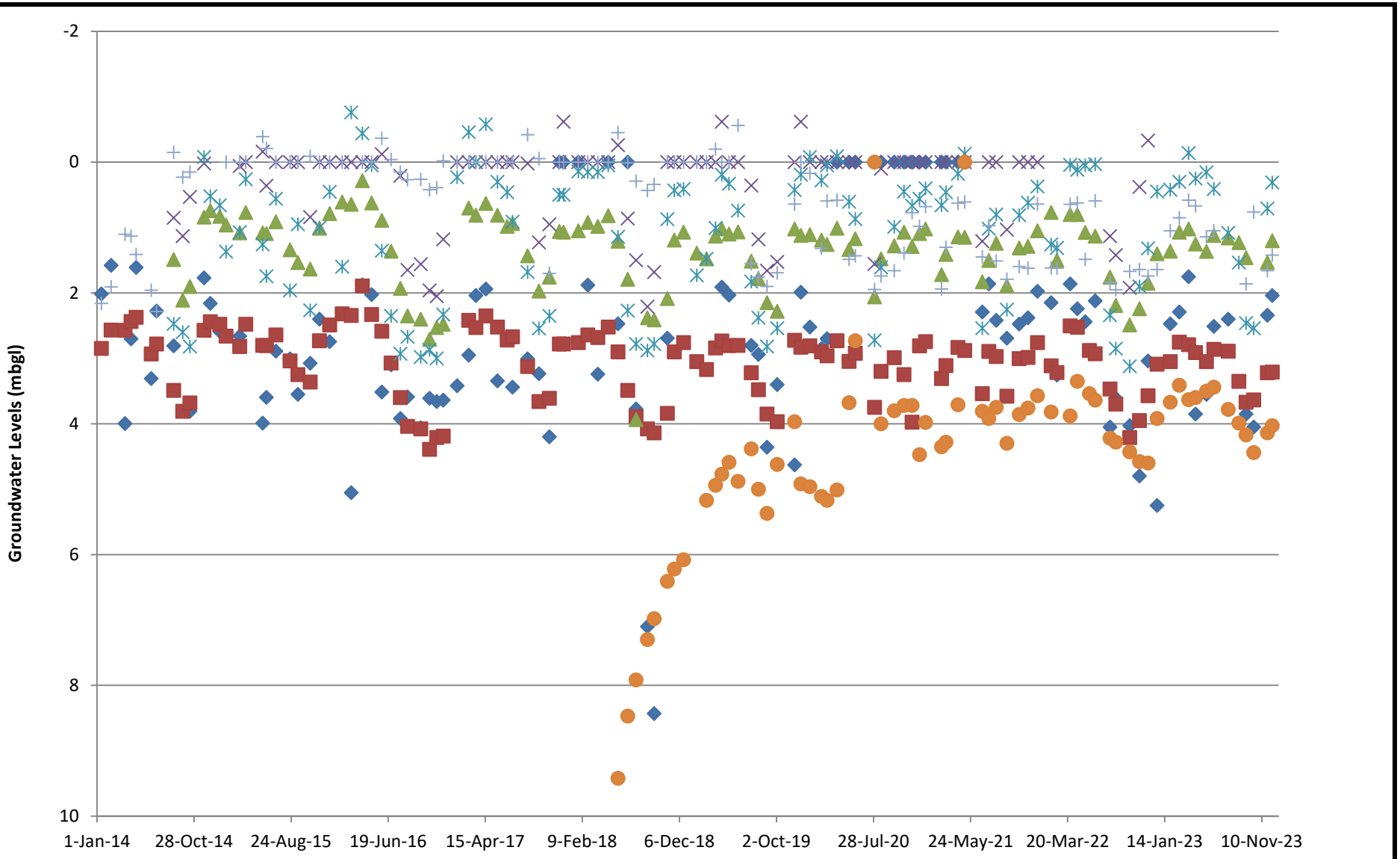
FILE No.		TEST:	
PROJECT No.	22579526	REVIEW:	SM

SCALE:	NTS
DATE:	22-Feb-24
CAD:	CSI

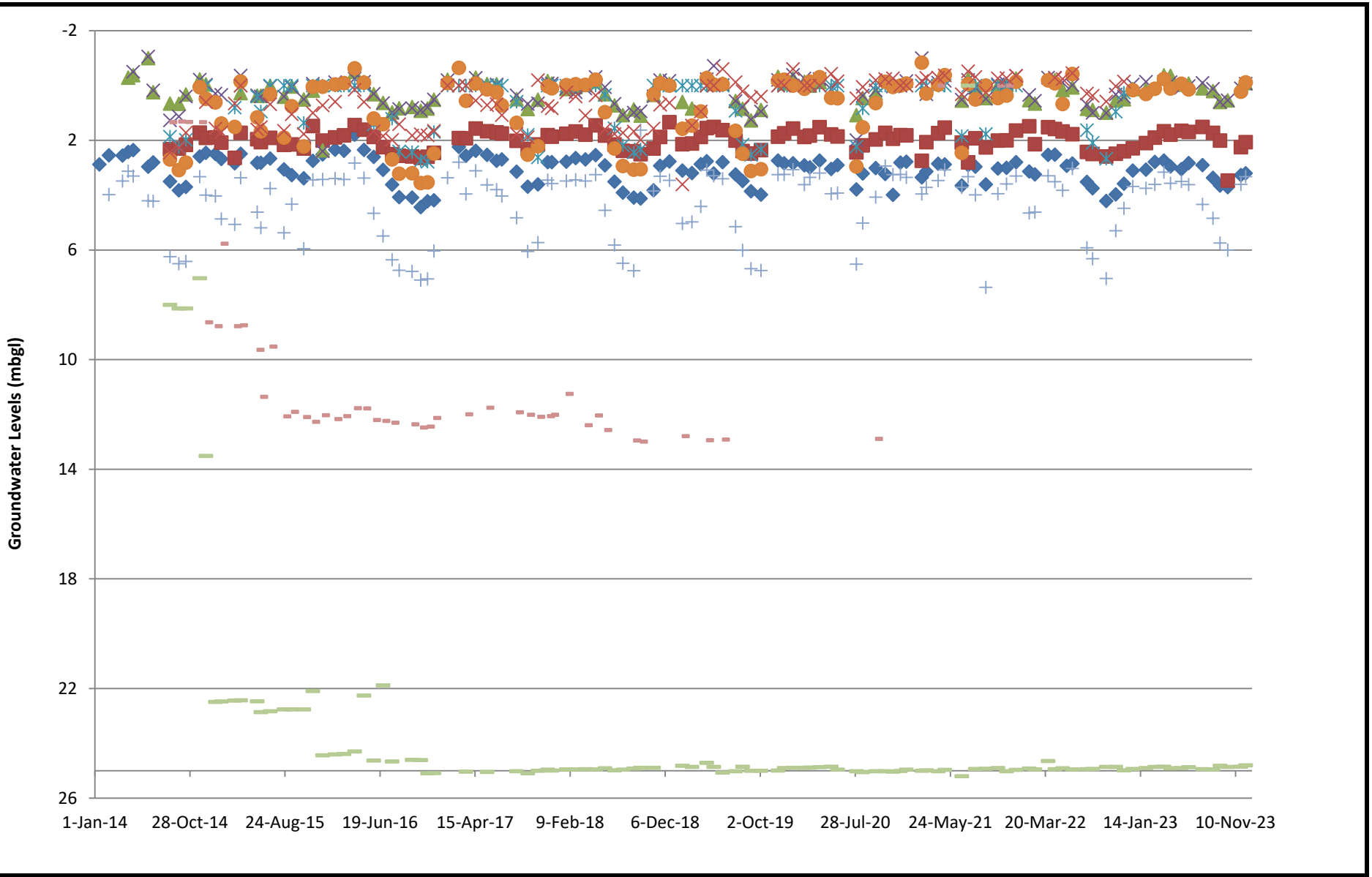
McCarthy Quarry
Overburden Monitoring Wells
Groundwater Levels

QBJR/Green Infrastructure Partners Inc.
2023 Annual Monitoring Report

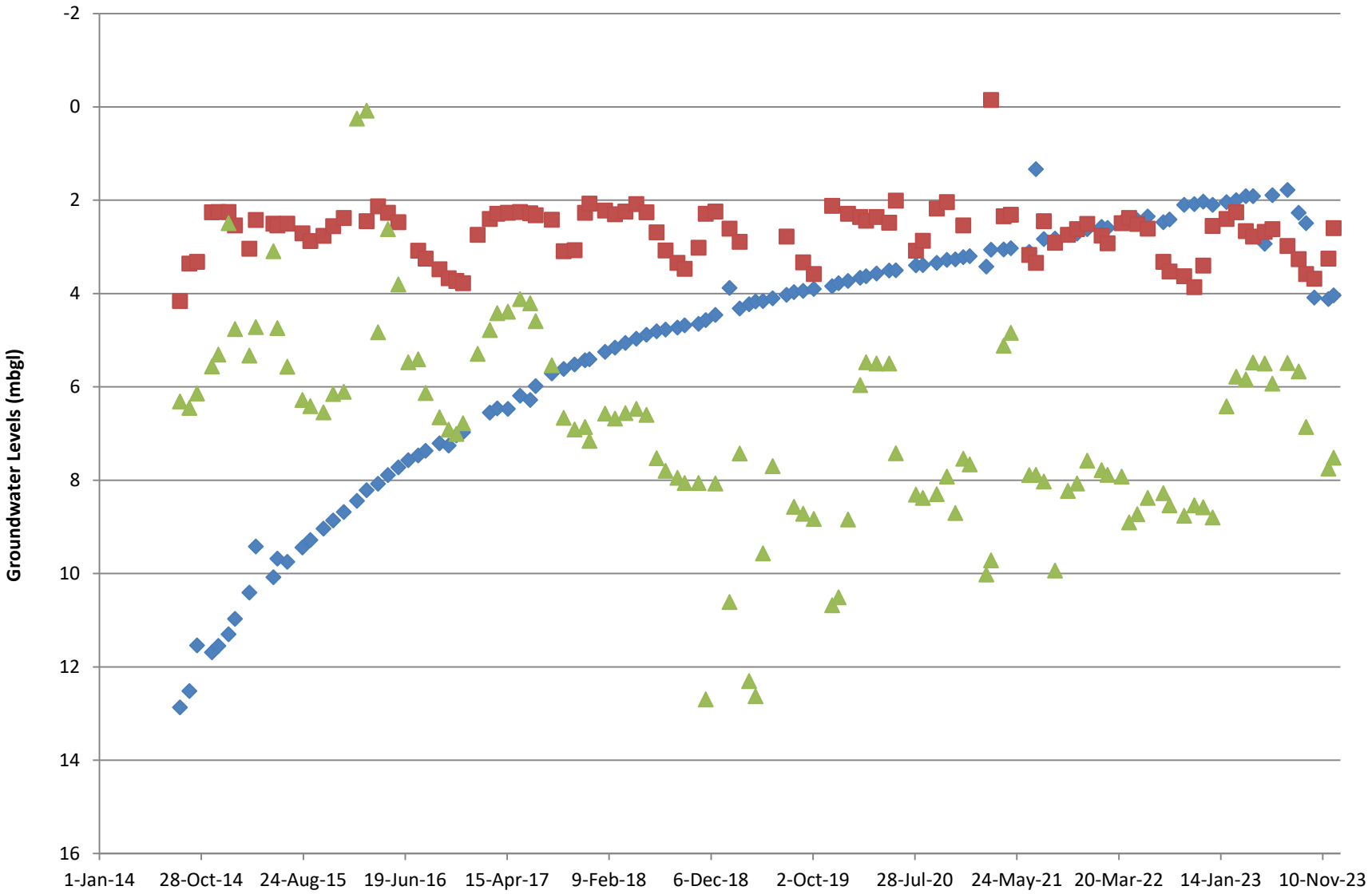
FIGURE No
6



DW3, OW4-1, OW6-1, OW7-1, OW8-1, Amx-R, CKL-1	wsp	SCALE: NTS	McCarthy Quarry Verulam Monitoring Wells Groundwater Levels
		DATE: 25-Feb-24	
		CAD: CSI	
	FILE No.	TEST:	QBJR/Green Infrastructure Partners Inc. 2023 Annual Monitoring Report
	PROJECT No. 22579526	REVIEW: SM	FIGURE No 7

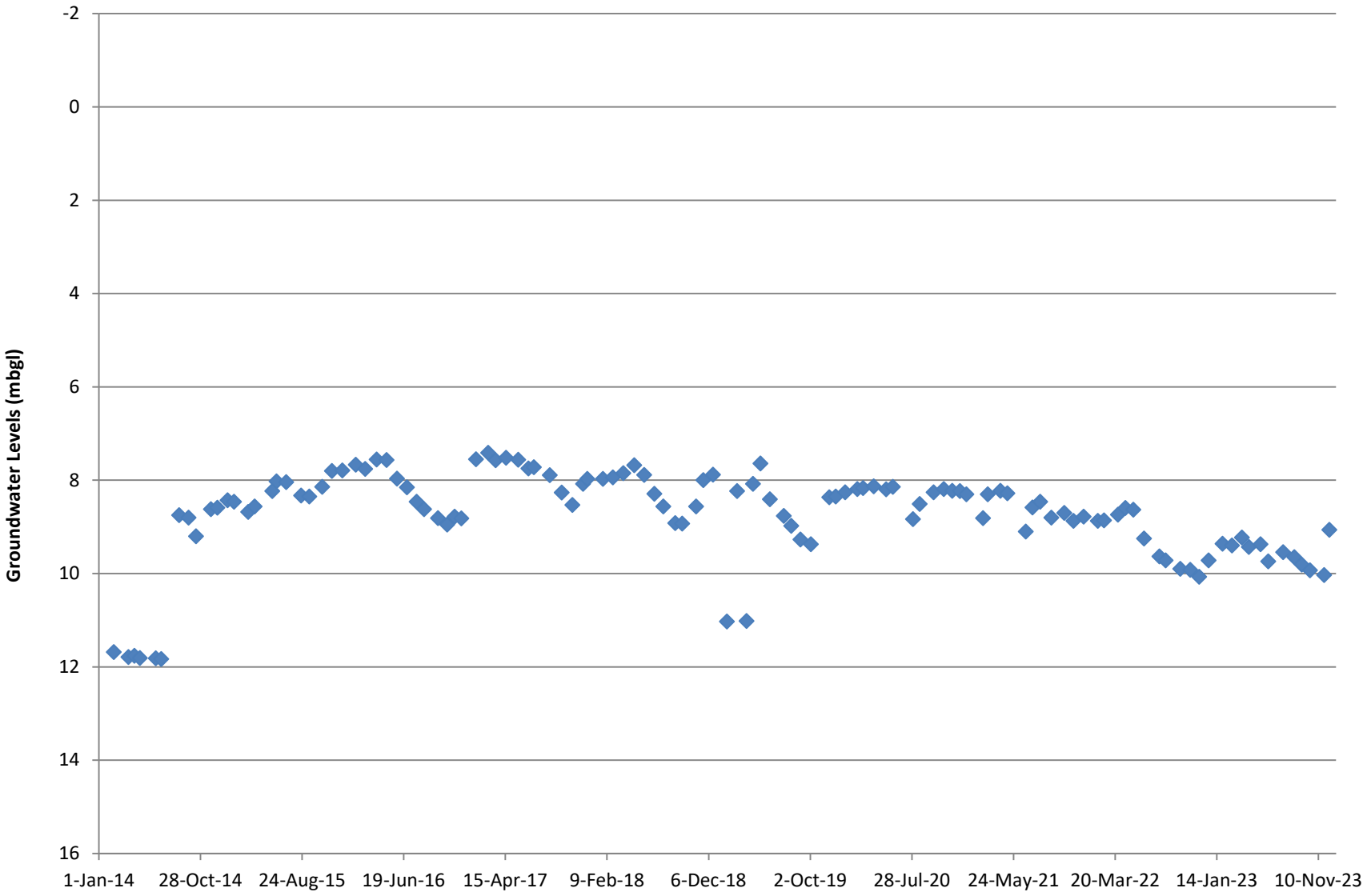


◆ OW4-2 ■ OW6-2 ▲ OW5-2		SCALE: NTS	**McCarthy Quarry**
× OW5-3 ✳ OW7-2 ● OW8-2	wsp	DATE: 25-Feb-24	**Bobcaygeon Monitoring Wells**
+ TW1-1 - OW9-1 — OW9-2		CAD: CSI	**Groundwater Level**
× CLK-2	FILE No.	TEST:	QBJR/Green Infrastructure Partners Inc.
	PROJECT No. 22579526	REVIEW: SM	2023 Annual Monitoring Report
			FIGURE No **8**



◆ OW6-3
■ OW7-3
▲ OW8-3

		SCALE: NTS	**McCarthy Quarry** **Gull River Monitoring Wells** **Groundwater Level**
		DATE: 25-Feb-24	
		CAD: CSI	
FILE No.		TEST:	QBJR/Green Infrastructure Partners Inc. 2023 Annual Monitoring Report
PROJECT No.	22579526	REVIEW: SM	FIGURE No **9**



TW1-2

	SCALE: NTS	**McCarthy Quarry**	
	DATE: 25-Feb-24	**Precambrian Monitoring Wells**	
	CAD: CSI	**Groundwater Level**	
FILE No.	TEST:	QBJR/Green Infrastructure Partners Inc.	FIGURE No
PROJECT No. 22579526	REVIEW: SM	2023 Annual Monitoring Report	**10**

APPENDIX A

PTTW No. 1603-BKTPQH

PERMIT TO TAKE WATER
Ground Water
NUMBER 1603-BKTPQH

Pursuant to Section 34.1 of the Ontario Water Resources Act, R.S.O. 1990 this Permit To Take Water is hereby issued to:

QBJR Aggregates Inc.
949 Wilson Ave
Toronto, Ontario, M3K 1G2
Canada

For the water taking from: Quarry Sump, McCarthy Quarry

Located at: Lot 1, Concession 1, Geographic Township of Mara
Ramara, County of Simcoe

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 34.1, 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, Conservation and Parks.

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

(e) "Permit" means this Permit to Take Water No. 1603-BKTPQH including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.

(f) "Permit Holder" means QBJR Aggregates 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 October 23, 2019 and signed by Jenny Coco, CEO, 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 **January 31, 2025**. 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	Quarry Sump	Pond Connected	Pits and Quarries	Dewatering	4,545	24	6,544,800	250	17 650950 4933500
						Total Taking:	6,544,800		

3.3 There is an additional water taking limitation per year for Source 1 described as Quarry Sump within Table A. The maximum taking per year from the Quarry Sump is 196,500,000 litres.

4. Monitoring

4.1 The Permit Holder shall not lower the water in the quarry below an elevation of 232.0 metres above sea level.

4.2 The Permit Holder shall conduct daily water level monitoring with the use of pressure transducers and data loggers at:

a) The residential well known by the MOE Water Well Record Number 5727662 and identified as well DW3 on Figure 2 in Item 2 of Schedule A of this Permit, if granted permission by the property owner.

b) The monitoring wells named OW4-1, OW4-2, OW5-1, OW6-1, OW6-2, OW8-3, OW9-2, and Bored Well (shown on Figure 2, in Item 2 of Schedule A of this Permit).

c) The City of Kwartha Lakes monitoring well CKL-1, if granted permission by the property owner .

These pressure transducers and data loggers shall be inspected and downloaded at least every 6 months.

4.3 The Permit Holder shall conduct monthly water level monitoring with the use of a manual water level meter at:

a) The residential well known by the MOE Water Well Record Number 5727662 and identified as well DW3 on Figure 2 in Item 2 of Schedule A of this Permit, if granted permission by the property owner.

b) The residential wells named DW1, DW2, and DW4, if granted permission by the property owner (shown on Figure 2, in Item 2 of Schedule A of this Permit).

c) The monitoring wells named AM1b, AMX-R, TW1-1, OW4-1, OW4-2, OW5-1, OW5-2, OW5-3, OW6-1, OW6-2, OW6-3, OW7-1, OW7-2, OW7-3, OW8-1, OW8-2, OW8-3, OW9-1, OW9-2, and Bored Well (shown on Figure 2 in Item 2 of Schedule A of this Permit).

d) The City of Kwartha Lakes monitoring wells CKL-1 and CKL-2, if granted permission by the property owner .

The Permit Holder may suspend monthly water level monitoring under Condition 4.3 for the months of January and/or February if no water is taken from the quarry on those months.

4.4 The Permit Holder shall, if granted permission by the property owner, measure and record static water levels in the residential wells named DW6, DW7, and DW8, as shown on Figure 2 in Item 2 of Schedule A of this Permit, at least once in every two (2) month period during which water is taken from the quarry. The Permit Holder may suspend monthly water level monitoring under Condition 4.4 for the months of January and/or February if no water is taken from the quarry on those months.

4.5 The Permit Holder shall, if granted permission by the property owner, on a semi-annual basis collect raw water samples from the residential wells named DW1, DW2, and the well identified in condition 4.2(a). Each sample shall be tested, at a minimum, for the parameters listed in Table 1 below:

Table 1: Water Quality Parameters for Residential Wells

pH	Sulphate	DOC	Copper
Alkalinity (CaCO3)	Magnesium	Colour	Iron
Bicarbonate	Calcium	Turbidity	Lead
Conductivity	Sodium	Aluminium	Manganese
Fluoride	Potassium	Arsenic	Selenium
Chloride	Ammonia (N)	Barium	Zinc
Nitrate	Phosphate	Boron	Hardness (CaCO3)
Nitrite	Phosphorus	Cadmium	TDS (iron sum calc.)
Chromium	Anion Sum	Ion Ratio	Langelier Index
Tannins	Cation Sum	% Difference	

The Permit Holder shall immediately report to the respective well owner, the Director, and District Office any sampling result that exceeds the Ontario Drinking Water Quality Standards as prescribed by O.Reg. 169/03, as amended.

4.6 The Permit Holder shall on a semi-annual basis conduct the groundwater quality monitoring from the on-site groundwater monitors listed in Table 2. Each sample shall be tested, at a minimum, for the parameters listed in Table 3.

Table 2: On-Site Groundwater Monitors for Water Quality Sampling

AM1b	OW4-I	OW5-III	OW8-I
AMX-R	OW4-II	OW6-II	OW8-II
TW1-1	OW5-I	OW7-I	OW9-I
Bored Well	OW5-II	OW7-II	OW9-II

Table 3: Water Quality Parameters for On-Site Groundwater Monitors

pH	Magnesium	Sulphate	Conductivity
Alkalinity	Calcium	Nitrate	DOC
Bicarbonate	Sodium	Nitrite	Colour
Fluoride	Potassium	Phosphate	TDS
Chloride	Ammonia	Phosphorus	Hardness

4.7 The Permit Holder shall notify the Director, in writing, within 30 days if the groundwater level or groundwater quality monitoring of any well listed under conditions 4.2, 4.3, 4.4, 4.5, and 4.6 is not possible, including being denied access to a private well. In the event of damage or loss of any monitoring well, monitoring devices or related equipment, the Permit Holder shall be allowed 30 calendar days from the date of discovery of the occurrence to repair or replace equipment. If a well is too damaged to be repaired or monitored, or if the well is deemed unsafe to be monitored, then the Director will decide if a replacement well is required and will modify the appropriate monitoring conditions in a written letter to the Permit Holder.

4.8 The Permit Holder shall maintain a record of all water takings. This record shall include the dates and times of water takings, and the total measured or calculated amounts for water pumped per day for each day that water is taken under the authorization of this Permit.

4.9 The Permit Holder shall keep all required records up to date 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.

4.10 The Permit Holder shall provide to the Director an annual monitoring report no later than March 1 each year during the life of this Permit. The annual monitoring report shall be prepared by an individual with P.Geo. or equivalent qualifications and shall include, at a minimum:

a) The review and assessment of all monitoring data required by this Permit.
b) An up-date of the quarry operations and predicted quarrying and dewatering for the next twelve (12) months.

c) An assessment of the groundwater trends using the on-site on off-site monitoring data. This analysis should state the actual impact area of quarry dewatering and determine the potential for off-site impacts. If any impacts are predicted then a detailed mitigation plan shall be included within this report.
d) Analysis that includes amount of water pumped, precipitation data, and an estimate of how much groundwater was pumped versus surface water.
e) Figures that include site maps with current quarry depths, groundwater contour maps, impact area of quarry dewatering, groundwater elevation graphs, and geological cross-sections.
f) Any groundwater interference complaints.
g) Description of all communication with the public.
h) Conclusions and recommendations, if any, to improve the monitoring and reporting at the site.

An electronic copy of the data collected must also accompany the report.

4.11 The Permit Holder shall make available on a publicly-accessible site on the internet the water quality and quantity data that it is required to monitor and record under this Permit and O.Reg. 387/04, as amended, and a copy of every report that is required to be prepared under this Permit. For greater clarity, the Permit Holder shall not publish any personal information as defined by the *Freedom of Information and Protection of Privacy Act,* R.S.O. 1990, c. F.31, as amended.

4.12 The Permit Holder shall maintain a Public Liaison Committee ("PLC") comprised of not more than seven (7) members that will meet at least once every four (4) months, unless the majority of the PLC decide that more or less frequent meetings are required. The PLC shall be comprised of: two (2) members appointed by the Permit Holder - one of whom shall act as Chairperson; one (1) member from each of the Township and the County, if they wish to have representatives; and three (3) members appointed by the public, if they wish to have representatives, who must be permanent residents within a 3 kilometre radius of the quarry property. The PLC shall serve in an advisory / community liaison role and shall have no powers to direct the Permit Holder or the Ministry.

4.13 Any request for an amendment or renewal of this Permit must be accompanied by a report prepared by an individual with P.Geo. or equivalent qualifications and shall include, at a minimum:

a) The review and assessment of all monitoring data required by this Permit.
b) An up-date of the quarry operations and predicted quarrying and dewatering for the duration of the requested permit.
c) An assessment of the groundwater trends using the on-site on off-site monitoring data. This analysis should state the actual impact area of quarry dewatering and determine the potential for off-site impacts. If any impacts are predicted then a detailed mitigation plan shall be included within this report.
d) Analysis that includes amount of water pumped, precipitation data, and an estimate of how much groundwater was pumped versus surface water.

e) Figures that include site maps with current quarry depths, groundwater contour maps, impact area of quarry dewatering, groundwater elevation graphs, and geological cross-sections.
f) Any groundwater interference complaints.
g) Description of all communication with the public.
h) Conclusions and recommendations, if any, to improve the monitoring and reporting at the site.

An electronic copy of the data collected must also accompany the report. Any application for renewal of this Permit must be submitted to the Ministry at least ninety (90) days prior to the expiry of this Permit.

4.14 The Permit Holder shall, as directed by the Ministry, participate in a cumulative impact assessment for the Carden Plain Area with other quarry operators who have been issued a permit to take water in this area.

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.

5.2.1 Where the water supply provided by the well known by MOE Water Well Record Number 5727662 is restored in accordance with Condition 5.2, the Permit Holder shall restore the supply in a manner satisfactory to the Director, taking into account the residential needs, requirements and preferences of the persons serviced by the well.

5.3 Upon the receipt of a groundwater interference complaint, the Permit Holder shall:

a) Implement the McCarthy Quarry Complaint Resolution Process as described in Item 3 of Schedule A of this Permit.

b) In addition, appropriate notification and actions must be taken as described in conditions 5.1 and 5.2 of this Permit. The provisions of conditions 5.1 and 5.2 shall take precedence over the provisions of condition 5.3(a) if there is a conflict.

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 Minister of the Environment, Conservation and Parks, within 15 days after receipt of this Notice, require a hearing by the Tribunal. The Minister of the Environment, Conservation and Parks 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:

a. The name of the appellant;
b. The address of the appellant;
c. The Permit to Take Water number;
d. The date of the Permit to Take Water;
e. The name of the Director;
f. 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) 326-5370
Email:
ERTTribunalsecretary@ontario.ca

AND

The Minister of the Environment,
Conservation and Parks
777 Bay Street, 5th Floor
Toronto, Ontario
M7J 2J3

AND

The Director, Section 34.1,
Ministry of the Environment,
Conservation and Parks
8th Floor
5775 Yonge St
Toronto ON M2M 4J1
Fax: (416) 325-6347

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

by Telephone at	by Fax at	by e-mail at
(416) 212-6349	(416) 326-5370	www.ert.gov.on.ca
Toll Free 1(866) 448-2248	Toll Free 1(844) 213-3474	

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 7818-9QJNL4, issued on 2014/12/30.

Dated at Toronto this 31st day of January, 2020.

Ellen Klupfel
Director, Section 34.1
Ontario Water Resources Act , R.S.O. 1990

Schedule A

This Schedule "A" forms part of Permit To Take Water 1603-BKTPQH, dated January 31, 2020.

1. Permit to Take Water Application, dated October 23, 2019 and signed by Jenny Coco.

2. Golder Associates Ltd. (November 1, 2019). Hydrogeological Assessment, Permit to Take Water Renewal, McCarthy Quarry.

Ministry of the Environment, Conservation and Parks
Environmental Assessment and Permissions Division
Brownfields and Permit to Take Water
Permit To Take Water Unit
Floor 1, 135 St Clair Ave W
Toronto, ON
M4V 1P5
Tel: (289) 830-5867

Ministère de l'Environnement, de la Protection de la nature et des Parcs
Division des évaluations et des permissions environnementales
Réaménagement des friches contaminées et réglementation des prélèvements d'eau
Unité de la réglementation des prélèvements d'eau
1er étage, 135 av St. Clair O
Toronto, ON
M4V 1P5
Tél:(289) 830-5867

February 28, 2022

QBJR Aggregates Inc.
949 Wilson Ave
Toronto, Ontario, M3K 1G2
Canada

Attn: Jenny Coco

RE: Amendment to Permit To Take Water No. 1603-BKTPQH
Lot 1 Concession 1 Original Township of Mara
Ramara, County of Simcoe
Reference Number 0707-BHMPF8

In a letter, *Change of Sump Location Identified at the McCarthy Quarry Under Permit No. 1603-BKTPQH*) prepared by Golder Associates Ltd. on behalf of QBJR Aggregates Inc., dated February 23, 2022, it has been requested the the location of water taking identified for **Source 1** in **Table A** (Quarry Sump) of Permit To Take Water ("PTTW") number 1603-BKTPQH be revised to reflect a new proposed water taking location, in the southern portion of the quarry site. In consultation with the Ministry's Central Region Technical Support Section Staff (Mihran Aslanyan, P.Geo., Hydrogeologist) there are no technical concerns identified regarding this request.

I am a Director appointed for the purposes of section 34.1 of the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40, as amended ("OWRA"), and pursuant to my authority under subsection 34.1(2) of the OWRA, I am exercising my discretion to amend Permit to Take Water 1603-BKTPQH by amending Condition 3.2, Table A, as follows:

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	Quarry Sump	Pond Connected	Pits and Quarries	Dewatering	4,545	24	6,544,800	250	17 **651324** **4933188**
						Total Taking:	6,544,800		

Please note that all other terms and conditions of Permit to Take Water 1603-BKTPQH shall remain in force.

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.

In accordance with Section 100 of the *Ontario Water Resources Act, R.S.O. 1990,* you may by written notice served upon me and the Ontario Land Tribunal within 15 days after receipt of this notice, require a hearing by the Tribunal. Section 101 of the *Ontario Water Resources Act, R.S.O. 1990,* as amended, provides that the notice requiring the hearing ("the Notice") 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:

a. The name of the appellant;
b. The address of the appellant;
c. The Permit to Take Water number;
d. The date of the Permit to Take Water;
e. The name of the Director;
f. The municipality within which the works are located;

This notice must be served upon:

*Registrar**
Ontario Land Tribunal
655 Bay Street, Suite 1500
Toronto, Ontario
M5G 1E5
OLT.Registrar@ontario.ca

AND

The Director, Section 34.1,
Ministry of the Environment, Conservation and Parks

*** Further information on the Ontario Land Tribunal's requirements for an appeal can be obtained directly from the Tribunal at: (416) 212-6349 or 1 (866) 448-2248, or www.olt.gov.on.ca.**

Yours truly,

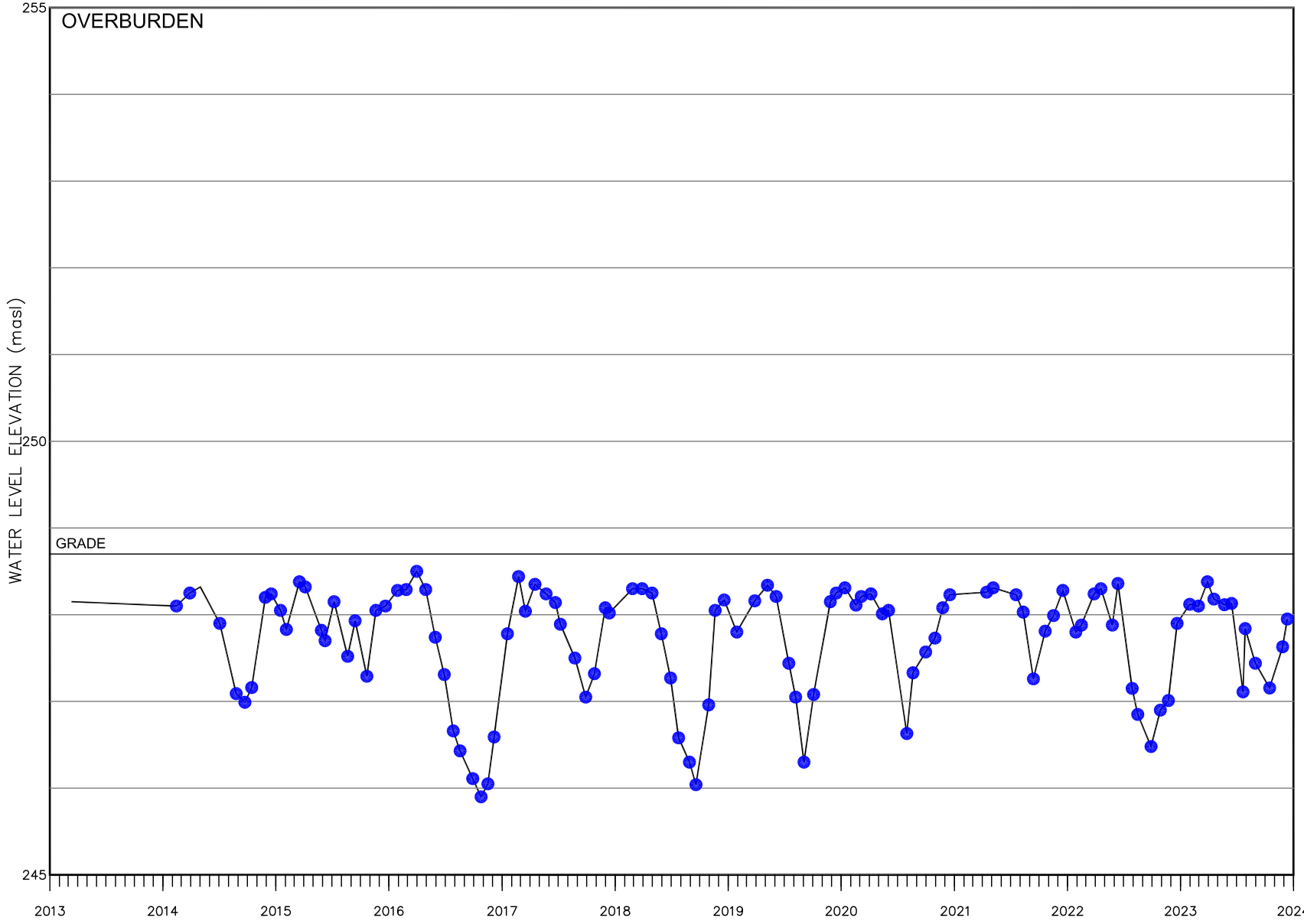
Gregory Meek
Supervisor (Acting), Permit To Take Water
Director, Section 34.1, Ontario Water Resources Act, R.S.O. 1990
Environmental Permissions Branch

File Storage Number: -

APPENDIX B

Hydrographs

AM1B



MP Elevation 249.45 masl
Grade 248.7 masl

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20-Nov-18	248.05
19-Dec-18	248.17
29-Jan-19	247.80
28-Mar-19	248.16
08-May-19	248.34
05-Jun-19	248.21
16-Jul-19	247.44
07-Aug-19	247.05
03-Sep-19	246.30
04-Oct-19	247.08
27-Nov-19	248.15
16-Dec-19	248.25
13-Jan-20	248.31
18-Feb-20	248.11
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31-Jul-20	246.63
20-Aug-20	247.33
30-Sep-20	247.57
30-Oct-20	247.73
24-Nov-20	248.08
17-Dec-20	248.23
15-Apr-21	248.26
06-May-21	248.31
19-Jul-21	248.23
11-Aug-21	248.03
13-Sep-21	247.26
21-Oct-21	247.81
17-Nov-21	247.99
17-Dec-21	248.28
28-Jan-22	247.80
15-Feb-22	247.88
28-Mar-22	248.24
19-Apr-22	248.30
26-May-22	247.88
13-Jun-22	248.36
29-Jul-22	247.15
16-Aug-22	246.85
28-Sep-22	246.48
28-Oct-22	246.90
23-Nov-22	247.01
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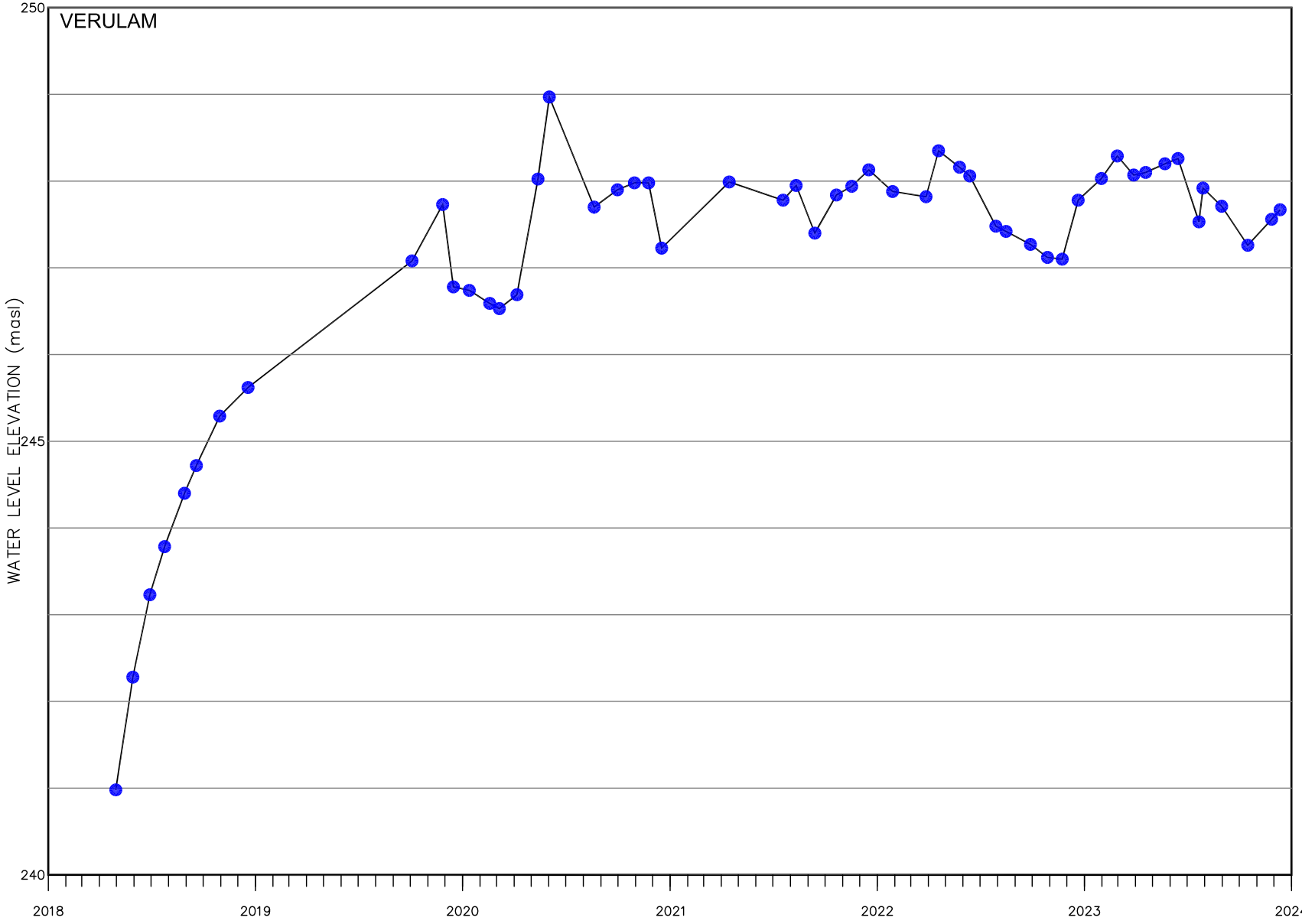
31-Jan-23	248.12
28-Feb-23	248.10
29-Mar-23	248.38
19-Apr-23	248.18
23-May-23	248.12
15-Jun-23	248.13
22-Jul-23	247.11
29-Jul-23	247.84
31-Aug-23	247.44
16-Oct-23	247.15
27-Nov-23	247.63
12-Dec-23	247.95

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W001

AMX-R

MP Elevation 251.90 masl



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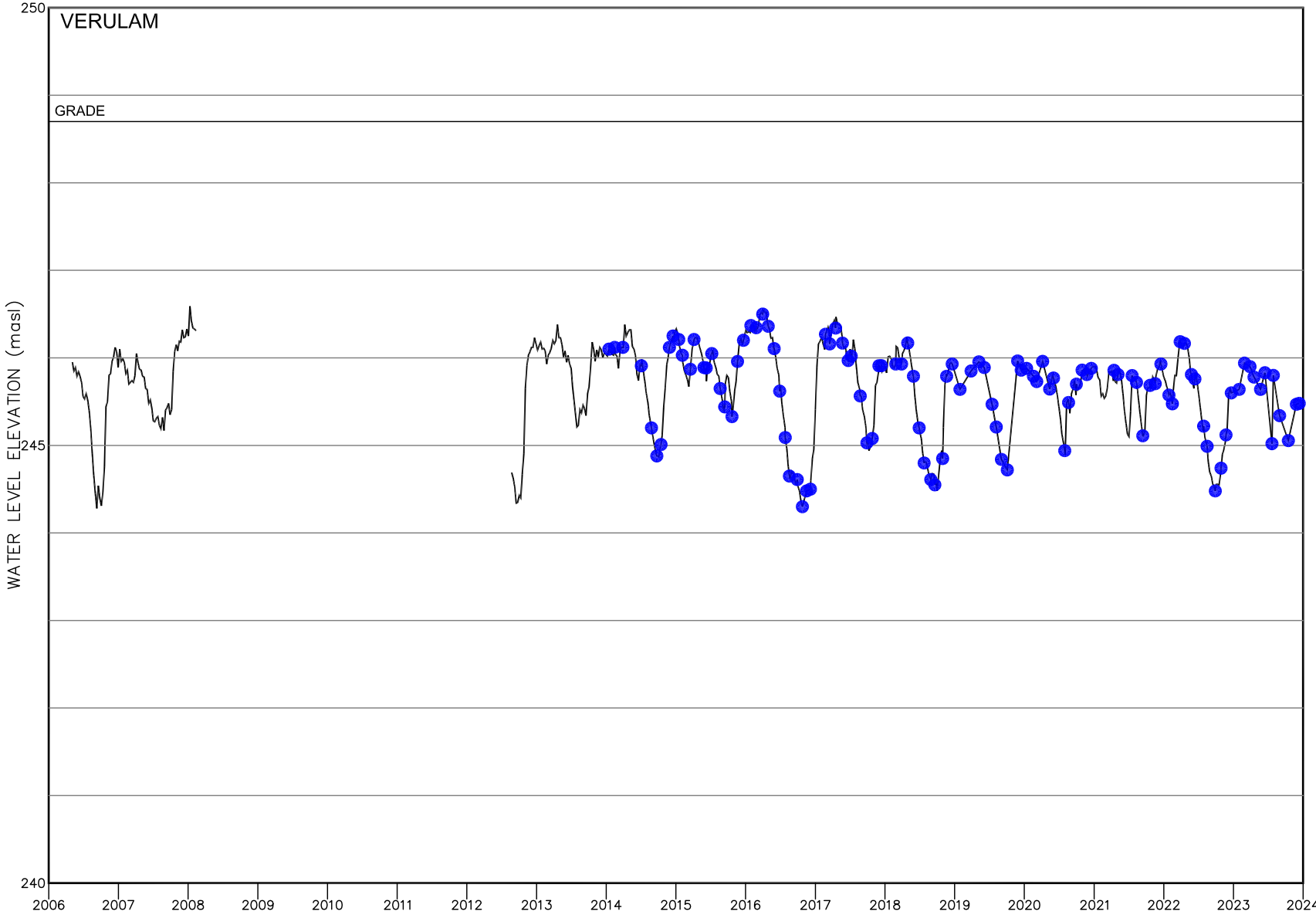
29-Jun-18	243.23
25-Jul-18	243.79
29-Aug-18	244.40
19-Sep-18	244.72
30-Oct-18	245.29
19-Dec-18	245.62
04-Oct-19	247.08
27-Nov-19	247.73
16-Dec-19	246.78
13-Jan-20	246.74
18-Feb-20	246.59
06-Mar-20	246.53
06-Apr-20	246.69
13-May-20	248.02
02-Jun-20	248.97
20-Aug-20	247.70
30-Sep-20	247.90
30-Oct-20	247.98
24-Nov-20	247.98
17-Dec-20	247.23
15-Apr-21	247.99
19-Jul-21	247.78
11-Aug-21	247.95
13-Sep-21	247.40
21-Oct-21	247.84
17-Nov-21	247.94
17-Dec-21	248.13
28-Jan-22	247.88
28-Mar-22	247.82
19-Apr-22	248.35
26-May-22	248.16
13-Jun-22	248.06
29-Jul-22	247.48
16-Aug-22	247.42
28-Sep-22	247.27
28-Oct-22	247.12
23-Nov-22	247.10
21-Dec-22	247.78
31-Jan-23	248.03
28-Feb-23	248.29
29-Mar-23	248.07
19-Apr-23	248.10
23-May-23	248.20
15-Jun-23	248.26
22-Jul-23	247.53
29-Jul-23	247.92
31-Aug-23	247.71
16-Oct-23	247.26
27-Nov-23	247.56
12-Dec-23	247.67

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W002

OW4#1



MP Elevation 249.57 masl
Grade 248.7 masl

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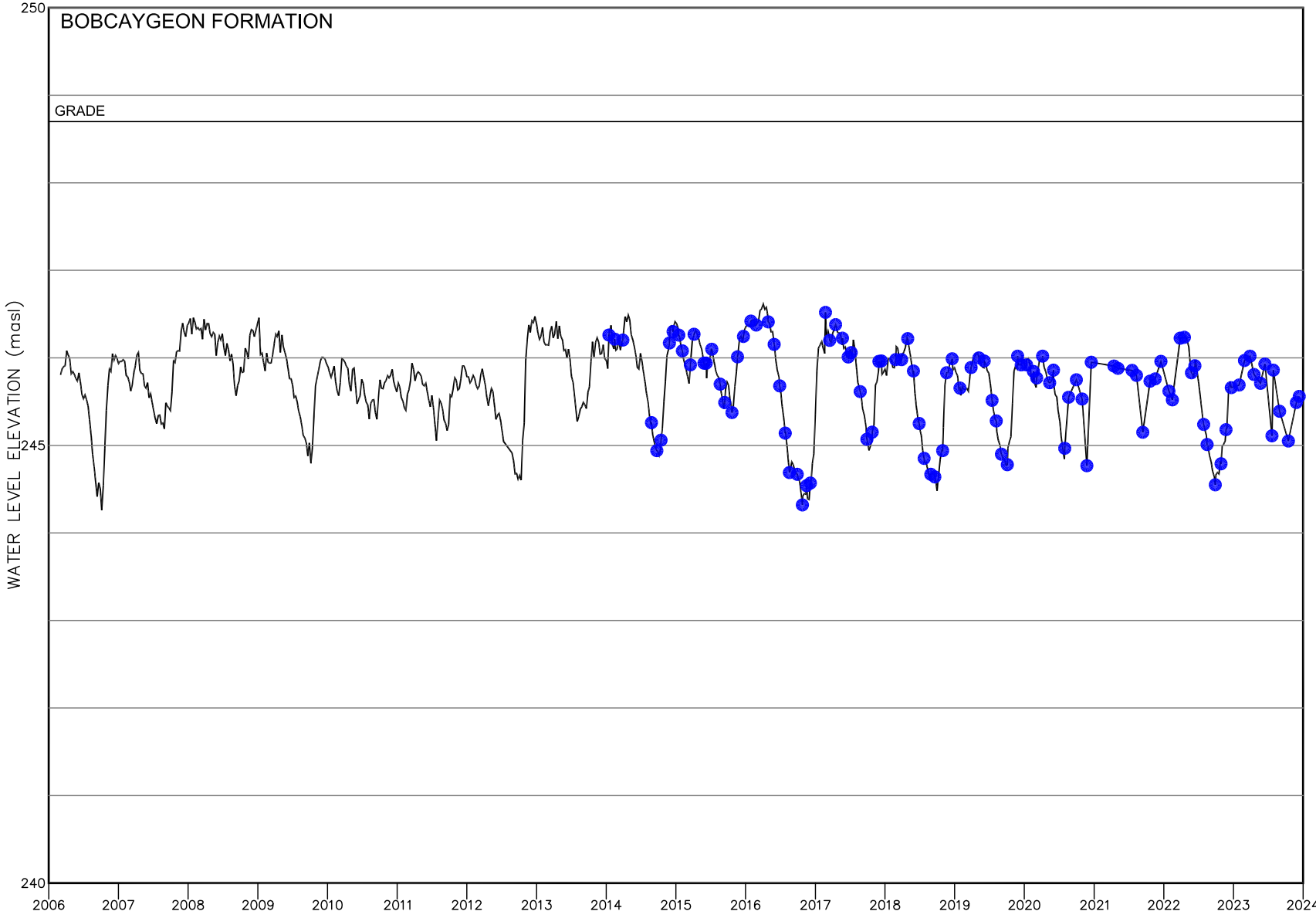
16-Mar-22	245.99
24-Mar-22	246.15
28-Mar-22	246.18
02-Apr-22	246.16
10-Apr-22	246.12
18-Apr-22	246.15
19-Apr-22	246.16
27-Apr-22	246.17
05-May-22	246.13
14-May-22	246.01
22-May-22	245.83
26-May-22	245.81
31-May-22	245.73
08-Jun-22	245.65
13-Jun-22	245.76
17-Jun-22	245.83
25-Jun-22	245.72
03-Jul-22	245.59
11-Jul-22	245.44
19-Jul-22	245.29
27-Jul-22	245.16
29-Jul-22	245.22
05-Aug-22	245.09
13-Aug-22	245.02
16-Aug-22	244.99
22-Aug-22	244.81
30-Aug-22	244.69
07-Sep-22	244.65
15-Sep-22	244.56
23-Sep-22	244.51
28-Sep-22	244.48
02-Oct-22	244.55
10-Oct-22	244.56
18-Oct-22	244.55
26-Oct-22	244.68
28-Oct-22	244.74
04-Nov-22	244.90
12-Nov-22	244.96
20-Nov-22	245.05
23-Nov-22	245.12
29-Nov-22	245.19
07-Dec-22	245.58
15-Dec-22	245.66
21-Dec-22	245.60
31-Jan-23	245.64
28-Feb-23	245.94
29-Mar-23	245.90
19-Apr-23	245.78
23-May-23	245.64
15-Jun-23	245.83
22-Jul-23	245.02
29-Jul-23	245.80
31-Aug-23	245.34
16-Oct-23	245.05
27-Nov-23	245.47
12-Dec-23	245.48

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W003

OW4#2



MP Elevation 249.62 masl
Grade 248.7 masl

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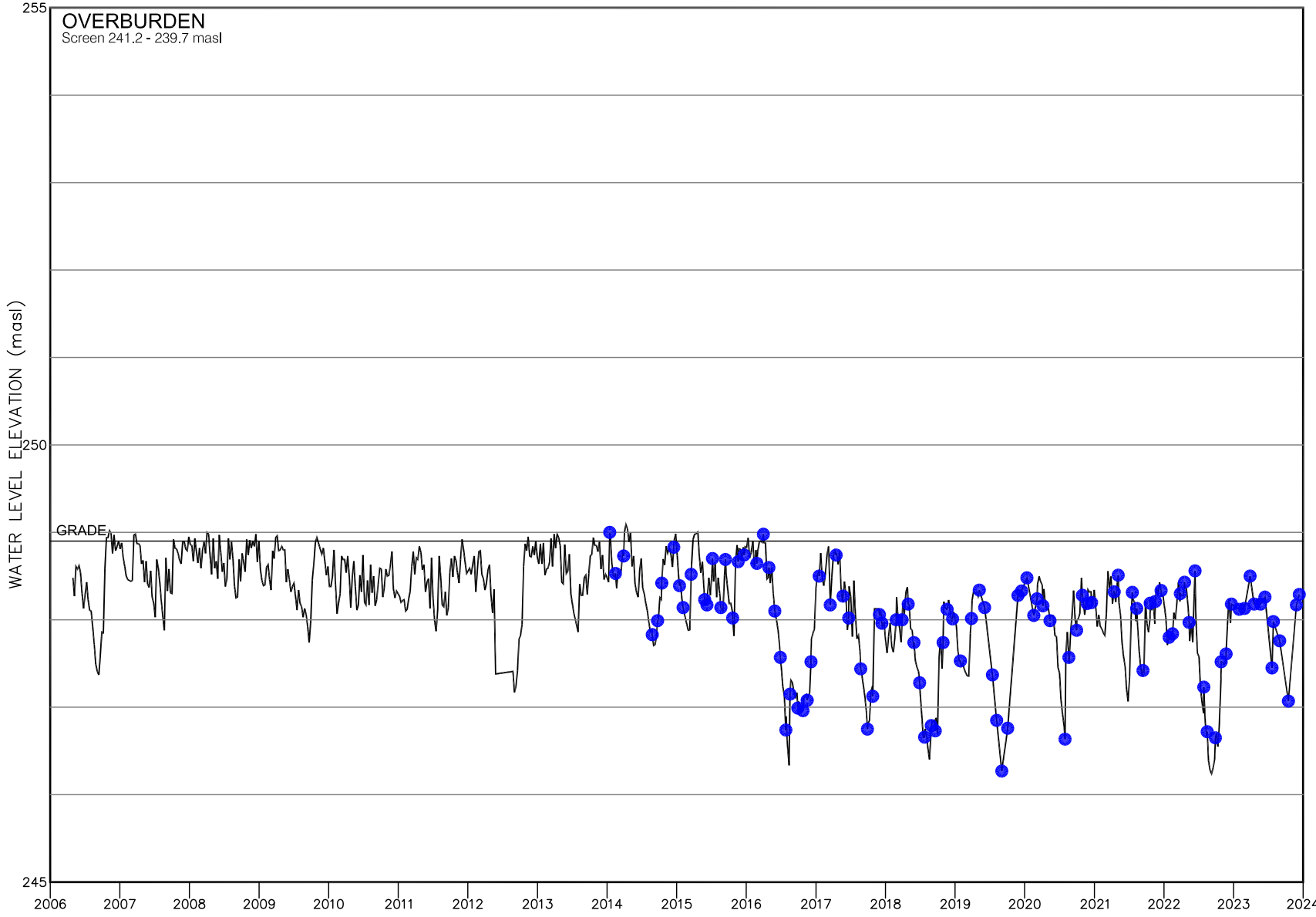
13-Sep-21	245.15
21-Oct-21	245.73
17-Nov-21	245.76
17-Dec-21	245.96
28-Jan-22	245.62
15-Feb-22	245.52
28-Mar-22	246.23
19-Apr-22	246.24
26-Apr-22	246.25
04-May-22	246.20
12-May-22	246.13
21-May-22	245.90
26-May-22	245.83
30-May-22	245.82
07-Jun-22	245.77
13-Jun-22	245.91
16-Jun-22	245.97
24-Jun-22	245.86
02-Jul-22	245.73
10-Jul-22	245.59
18-Jul-22	245.43
26-Jul-22	245.28
29-Jul-22	245.24
04-Aug-22	245.18
12-Aug-22	245.12
16-Aug-22	245.01
21-Aug-22	244.99
29-Aug-22	244.88
06-Sep-22	244.82
14-Sep-22	244.71
22-Sep-22	244.65
28-Sep-22	244.55
01-Oct-22	244.66
09-Oct-22	244.69
17-Oct-22	244.67
25-Oct-22	244.82
28-Oct-22	244.79
03-Nov-22	244.99
11-Nov-22	245.01
19-Nov-22	245.05
23-Nov-22	245.18
28-Nov-22	245.20
06-Dec-22	245.62
14-Dec-22	245.73
21-Dec-22	245.66
31-Jan-23	245.69
28-Feb-23	245.97
29-Mar-23	246.02
19-Apr-23	245.81
23-May-23	245.71
15-Jun-23	245.93
22-Jul-23	245.11
29-Jul-23	245.86
31-Aug-23	245.39
16-Oct-23	245.05
27-Nov-23	245.49
12-Dec-23	245.56

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W004

OW5#1



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Grade 248.9 masl

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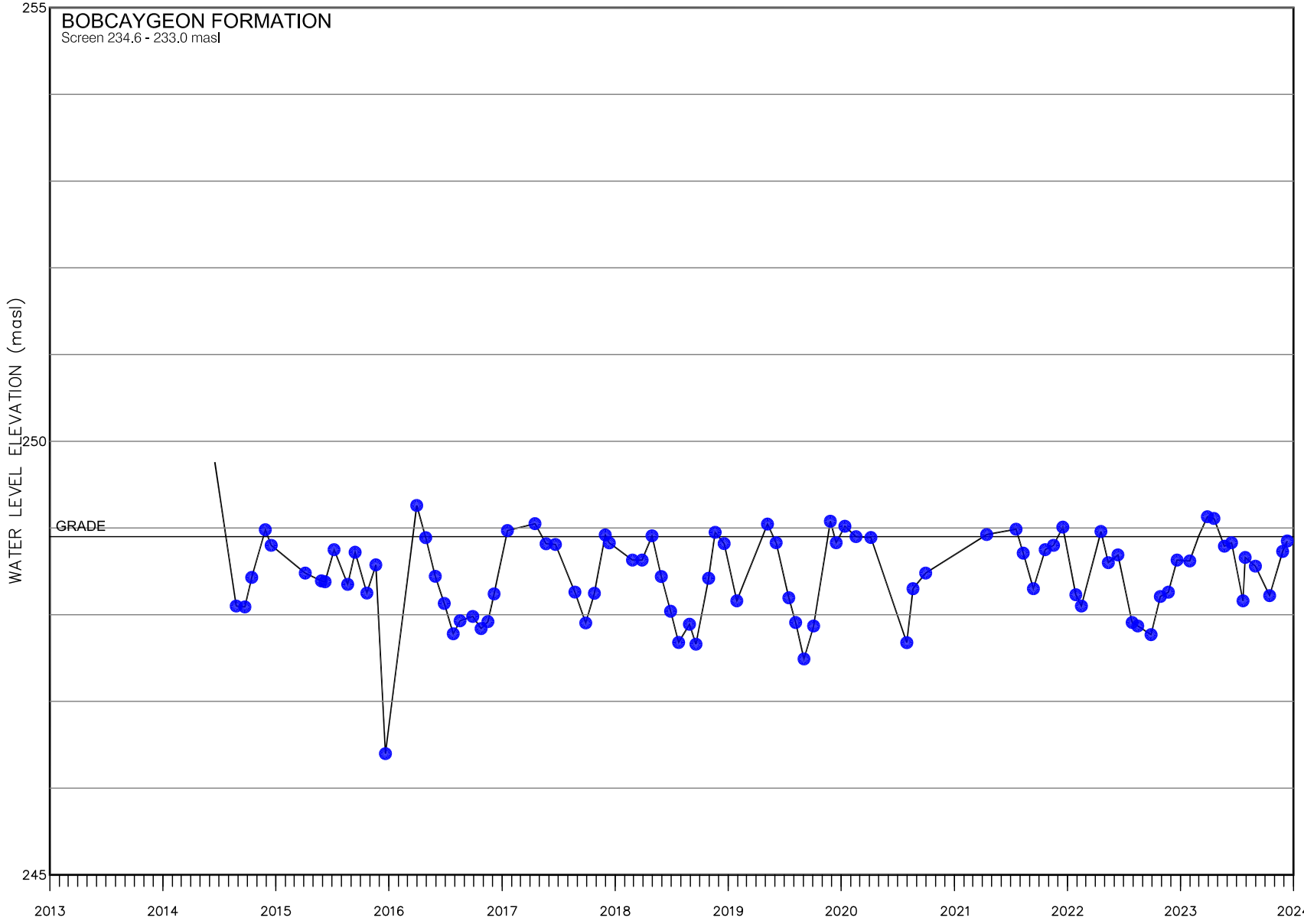
18-Mar-22	248.43
26-Mar-22	248.21
28-Mar-22	248.30
04-Apr-22	248.28
12-Apr-22	248.28
19-Apr-22	248.43
21-Apr-22	248.36
29-Apr-22	248.36
07-May-22	248.17
13-May-22	247.97
16-May-22	247.76
24-May-22	247.96
01-Jun-22	247.75
09-Jun-22	248.30
13-Jun-22	248.56
18-Jun-22	248.00
26-Jun-22	247.62
04-Jul-22	247.58
12-Jul-22	247.21
20-Jul-22	247.05
28-Jul-22	246.93
29-Jul-22	247.23
06-Aug-22	246.82
14-Aug-22	246.67
16-Aug-22	246.72
23-Aug-22	246.39
31-Aug-22	246.28
08-Sep-22	246.24
16-Sep-22	246.31
24-Sep-22	246.41
28-Sep-22	246.65
03-Oct-22	246.70
11-Oct-22	246.55
19-Oct-22	246.82
27-Oct-22	247.32
28-Oct-22	247.52
05-Nov-22	247.51
13-Nov-22	247.49
21-Nov-22	247.52
23-Nov-22	247.61
30-Nov-22	247.93
08-Dec-22	248.24
16-Dec-22	247.96
21-Dec-22	248.18
31-Jan-23	248.12
28-Feb-23	248.13
29-Mar-23	248.50
19-Apr-23	248.18
23-May-23	248.18
15-Jun-23	248.26
22-Jul-23	247.45
29-Jul-23	247.98
31-Aug-23	247.76
16-Oct-23	247.07
27-Nov-23	248.17
12-Dec-23	248.29

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W005

OW5#2



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Grade 248.9 masl

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30-Nov-17	248.92
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30-Apr-18	248.91
30-May-18	248.44
29-Jun-18	248.04
25-Jul-18	247.68
29-Aug-18	247.89
19-Sep-18	247.66
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20-Nov-18	248.95
19-Dec-18	248.82
29-Jan-19	248.16
08-May-19	249.04
05-Jun-19	248.83
16-Jul-19	248.20
07-Aug-19	247.91
03-Sep-19	247.49
04-Oct-19	247.87
27-Nov-19	249.08
16-Dec-19	248.83
13-Jan-20	249.02
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13-Sep-21	248.30
21-Oct-21	248.75
17-Nov-21	248.80
17-Dec-21	249.01
28-Jan-22	248.23
15-Feb-22	248.10
19-Apr-22	248.96
13-May-22	248.60
13-Jun-22	248.69
29-Jul-22	247.91
16-Aug-22	247.87
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23-Nov-22	248.26
21-Dec-22	248.63
31-Jan-23	248.62
28-Feb-23	248.90
29-Mar-23	249.13
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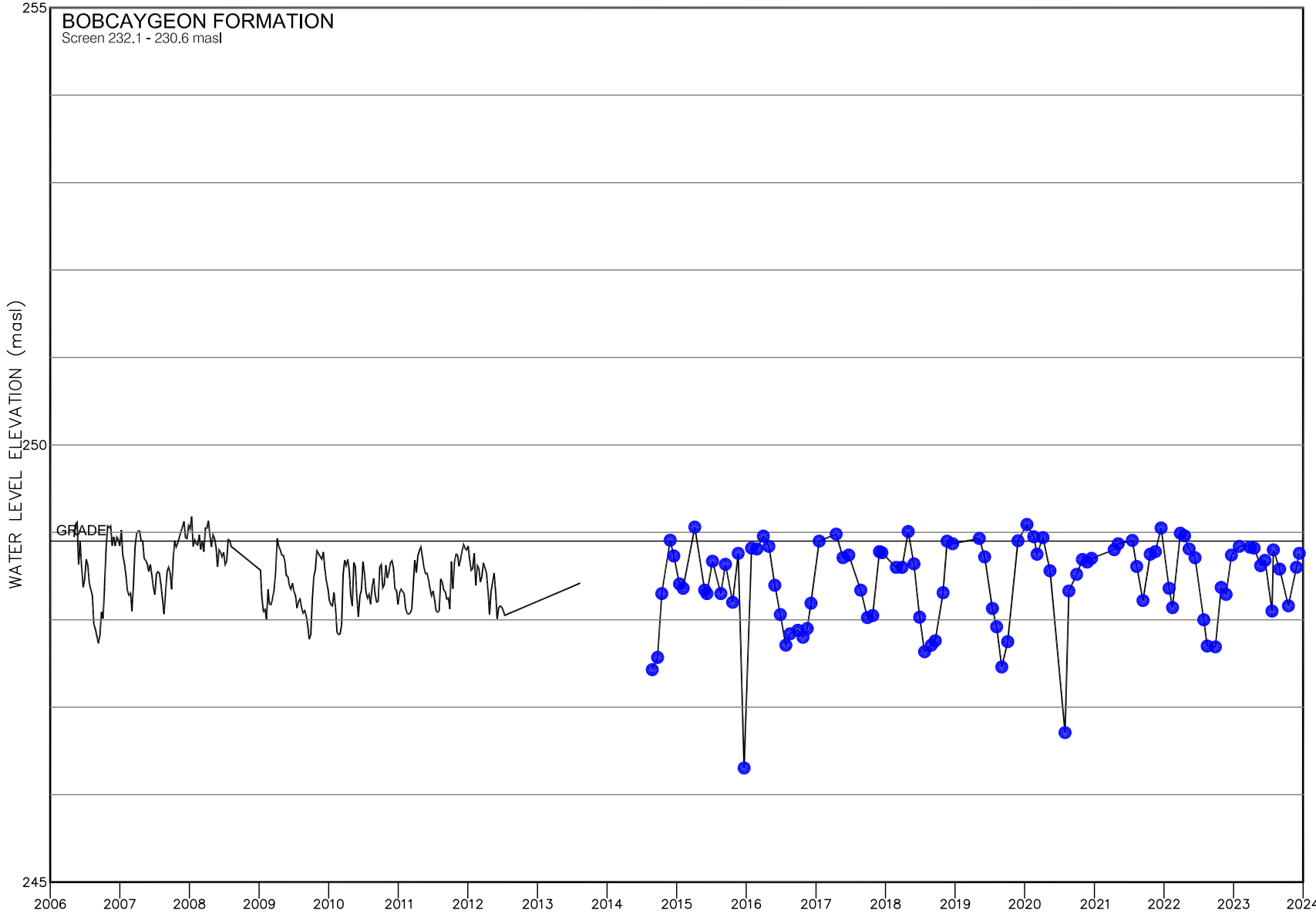
29-Jul-23	248.66
31-Aug-23	248.56
16-Oct-23	248.22
27-Nov-23	248.73
12-Dec-23	248.85

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W006

OW5#3



MP Elevation 249.70 masl
Grade 248.9 masl

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19-Sep-18	247.76
30-Oct-18	248.31
20-Nov-18	248.90
19-Dec-18	248.87
08-May-19	248.93
05-Jun-19	248.72
16-Jul-19	248.13
07-Aug-19	247.92
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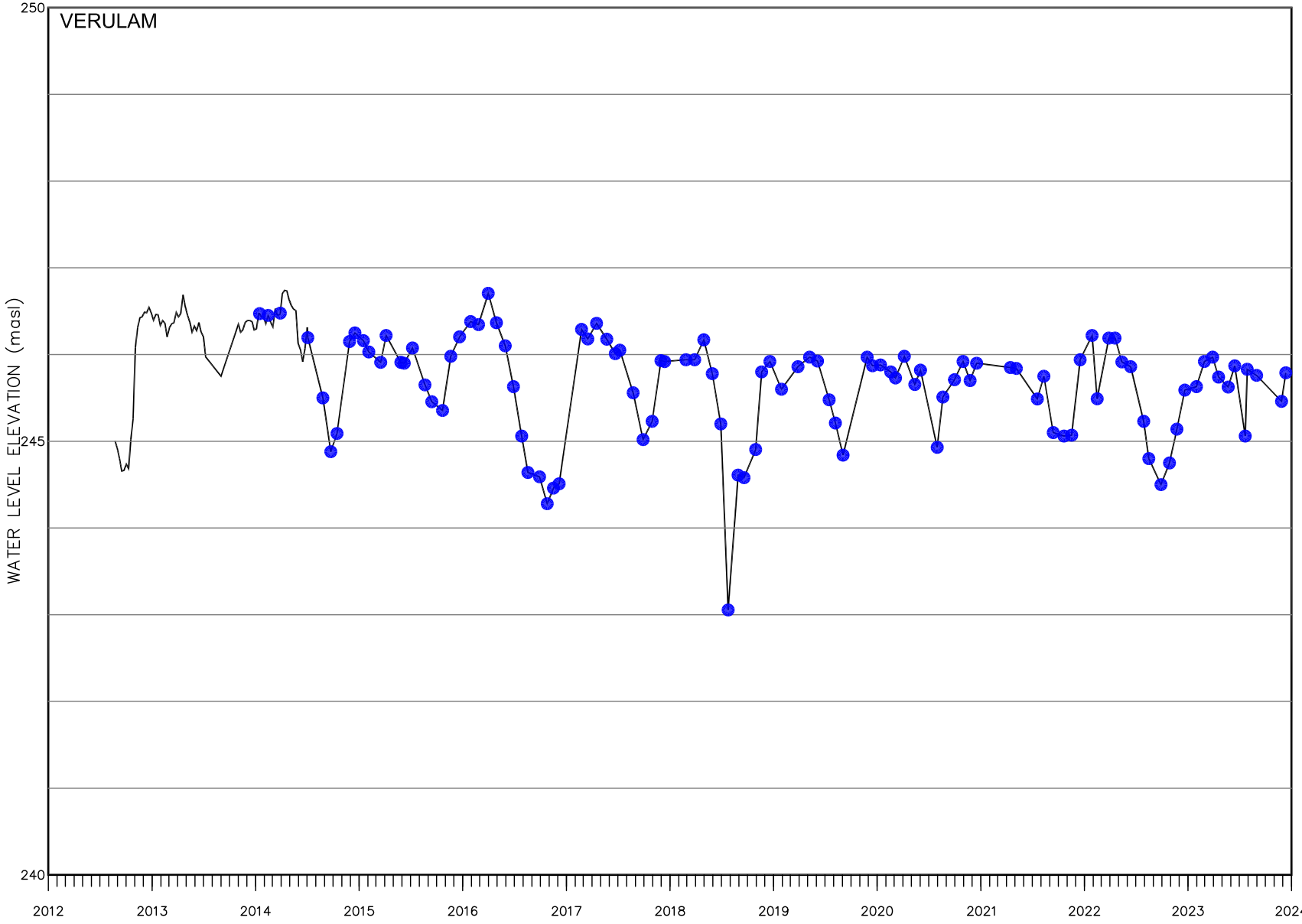
17-Dec-20	248.70
15-Apr-21	248.80
06-May-21	248.87
19-Jul-21	248.91
11-Aug-21	248.61
13-Sep-21	248.22
21-Oct-21	248.75
17-Nov-21	248.78
17-Dec-21	249.05
28-Jan-22	248.36
15-Feb-22	248.14
28-Mar-22	248.99
19-Apr-22	248.96
13-May-22	248.81
13-Jun-22	248.71
29-Jul-22	248.00
16-Aug-22	247.70
28-Sep-22	247.69
28-Oct-22	248.37
23-Nov-22	248.29
21-Dec-22	248.74
31-Jan-23	248.84
28-Feb-23	248.85
29-Mar-23	248.83
19-Apr-23	248.82
23-May-23	248.62
15-Jun-23	248.68
22-Jul-23	248.10
29-Jul-23	248.80
31-Aug-23	248.58
16-Oct-23	248.16
27-Nov-23	248.60
12-Dec-23	248.76

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W007

OW6#1

MP Elevation 247.60 masl



DATE	ELEVATION
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19-Sep-18	244.58
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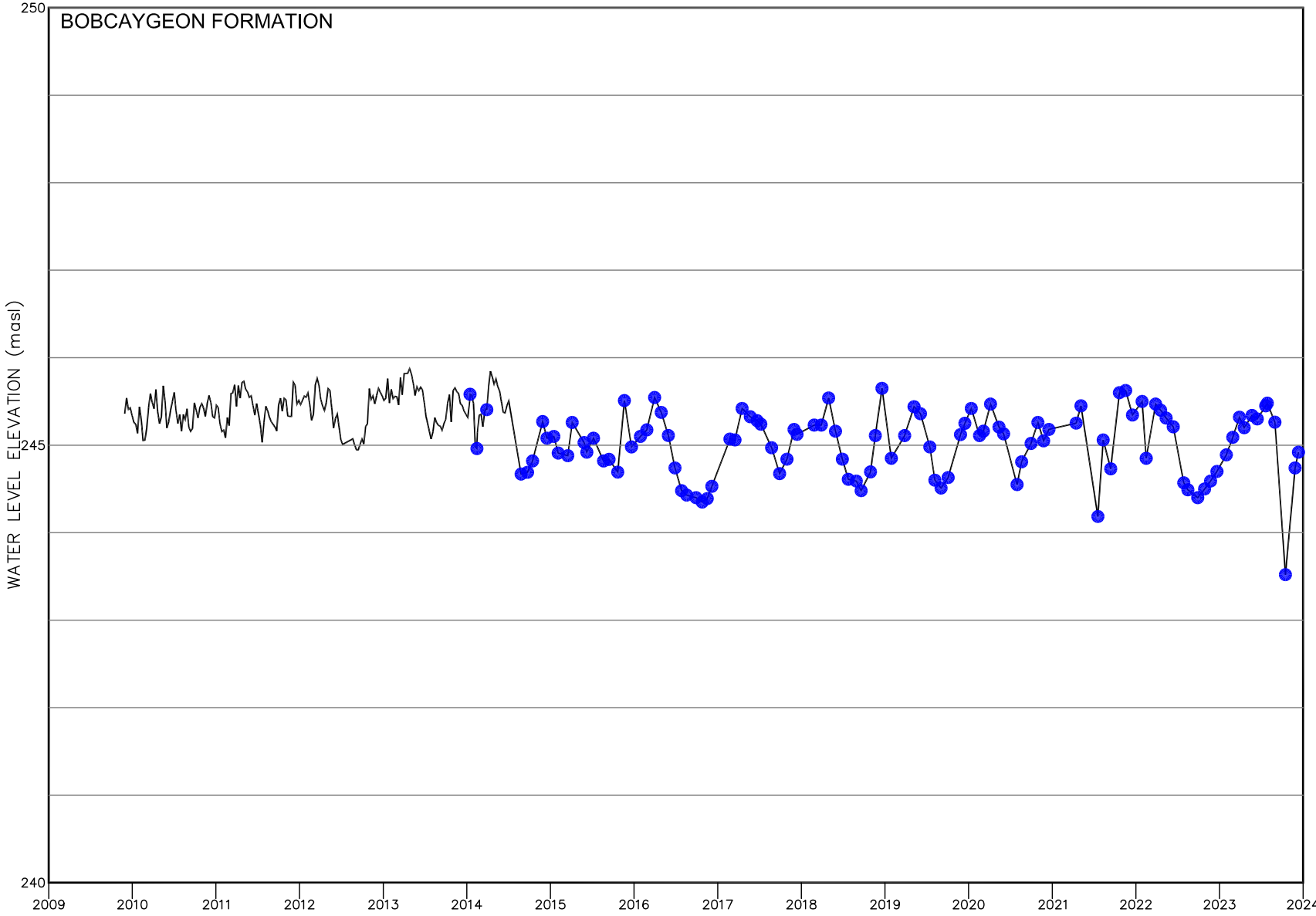
20-Nov-18	245.80
19-Dec-18	245.92
29-Jan-19	245.60
28-Mar-19	245.86
08-May-19	245.97
05-Jun-19	245.93
16-Jul-19	245.48
07-Aug-19	245.21
03-Sep-19	244.84
27-Nov-19	245.97
16-Dec-19	245.87
13-Jan-20	245.88
18-Feb-20	245.80
06-Mar-20	245.73
06-Apr-20	245.98
13-May-20	245.65
02-Jun-20	245.82
31-Jul-20	244.93
20-Aug-20	245.51
30-Sep-20	245.71
30-Oct-20	245.92
24-Nov-20	245.70
17-Dec-20	245.90
15-Apr-21	245.85
06-May-21	245.84
19-Jul-21	245.49
11-Aug-21	245.75
13-Sep-21	245.10
21-Oct-21	245.06
17-Nov-21	245.07
17-Dec-21	245.94
28-Jan-22	246.22
15-Feb-22	245.49
28-Mar-22	246.19
19-Apr-22	246.19
13-May-22	245.91
13-Jun-22	245.86
29-Jul-22	245.23
16-Aug-22	244.80
28-Sep-22	244.50
28-Oct-22	244.75
23-Nov-22	245.14
21-Dec-22	245.59
31-Jan-23	245.63
28-Feb-23	245.92
29-Mar-23	245.97
19-Apr-23	245.74
23-May-23	245.63
15-Jun-23	245.87
22-Jul-23	245.06
29-Jul-23	245.83
31-Aug-23	245.76
27-Nov-23	245.46
12-Dec-23	245.79

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W008

OW6#2

MP Elevation 247.52 masl

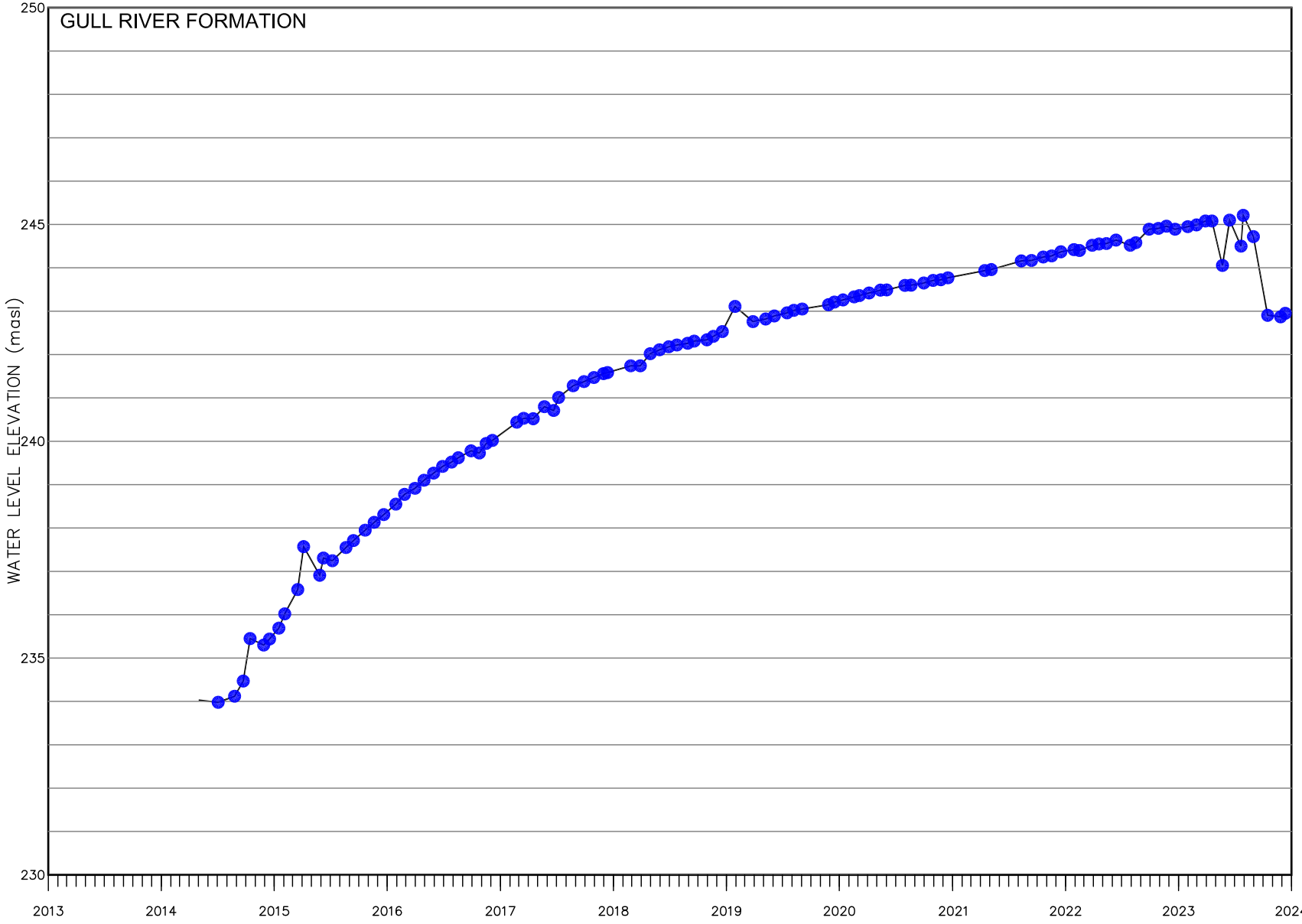


DATE	ELEVATION
29-Aug-18	244.59
19-Sep-18	244.48
30-Oct-18	244.70
20-Nov-18	245.11
19-Dec-18	245.65
29-Jan-19	244.85
28-Mar-19	245.11
08-May-19	245.44
05-Jun-19	245.36
16-Jul-19	244.98
07-Aug-19	244.60
03-Sep-19	244.51
04-Oct-19	244.63
27-Nov-19	245.12
16-Dec-19	245.25
13-Jan-20	245.42
18-Feb-20	245.11
06-Mar-20	245.16
06-Apr-20	245.47
13-May-20	245.21
02-Jun-20	245.13
31-Jul-20	244.55
20-Aug-20	244.81
30-Sep-20	245.02
30-Oct-20	245.26
24-Nov-20	245.05
17-Dec-20	245.18
15-Apr-21	245.25
06-May-21	245.45
19-Jul-21	244.18
11-Aug-21	245.06
13-Sep-21	244.73
21-Oct-21	245.60
17-Nov-21	245.63
17-Dec-21	245.35
28-Jan-22	245.50
15-Feb-22	244.85
28-Mar-22	245.47
19-Apr-22	245.40
13-May-22	245.31
13-Jun-22	245.21
29-Jul-22	244.57
16-Aug-22	244.49
28-Sep-22	244.40
28-Oct-22	244.50
23-Nov-22	244.59
21-Dec-22	244.70
31-Jan-23	244.89
28-Feb-23	245.09
29-Mar-23	245.32
19-Apr-23	245.20
23-May-23	245.34
15-Jun-23	245.30
22-Jul-23	245.45
29-Jul-23	245.48
31-Aug-23	245.26
16-Oct-23	243.52
27-Nov-23	244.74
12-Dec-23	244.92

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W009

OW6#3

MP Elevation 247.46 masl

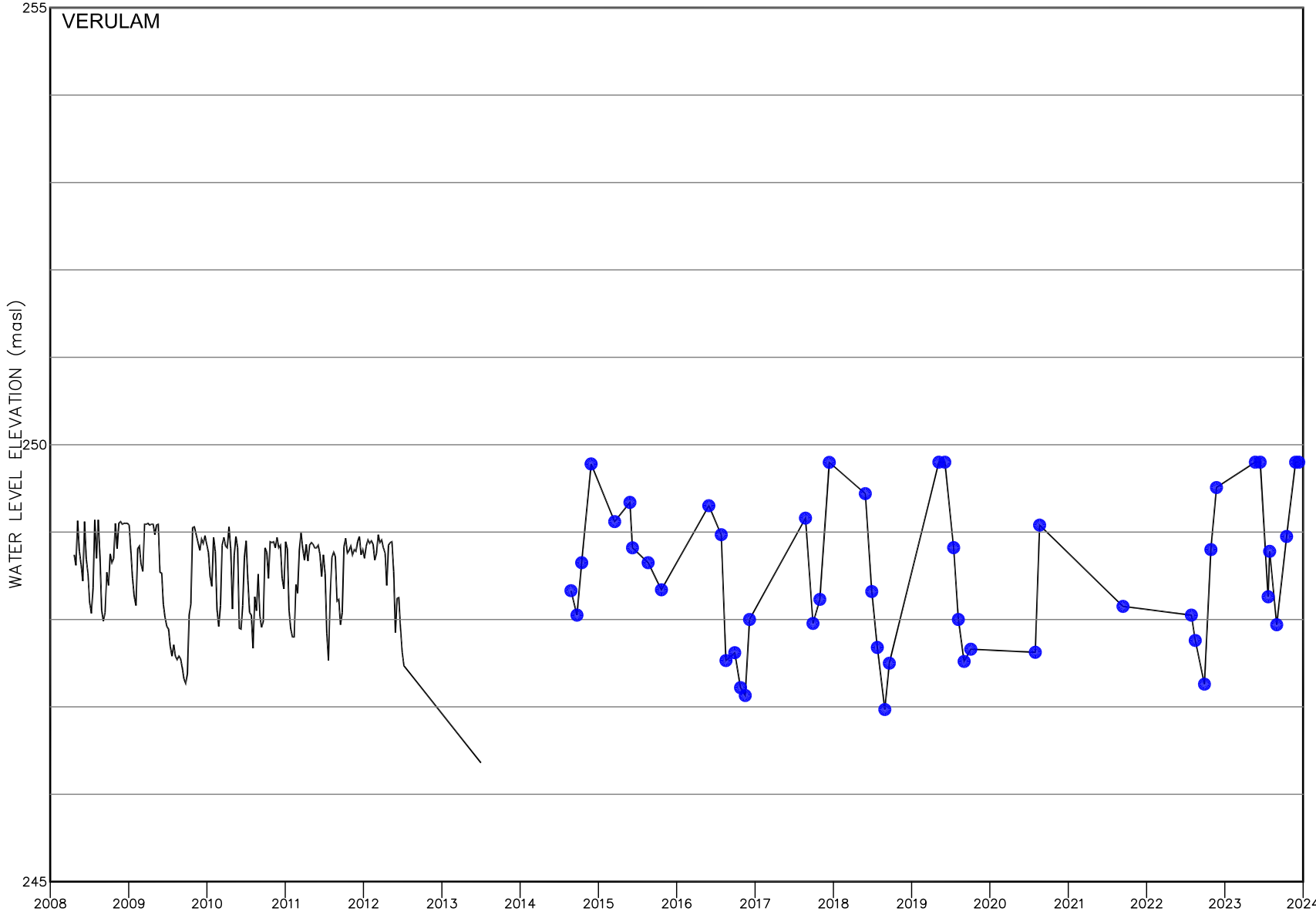


DATE	ELEVATION
29-Jun-18	242.18
25-Jul-18	242.22
29-Aug-18	242.26
19-Sep-18	242.31
30-Oct-18	242.34
20-Nov-18	242.42
19-Dec-18	242.53
29-Jan-19	243.11
28-Mar-19	242.76
08-May-19	242.82
05-Jun-19	242.89
16-Jul-19	242.96
07-Aug-19	243.02
03-Sep-19	243.05
27-Nov-19	243.15
16-Dec-19	243.21
13-Jan-20	243.26
18-Feb-20	243.33
06-Mar-20	243.36
06-Apr-20	243.42
13-May-20	243.49
02-Jun-20	243.49
31-Jul-20	243.60
20-Aug-20	243.60
30-Sep-20	243.65
30-Oct-20	243.71
24-Nov-20	243.73
17-Dec-20	243.77
15-Apr-21	243.94
06-May-21	243.96
11-Aug-21	244.16
13-Sep-21	244.17
21-Oct-21	244.25
17-Nov-21	244.27
17-Dec-21	244.37
28-Jan-22	244.42
15-Feb-22	244.40
28-Mar-22	244.52
19-Apr-22	244.55
13-May-22	244.56
13-Jun-22	244.64
29-Jul-22	244.52
16-Aug-22	244.58
28-Sep-22	244.89
28-Oct-22	244.91
23-Nov-22	244.96
21-Dec-22	244.89
31-Jan-23	244.95
28-Feb-23	244.99
29-Mar-23	245.08
19-Apr-23	245.08
23-May-23	244.05
15-Jun-23	245.10
22-Jul-23	244.50
29-Jul-23	245.21
31-Aug-23	244.72
16-Oct-23	242.90
27-Nov-23	242.87
12-Dec-23	242.95

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W010

OW7#1

MP Elevation 249.80 masl

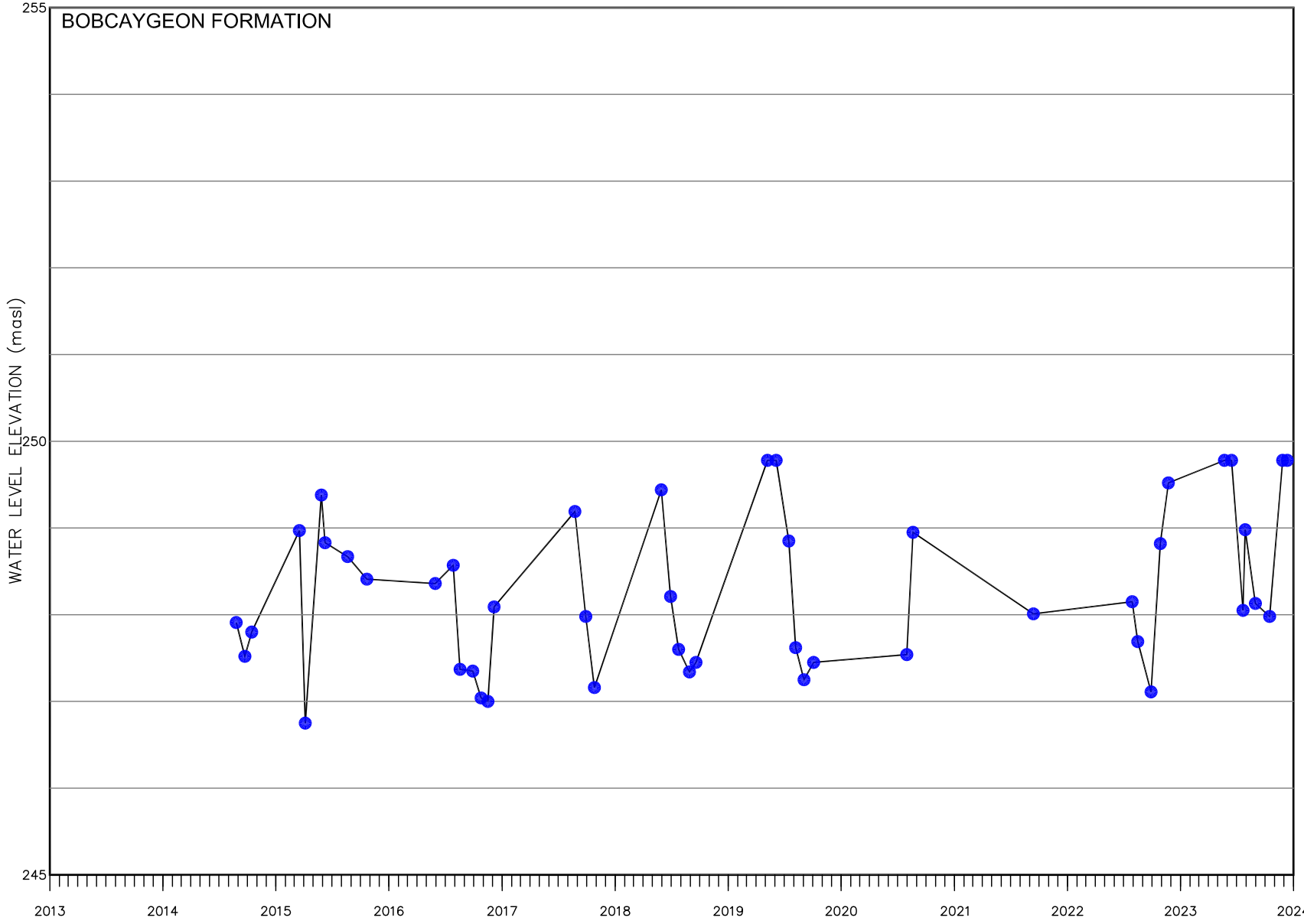


DATE	ELEVATION
28-Nov-14	249.78
18-Mar-15	249.12
28-May-15	249.34
09-Jun-15	248.82
21-Aug-15	248.65
22-Oct-15	248.34
30-May-16	249.30
27-Jul-16	248.97
18-Aug-16	247.53
28-Sep-16	247.62
25-Oct-16	247.22
16-Nov-16	247.13
06-Dec-16	248.00
24-Aug-17	249.16
28-Sep-17	247.96
30-Oct-17	248.23
13-Dec-17	249.80
30-May-18	249.44
29-Jun-18	248.32
25-Jul-18	247.68
29-Aug-18	246.97
19-Sep-18	247.50
08-May-19	249.80
05-Jun-19	249.80
16-Jul-19	248.82
07-Aug-19	248.00
03-Sep-19	247.52
04-Oct-19	247.66
31-Jul-20	247.63
20-Aug-20	249.08
24-Nov-20	FLW
17-Dec-20	FLW
15-Apr-21	FLW
06-May-21	FLW
19-Jul-21	FLW
11-Aug-21	FLW
13-Sep-21	248.15
21-Oct-21	FLW
17-Nov-21	FLW
17-Dec-21	FLW
28-Mar-22	FLW
19-Apr-22	FLW
13-May-22	FLW
13-Jun-22	FLW
29-Jul-22	248.05
16-Aug-22	247.76
28-Sep-22	247.26
28-Oct-22	248.80
23-Nov-22	249.51
29-Mar-23	FLW
19-Apr-23	FLW
23-May-23	249.80
15-Jun-23	249.80
22-Jul-23	248.26
29-Jul-23	248.78
31-Aug-23	247.94
16-Oct-23	248.95
27-Nov-23	249.80
12-Dec-23	249.80

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W011

OW7#2

MP Elevation 249.78 masl

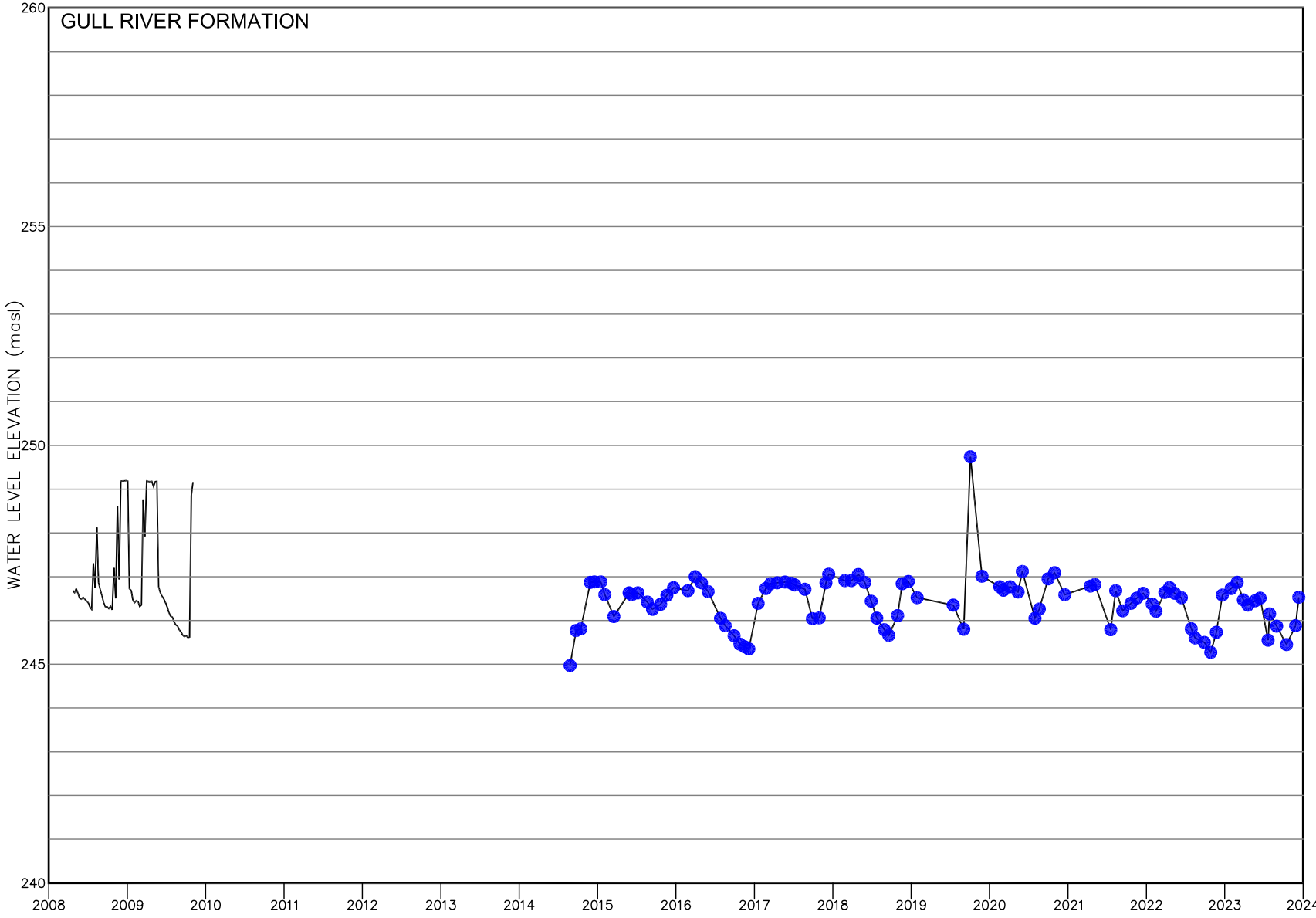


DATE	ELEVATION
15-Oct-14	247.80
18-Mar-15	248.97
06-Apr-15	246.75
28-May-15	249.38
09-Jun-15	248.83
21-Aug-15	248.67
22-Oct-15	248.41
30-May-16	248.36
27-Jul-16	248.57
18-Aug-16	247.37
28-Sep-16	247.35
25-Oct-16	247.04
16-Nov-16	247.00
06-Dec-16	248.09
24-Aug-17	249.19
28-Sep-17	247.98
26-Oct-17	247.16
30-May-18	249.44
29-Jun-18	248.21
25-Jul-18	247.60
29-Aug-18	247.34
19-Sep-18	247.45
08-May-19	249.78
05-Jun-19	249.78
16-Jul-19	248.85
07-Aug-19	247.62
03-Sep-19	247.25
04-Oct-19	247.45
31-Jul-20	247.54
20-Aug-20	248.95
24-Nov-20	FLW
17-Dec-20	FLW
15-Apr-21	FLW
06-May-21	FLW
19-Jul-21	FLW
11-Aug-21	FLW
13-Sep-21	248.01
21-Oct-21	FLW
17-Nov-21	FLW
17-Dec-21	FLW
28-Mar-22	FLW
19-Apr-22	FLW
13-May-22	FLW
13-Jun-22	FLW
29-Jul-22	248.15
16-Aug-22	247.69
28-Sep-22	247.11
28-Oct-22	248.82
23-Nov-22	249.52
29-Mar-23	FLW
19-Apr-23	FLW
23-May-23	249.78
15-Jun-23	249.78
22-Jul-23	248.05
29-Jul-23	248.98
31-Aug-23	248.13
16-Oct-23	247.98
27-Nov-23	249.78
12-Dec-23	249.78

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W012

OW7#3

MP Elevation 249.74 masl

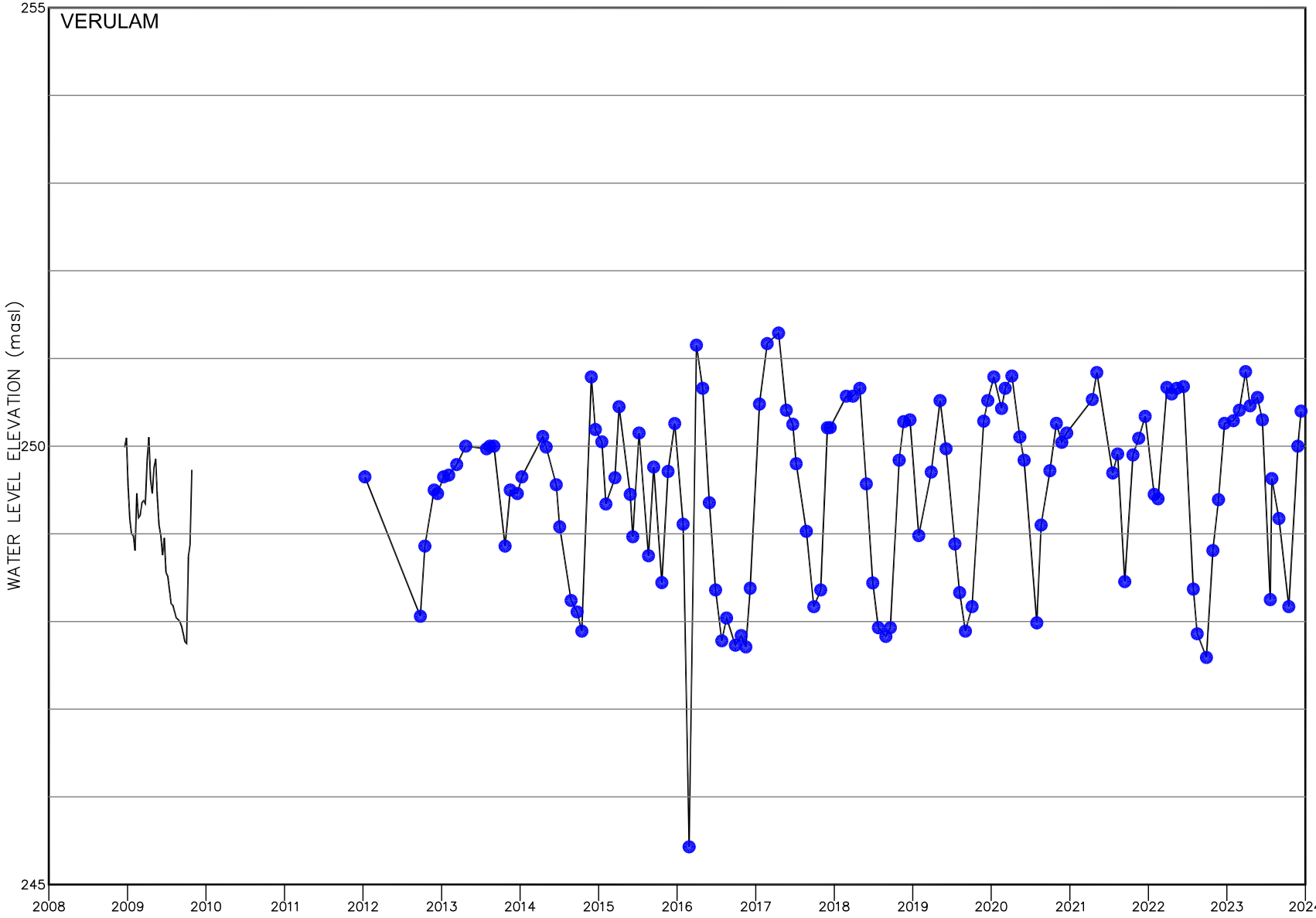


DATE	ELEVATION
13-Dec-17	247.06
26-Feb-18	246.91
29-Mar-18	246.91
30-Apr-18	247.05
30-May-18	246.87
29-Jun-18	246.44
25-Jul-18	246.05
29-Aug-18	245.79
19-Sep-18	245.66
30-Oct-18	246.11
20-Nov-18	246.84
19-Dec-18	246.89
29-Jan-19	246.52
16-Jul-19	246.35
03-Sep-19	245.80
04-Oct-19	249.74
27-Nov-19	247.01
18-Feb-20	246.77
06-Mar-20	246.69
06-Apr-20	246.77
13-May-20	246.65
02-Jun-20	247.12
31-Jul-20	246.05
20-Aug-20	246.26
30-Sep-20	246.95
30-Oct-20	247.09
17-Dec-20	246.59
15-Apr-21	246.79
06-May-21	246.82
19-Jul-21	245.79
11-Aug-21	246.68
13-Sep-21	246.22
21-Oct-21	246.39
17-Nov-21	246.51
17-Dec-21	246.62
28-Jan-22	246.38
15-Feb-22	246.21
28-Mar-22	246.64
19-Apr-22	246.75
13-May-22	246.62
13-Jun-22	246.52
29-Jul-22	245.81
16-Aug-22	245.60
28-Sep-22	245.50
28-Oct-22	245.27
23-Nov-22	245.73
21-Dec-22	246.58
31-Jan-23	246.73
28-Feb-23	246.87
29-Mar-23	246.47
19-Apr-23	246.35
23-May-23	246.45
15-Jun-23	246.51
22-Jul-23	245.55
29-Jul-23	246.15
31-Aug-23	245.87
16-Oct-23	245.45
27-Nov-23	245.88
12-Dec-23	246.53

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W013

OW8#1

MP Elevation 251.47 masl

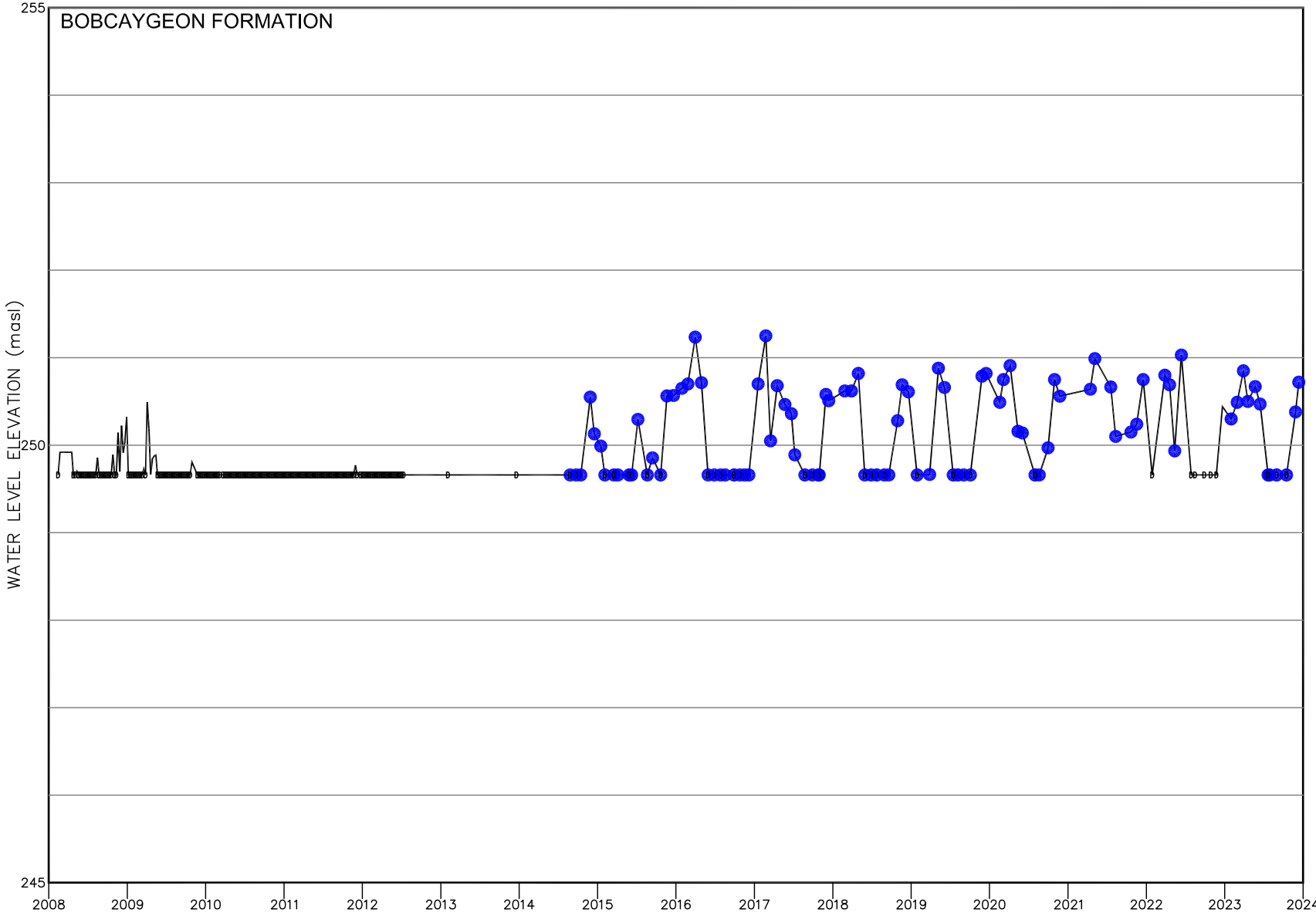


DATE	ELEVATION
29-Aug-18	247.83
19-Sep-18	247.93
30-Oct-18	249.84
20-Nov-18	250.28
19-Dec-18	250.30
29-Jan-19	248.98
28-Mar-19	249.71
08-May-19	250.52
05-Jun-19	249.97
16-Jul-19	248.88
07-Aug-19	248.33
03-Sep-19	247.89
04-Oct-19	248.17
27-Nov-19	250.29
16-Dec-19	250.52
13-Jan-20	250.79
18-Feb-20	250.43
06-Mar-20	250.66
06-Apr-20	250.80
13-May-20	250.10
02-Jun-20	249.84
31-Jul-20	247.99
20-Aug-20	249.10
30-Sep-20	249.72
30-Oct-20	250.26
24-Nov-20	250.04
17-Dec-20	250.15
15-Apr-21	250.53
06-May-21	250.84
19-Jul-21	249.69
11-Aug-21	249.91
13-Sep-21	248.46
21-Oct-21	249.90
17-Nov-21	250.09
17-Dec-21	250.34
28-Jan-22	249.45
15-Feb-22	249.40
28-Mar-22	250.67
19-Apr-22	250.60
13-May-22	250.66
13-Jun-22	250.68
29-Jul-22	248.37
16-Aug-22	247.86
28-Sep-22	247.59
28-Oct-22	248.81
23-Nov-22	249.39
21-Dec-22	250.26
31-Jan-23	250.29
28-Feb-23	250.41
29-Mar-23	250.85
19-Apr-23	250.46
23-May-23	250.55
15-Jun-23	250.30
22-Jul-23	248.25
29-Jul-23	249.63
31-Aug-23	249.18
16-Oct-23	248.17
27-Nov-23	250.00
12-Dec-23	250.40

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W014

OW8#2

MP Elevation 251.44 masl

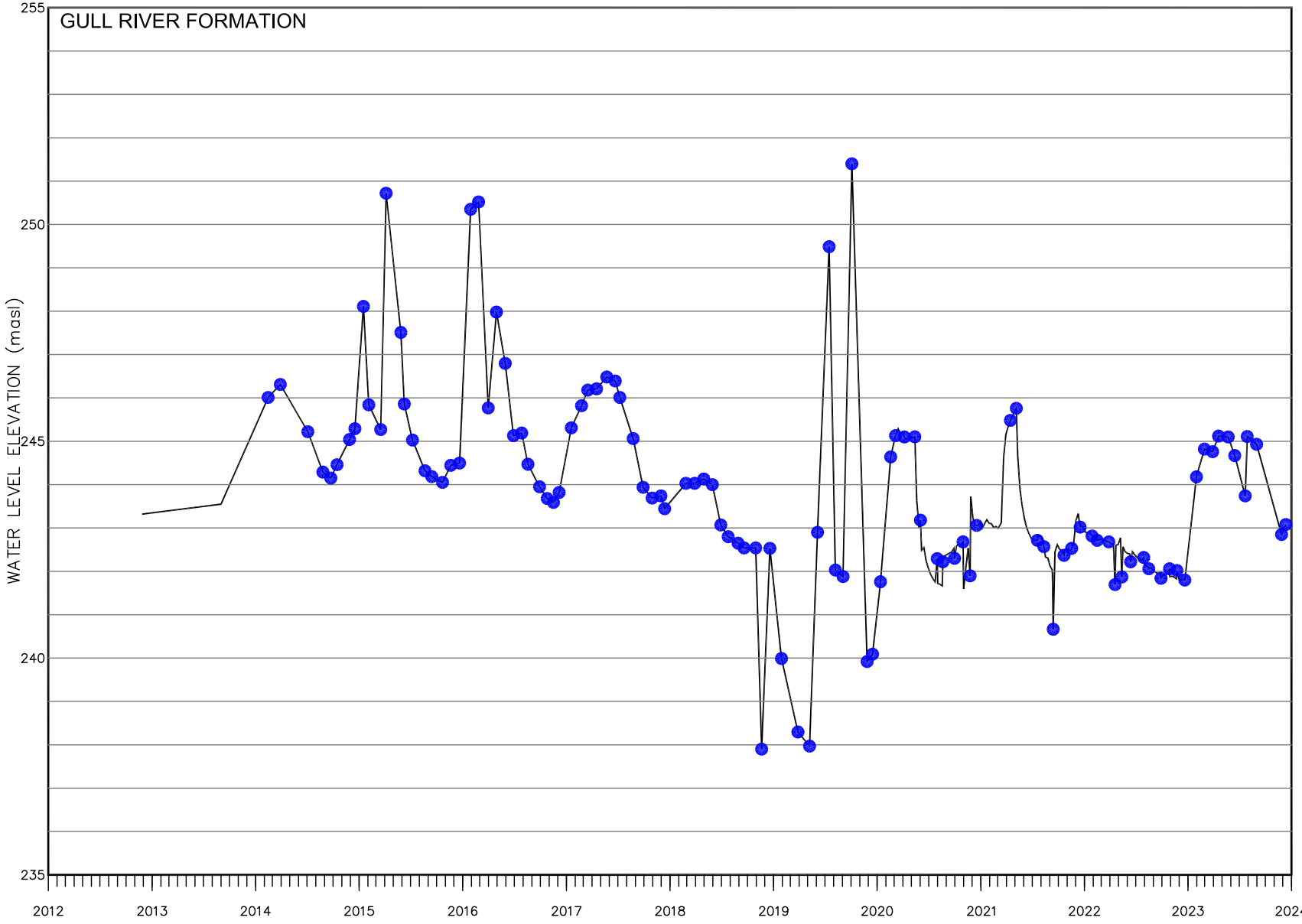


DATE	ELEVATION
30-Apr-18	250.82
30-May-18	DRY
29-Jun-18	DRY
25-Jul-18	DRY
29-Aug-18	DRY
19-Sep-18	DRY
30-Oct-18	250.28
20-Nov-18	250.69
19-Dec-18	250.61
29-Jan-19	DRY
28-Mar-19	249.66
08-May-19	250.88
05-Jun-19	250.66
16-Jul-19	DRY
07-Aug-19	DRY
03-Sep-19	DRY
04-Oct-19	DRY
27-Nov-19	250.79
16-Dec-19	250.82
18-Feb-20	250.49
06-Mar-20	250.75
06-Apr-20	250.91
13-May-20	250.16
02-Jun-20	250.14
31-Jul-20	DRY
20-Aug-20	DRY
30-Sep-20	249.97
30-Oct-20	250.75
24-Nov-20	250.56
15-Apr-21	250.64
06-May-21	250.99
19-Jul-21	250.66
11-Aug-21	250.10
21-Oct-21	250.15
17-Nov-21	250.24
17-Dec-21	250.75
28-Jan-22	DRY
28-Mar-22	250.80
19-Apr-22	250.69
13-May-22	249.93
13-Jun-22	251.03
29-Jul-22	DRY
16-Aug-22	DRY
28-Sep-22	DRY
28-Oct-22	DRY
23-Nov-22	DRY
21-Dec-22	BLCKD
31-Jan-23	250.30
28-Feb-23	250.49
29-Mar-23	250.85
19-Apr-23	250.50
23-May-23	250.67
15-Jun-23	250.47
22-Jul-23	DRY
29-Jul-23	DRY
31-Aug-23	DRY
16-Oct-23	DRY
27-Nov-23	250.38
12-Dec-23	250.72

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W015

OW8#3

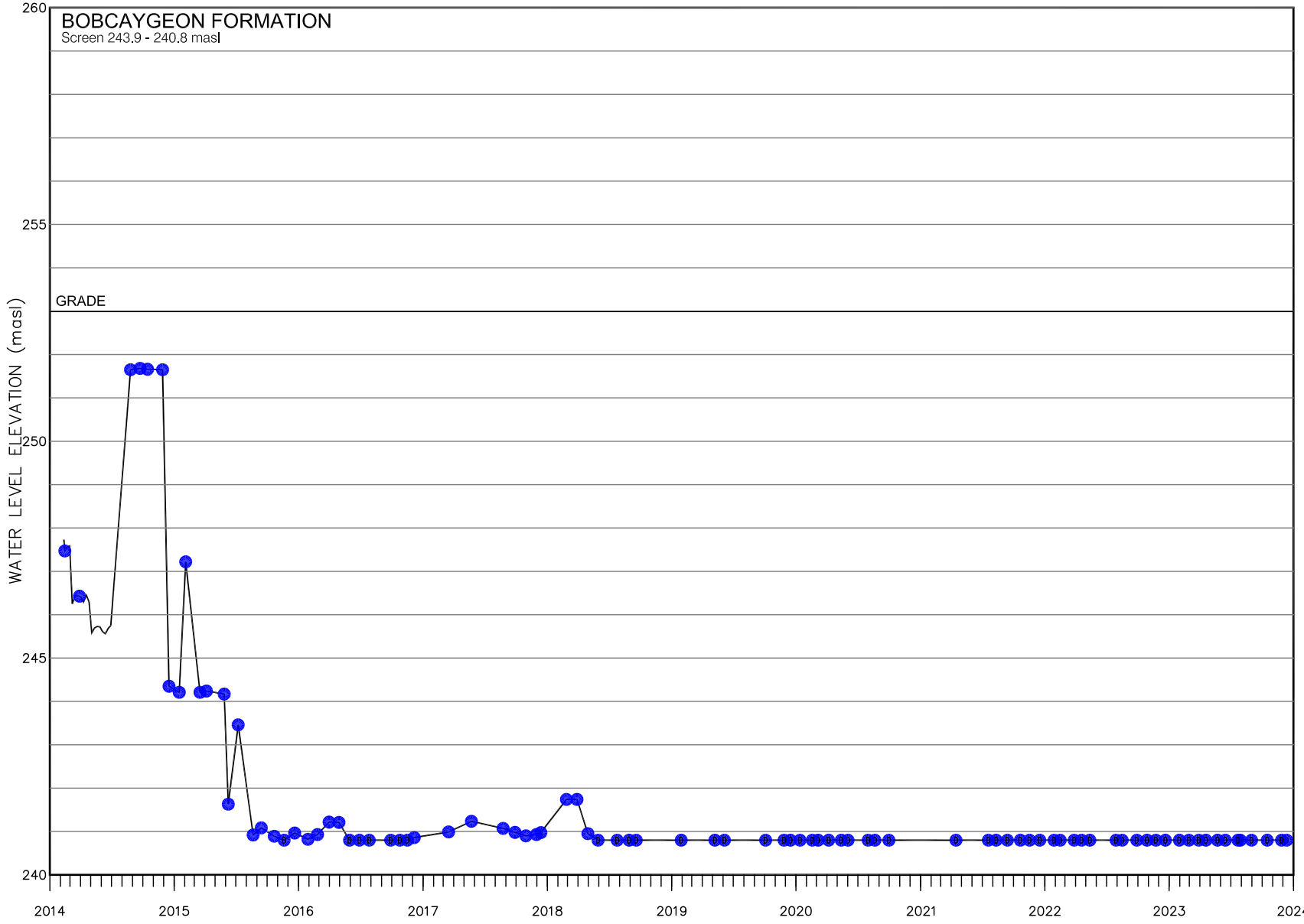
MP Elevation 251.40 masl



DATE	ELEVATION
15-Feb-22	242.71
23-Feb-22	242.73
03-Mar-22	242.74
11-Mar-22	242.72
19-Mar-22	242.69
27-Mar-22	242.68
28-Mar-22	242.68
05-Apr-22	242.64
13-Apr-22	242.63
19-Apr-22	241.70
22-Apr-22	242.60
30-Apr-22	242.62
08-May-22	242.77
13-May-22	241.87
17-May-22	242.57
25-May-22	242.45
02-Jun-22	242.41
10-Jun-22	242.40
13-Jun-22	242.22
19-Jun-22	242.45
27-Jun-22	242.38
05-Jul-22	242.33
13-Jul-22	242.28
21-Jul-22	242.25
29-Jul-22	242.32
30-Jul-22	242.18
07-Aug-22	242.13
15-Aug-22	242.09
16-Aug-22	242.06
24-Aug-22	242.08
01-Sep-22	242.03
09-Sep-22	241.98
17-Sep-22	241.95
25-Sep-22	241.96
28-Sep-22	241.84
04-Oct-22	241.91
12-Oct-22	241.90
20-Oct-22	241.94
28-Oct-22	242.06
29-Oct-22	241.88
06-Nov-22	241.89
14-Nov-22	241.86
22-Nov-22	241.83
23-Nov-22	242.02
01-Dec-22	241.81
09-Dec-22	241.79
17-Dec-22	241.82
21-Dec-22	241.80
31-Jan-23	244.18
28-Feb-23	244.82
29-Mar-23	244.76
19-Apr-23	245.12
23-May-23	245.10
15-Jun-23	244.67
22-Jul-23	243.74
29-Jul-23	245.11
31-Aug-23	244.93
27-Nov-23	242.85
12-Dec-23	243.08

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W016

OW9#1

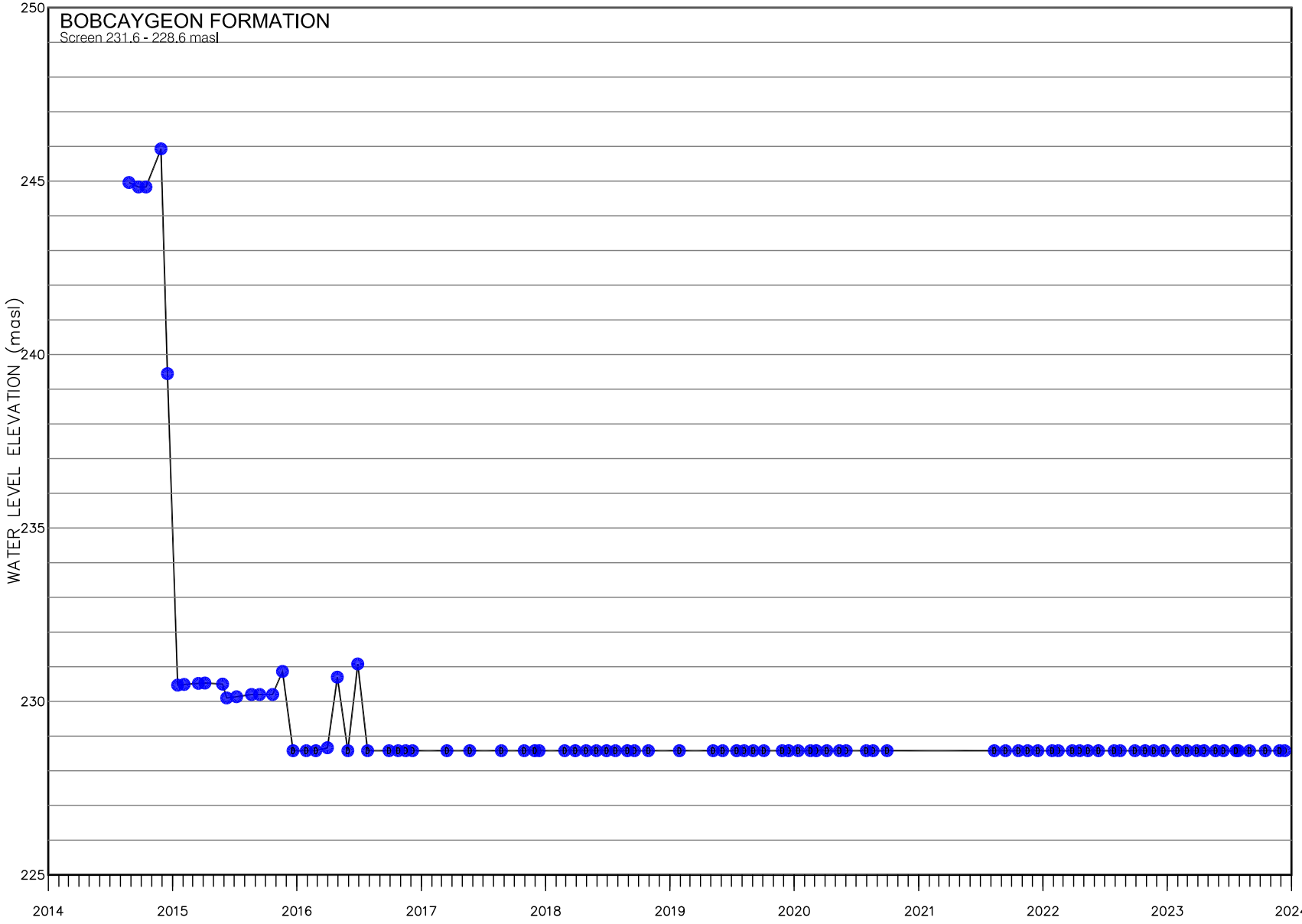


MP Elevation 253.40 masl
Grade 253.0 masl

DATE	ELEVATION
17-Mar-17	240.99
23-May-17	241.24
24-Aug-17	241.07
28-Sep-17	240.98
30-Oct-17	240.90
30-Nov-17	240.93
13-Dec-17	240.98
26-Feb-18	241.74
29-Mar-18	241.74
30-Apr-18	240.95
30-May-18	DRY
25-Jul-18	DRY
29-Aug-18	DRY
19-Sep-18	DRY
29-Jan-19	DRY
08-May-19	DRY
05-Jun-19	DRY
04-Oct-19	DRY
27-Nov-19	DRY
16-Dec-19	DRY
13-Jan-20	DRY
18-Feb-20	DRY
06-Mar-20	DRY
06-Apr-20	DRY
13-May-20	DRY
02-Jun-20	DRY
31-Jul-20	DRY
20-Aug-20	DRY
30-Sep-20	DRY
15-Apr-21	DRY
19-Jul-21	DRY
11-Aug-21	DRY
13-Sep-21	DRY
21-Oct-21	DRY
17-Nov-21	DRY
17-Dec-21	DRY
28-Jan-22	DRY
15-Feb-22	DRY
28-Mar-22	DRY
19-Apr-22	DRY
13-May-22	DRY
29-Jul-22	DRY
16-Aug-22	DRY
28-Sep-22	DRY
28-Oct-22	DRY
23-Nov-22	DRY
21-Dec-22	DRY
31-Jan-23	DRY
28-Feb-23	DRY
29-Mar-23	DRY
19-Apr-23	DRY
23-May-23	DRY
15-Jun-23	DRY
22-Jul-23	DRY
29-Jul-23	DRY
31-Aug-23	DRY
16-Oct-23	DRY
27-Nov-23	DRY
12-Dec-23	DRY

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W017

OW9#2

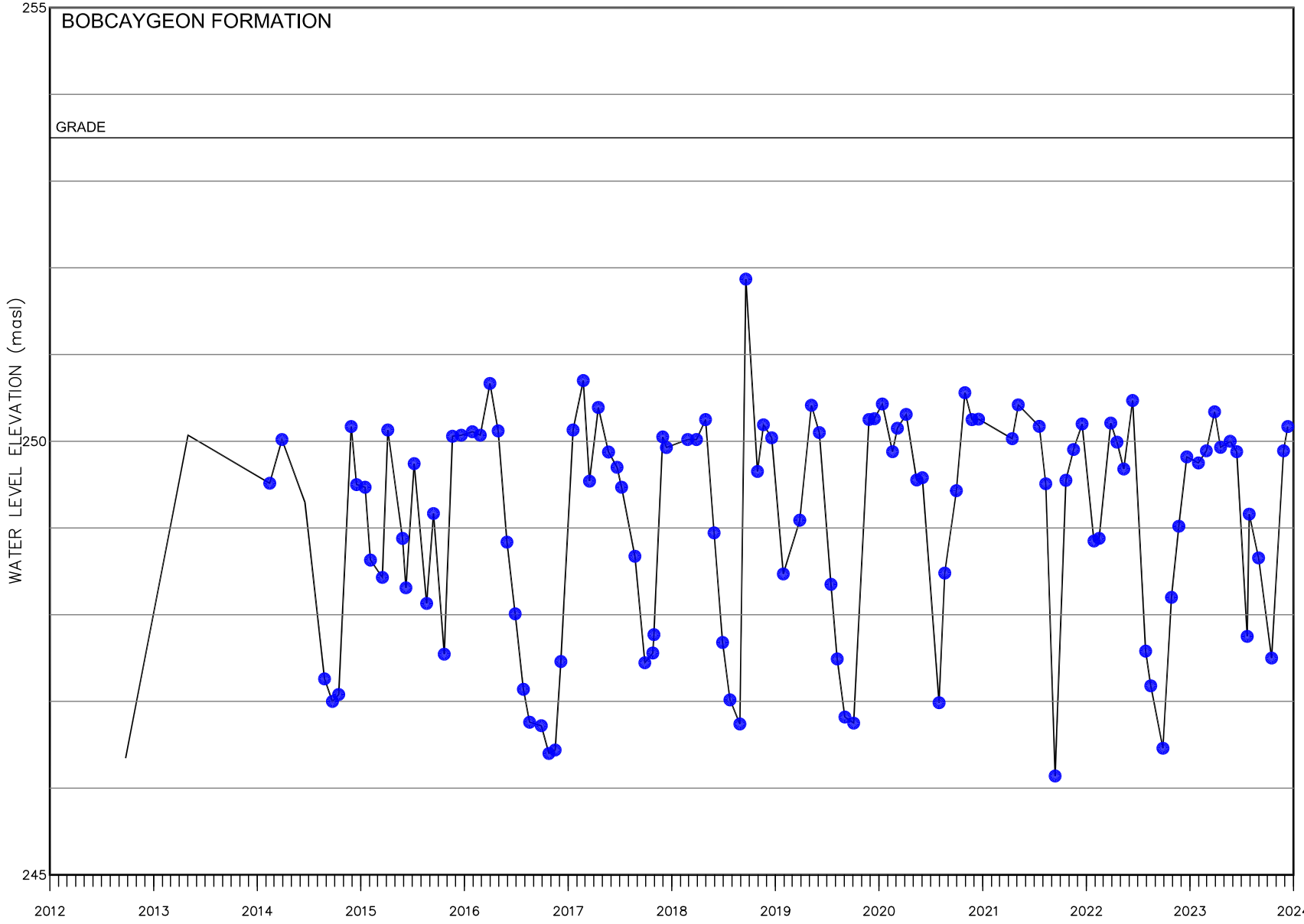


MP Elevation 253.31 masl
Grade 253.0 masl

DATE	ELEVATION
30-Oct-17	DRY
30-Nov-17	DRY
13-Dec-17	DRY
26-Feb-18	DRY
29-Mar-18	DRY
30-Apr-18	DRY
30-May-18	DRY
29-Jun-18	DRY
25-Jul-18	DRY
29-Aug-18	DRY
19-Sep-18	DRY
30-Oct-18	DRY
29-Jan-19	DRY
08-May-19	DRY
05-Jun-19	DRY
16-Jul-19	DRY
07-Aug-19	DRY
03-Sep-19	DRY
04-Oct-19	DRY
27-Nov-19	DRY
16-Dec-19	DRY
13-Jan-20	DRY
18-Feb-20	DRY
06-Mar-20	DRY
06-Apr-20	DRY
13-May-20	DRY
02-Jun-20	DRY
31-Jul-20	DRY
20-Aug-20	DRY
30-Sep-20	DRY
11-Aug-21	DRY
13-Sep-21	DRY
21-Oct-21	DRY
17-Nov-21	DRY
17-Dec-21	DRY
28-Jan-22	DRY
15-Feb-22	DRY
28-Mar-22	DRY
19-Apr-22	DRY
13-May-22	DRY
13-Jun-22	DRY
29-Jul-22	DRY
16-Aug-22	DRY
28-Sep-22	DRY
28-Oct-22	DRY
23-Nov-22	DRY
21-Dec-22	DRY
31-Jan-23	DRY
28-Feb-23	DRY
29-Mar-23	DRY
19-Apr-23	DRY
23-May-23	DRY
15-Jun-23	DRY
22-Jul-23	DRY
29-Jul-23	DRY
31-Aug-23	DRY
16-Oct-23	DRY
27-Nov-23	DRY
12-Dec-23	DRY

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W018

TW1#1

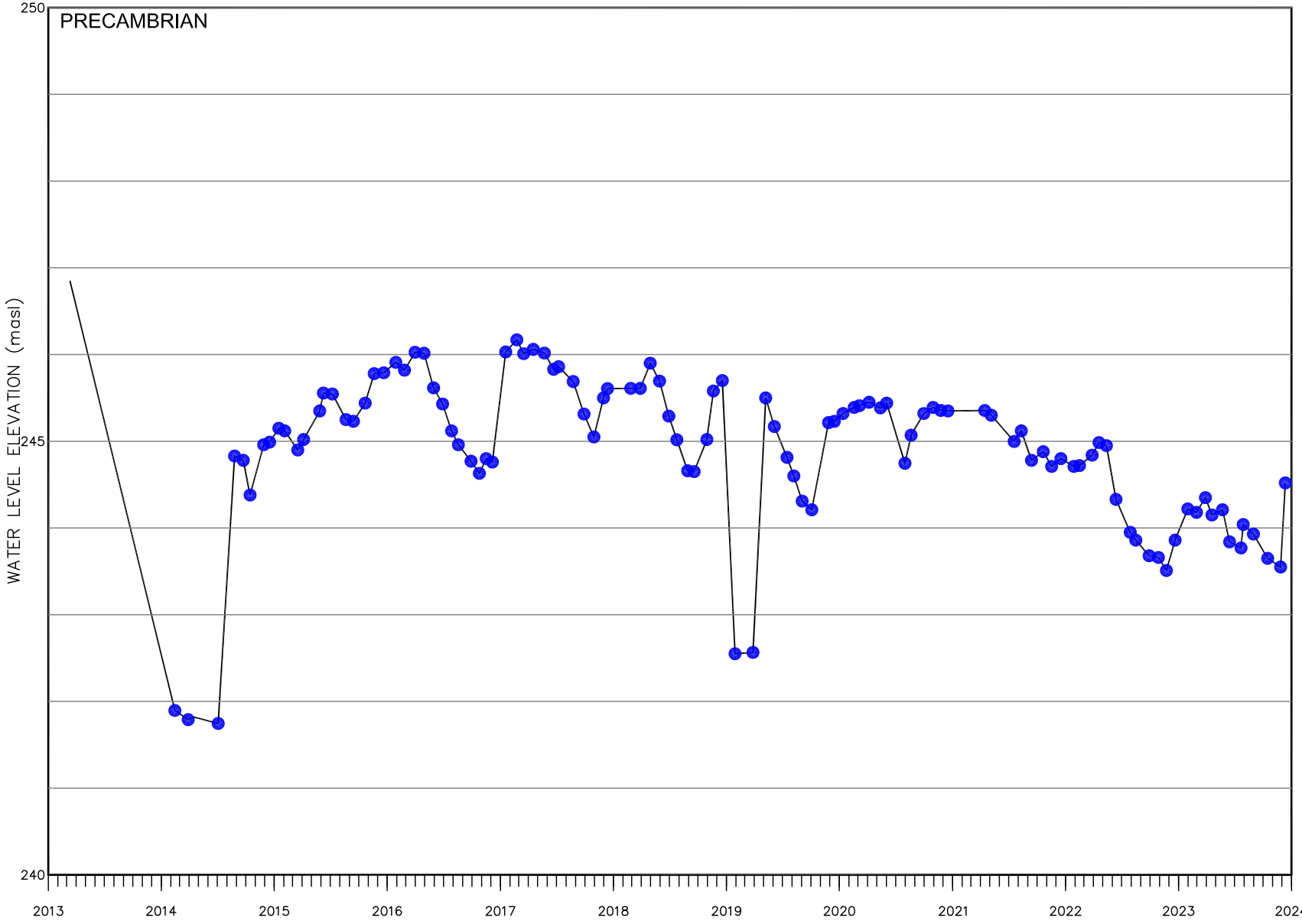


MP Elevation 254.10 masl
Grade 253.5 masl

DATE	ELEVATION
29-Aug-18	246.74
19-Sep-18	251.87
30-Oct-18	249.65
20-Nov-18	250.19
19-Dec-18	250.04
29-Jan-19	248.47
28-Mar-19	249.09
08-May-19	250.41
05-Jun-19	250.10
16-Jul-19	248.35
07-Aug-19	247.49
03-Sep-19	246.82
04-Oct-19	246.75
27-Nov-19	250.25
16-Dec-19	250.26
13-Jan-20	250.43
18-Feb-20	249.88
06-Mar-20	250.15
06-Apr-20	250.31
13-May-20	249.55
02-Jun-20	249.58
31-Jul-20	246.99
20-Aug-20	248.48
30-Sep-20	249.43
30-Oct-20	250.56
24-Nov-20	250.25
17-Dec-20	250.26
15-Apr-21	250.03
06-May-21	250.42
19-Jul-21	250.17
11-Aug-21	249.51
13-Sep-21	246.14
21-Oct-21	249.55
17-Nov-21	249.90
17-Dec-21	250.20
28-Jan-22	248.85
15-Feb-22	248.88
28-Mar-22	250.21
19-Apr-22	249.99
13-May-22	249.68
13-Jun-22	250.47
29-Jul-22	247.58
16-Aug-22	247.18
28-Sep-22	246.46
28-Oct-22	248.20
23-Nov-22	249.02
21-Dec-22	249.82
31-Jan-23	249.75
28-Feb-23	249.89
29-Mar-23	250.34
19-Apr-23	249.93
23-May-23	250.00
15-Jun-23	249.88
22-Jul-23	247.75
29-Jul-23	249.16
31-Aug-23	248.65
16-Oct-23	247.50
27-Nov-23	249.89
12-Dec-23	250.17

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W019

TW1#2

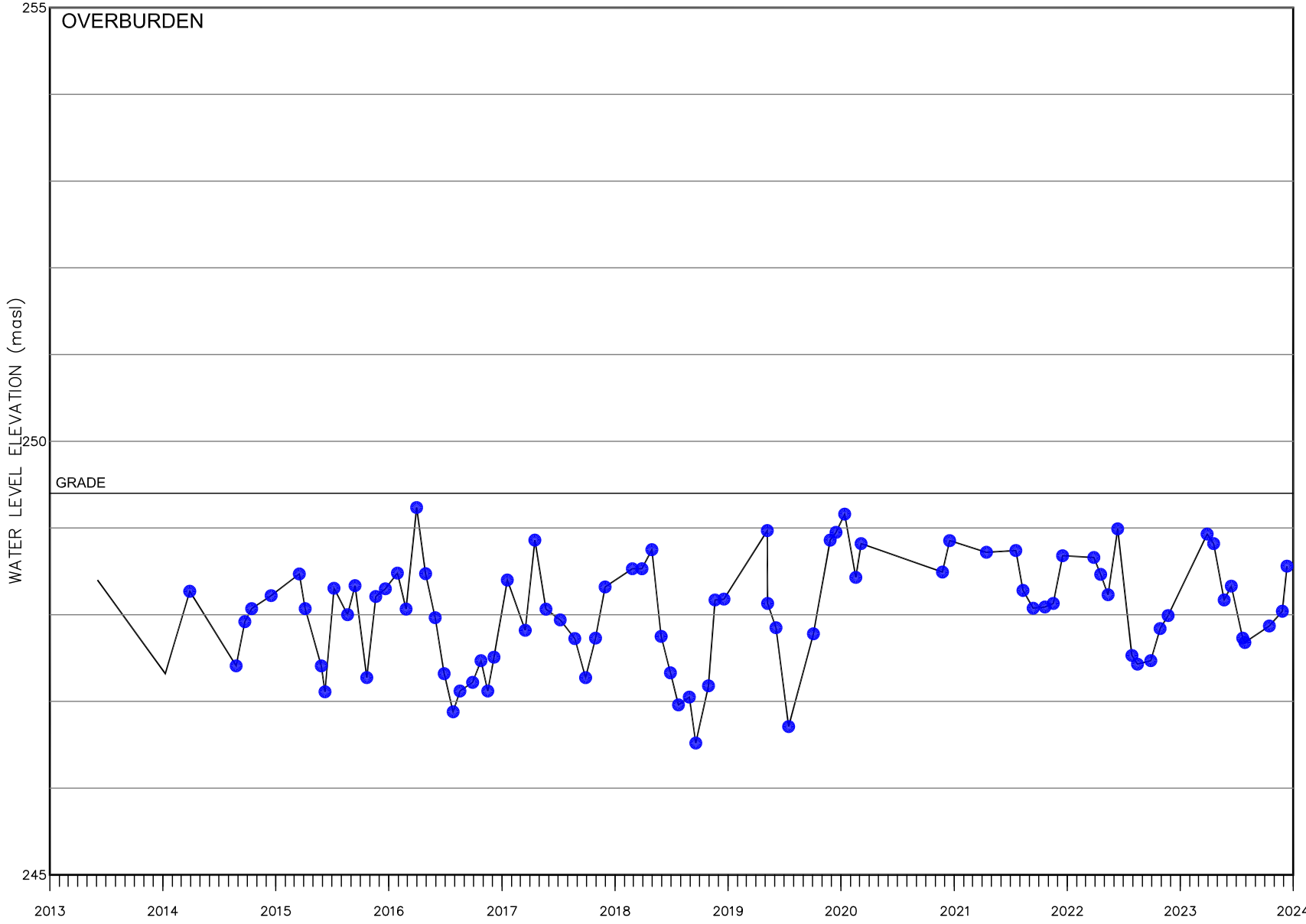


MP Elevation 254.10 masl
Grade 253.5 masl

DATE	ELEVATION
29-Aug-18	244.66
19-Sep-18	244.65
30-Oct-18	245.02
20-Nov-18	245.58
19-Dec-18	245.70
29-Jan-19	242.55
28-Mar-19	242.57
08-May-19	245.50
05-Jun-19	245.17
16-Jul-19	244.81
07-Aug-19	244.60
03-Sep-19	244.31
04-Oct-19	244.21
27-Nov-19	245.21
16-Dec-19	245.23
13-Jan-20	245.32
18-Feb-20	245.39
06-Mar-20	245.41
06-Apr-20	245.45
13-May-20	245.38
02-Jun-20	245.44
31-Jul-20	244.75
20-Aug-20	245.07
30-Sep-20	245.32
30-Oct-20	245.39
24-Nov-20	245.35
17-Dec-20	245.35
15-Apr-21	245.35
06-May-21	245.30
19-Jul-21	245.00
11-Aug-21	245.12
13-Sep-21	244.78
21-Oct-21	244.88
17-Nov-21	244.71
17-Dec-21	244.80
28-Jan-22	244.71
15-Feb-22	244.72
28-Mar-22	244.84
19-Apr-22	244.99
13-May-22	244.95
13-Jun-22	244.33
29-Jul-22	243.95
16-Aug-22	243.86
28-Sep-22	243.68
28-Oct-22	243.66
23-Nov-22	243.51
21-Dec-22	243.86
31-Jan-23	244.22
28-Feb-23	244.18
29-Mar-23	244.35
19-Apr-23	244.15
23-May-23	244.21
15-Jun-23	243.84
22-Jul-23	243.77
29-Jul-23	244.04
31-Aug-23	243.93
16-Oct-23	243.65
27-Nov-23	243.55
12-Dec-23	244.52

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W020

DW1

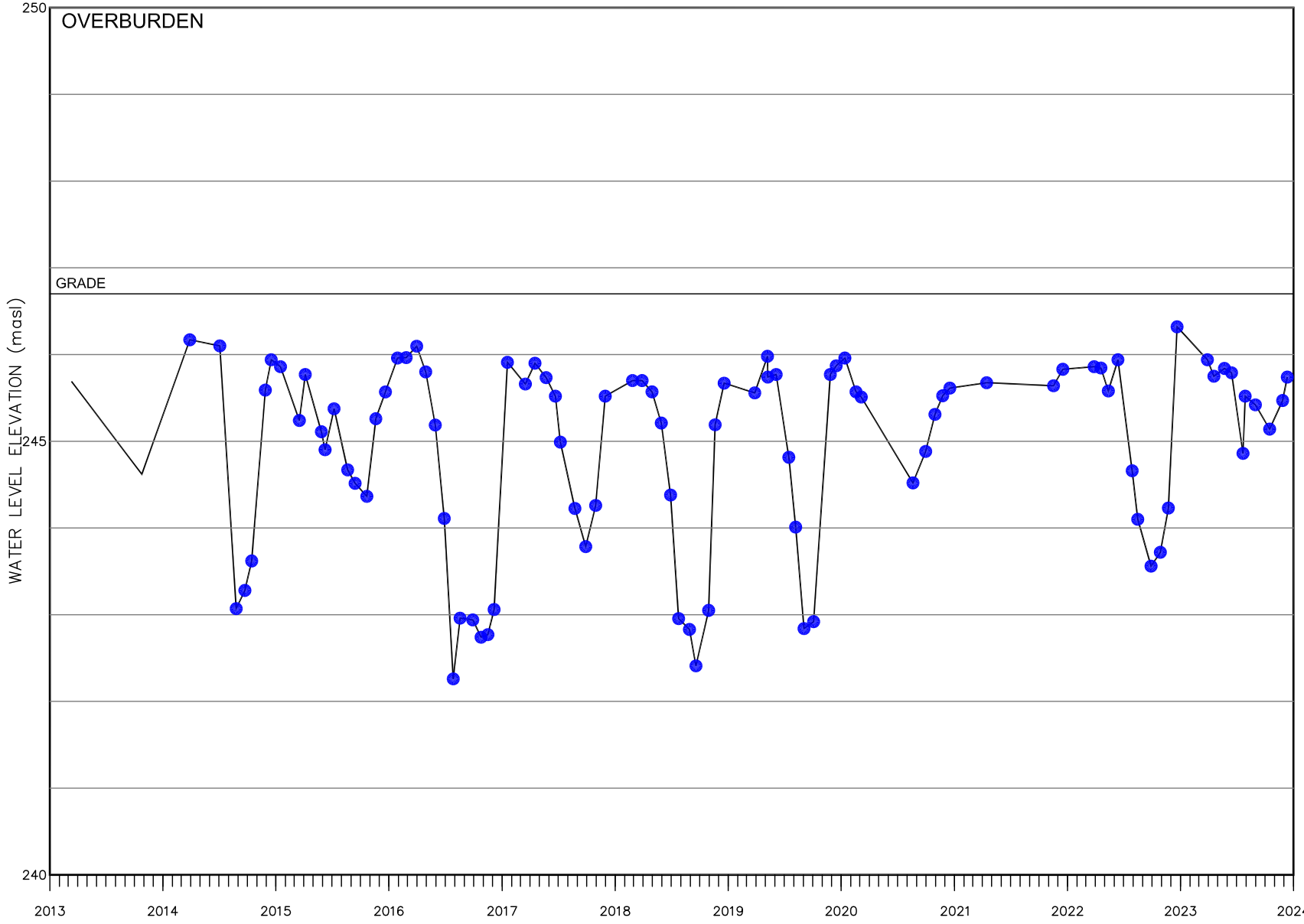


MP Elevation 249.83 masl
Grade 249.4 masl

DATE	ELEVATION
16-Nov-16	247.12
06-Dec-16	247.51
18-Jan-17	248.40
17-Mar-17	247.82
17-Apr-17	248.86
23-May-17	248.06
08-Jul-17	247.94
24-Aug-17	247.73
28-Sep-17	247.27
30-Oct-17	247.73
30-Nov-17	248.32
26-Feb-18	248.53
29-Mar-18	248.53
30-Apr-18	248.75
30-May-18	247.75
29-Jun-18	247.33
25-Jul-18	246.96
29-Aug-18	247.05
19-Sep-18	246.52
30-Oct-18	247.18
20-Nov-18	248.17
19-Dec-18	248.18
08-May-19	248.97
09-May-19	248.13
05-Jun-19	247.85
16-Jul-19	246.71
04-Oct-19	247.78
27-Nov-19	248.86
16-Dec-19	248.95
13-Jan-20	249.16
18-Feb-20	248.43
06-Mar-20	248.82
24-Nov-20	248.49
17-Dec-20	248.85
15-Apr-21	248.72
19-Jul-21	248.74
11-Aug-21	248.28
13-Sep-21	248.07
21-Oct-21	248.09
17-Nov-21	248.13
17-Dec-21	248.68
28-Mar-22	248.66
19-Apr-22	248.46
13-May-22	248.23
13-Jun-22	248.99
29-Jul-22	247.53
16-Aug-22	247.43
28-Sep-22	247.47
28-Oct-22	247.84
23-Nov-22	247.99
29-Mar-23	248.93
19-Apr-23	248.82
23-May-23	248.17
15-Jun-23	248.33
22-Jul-23	247.73
29-Jul-23	247.68
16-Oct-23	247.87
27-Nov-23	248.04
12-Dec-23	248.56

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W021

DW2

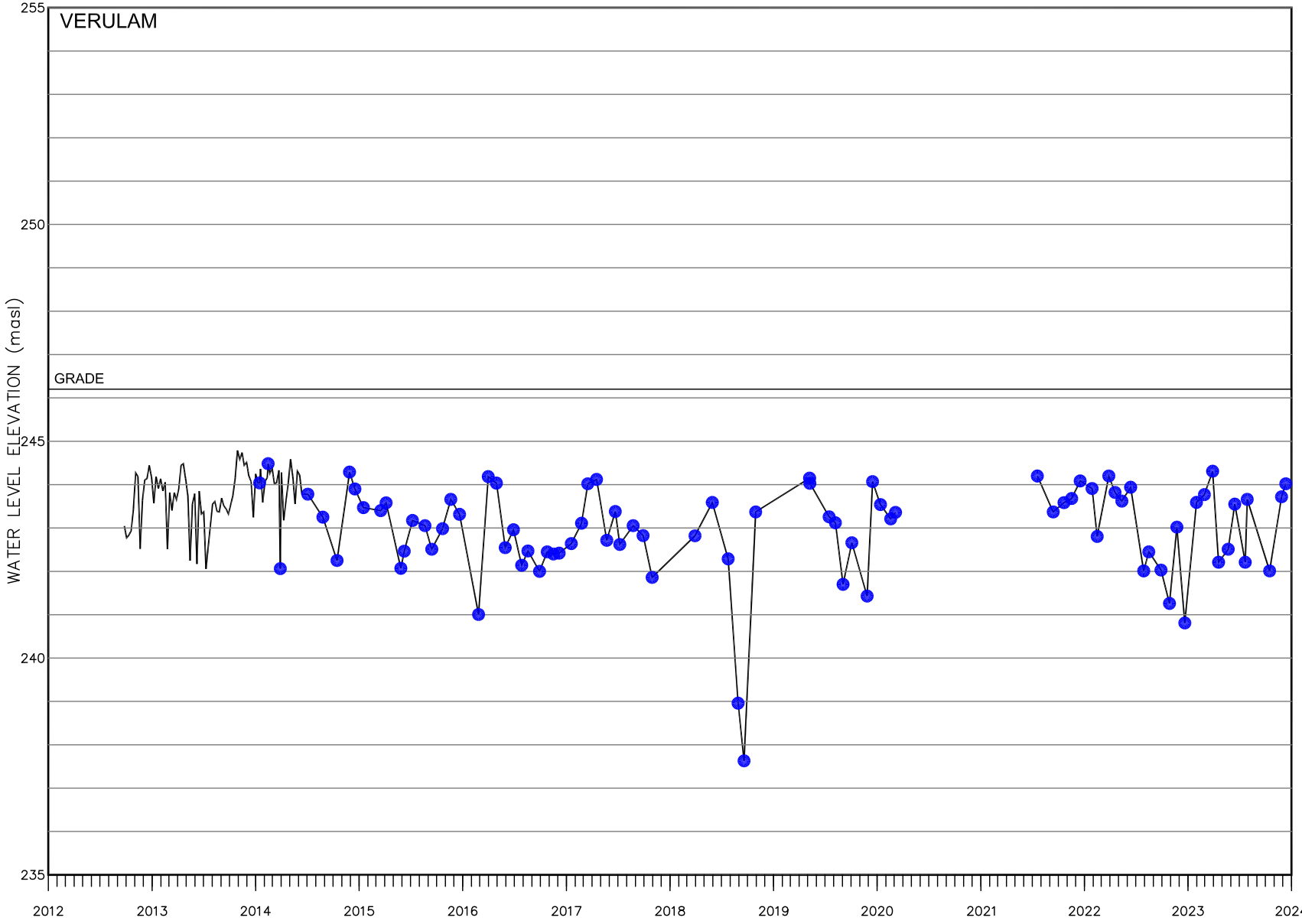


MP Elevation 247.50 masl
Grade 246.7 masl

DATE	ELEVATION
23-May-17	245.73
22-Jun-17	245.52
08-Jul-17	244.99
24-Aug-17	244.23
28-Sep-17	243.79
30-Oct-17	244.26
30-Nov-17	245.52
26-Feb-18	245.70
29-Mar-18	245.70
30-Apr-18	245.57
30-May-18	245.21
29-Jun-18	244.38
25-Jul-18	242.96
29-Aug-18	242.83
19-Sep-18	242.41
30-Oct-18	243.05
20-Nov-18	245.19
19-Dec-18	245.67
28-Mar-19	245.56
08-May-19	245.98
09-May-19	245.74
05-Jun-19	245.77
16-Jul-19	244.82
07-Aug-19	244.01
03-Sep-19	242.84
04-Oct-19	242.92
27-Nov-19	245.77
16-Dec-19	245.87
13-Jan-20	245.96
18-Feb-20	245.57
06-Mar-20	245.51
20-Aug-20	244.52
30-Sep-20	244.88
30-Oct-20	245.31
24-Nov-20	245.52
17-Dec-20	245.61
15-Apr-21	245.68
17-Nov-21	245.64
17-Dec-21	245.83
28-Mar-22	245.86
19-Apr-22	245.85
13-May-22	245.58
13-Jun-22	245.94
29-Jul-22	244.66
16-Aug-22	244.10
28-Sep-22	243.56
28-Oct-22	243.72
23-Nov-22	244.23
21-Dec-22	246.32
29-Mar-23	245.94
19-Apr-23	245.75
23-May-23	245.84
15-Jun-23	245.79
22-Jul-23	244.86
29-Jul-23	245.52
31-Aug-23	245.42
16-Oct-23	245.14
27-Nov-23	245.47
12-Dec-23	245.74

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W022

DW3



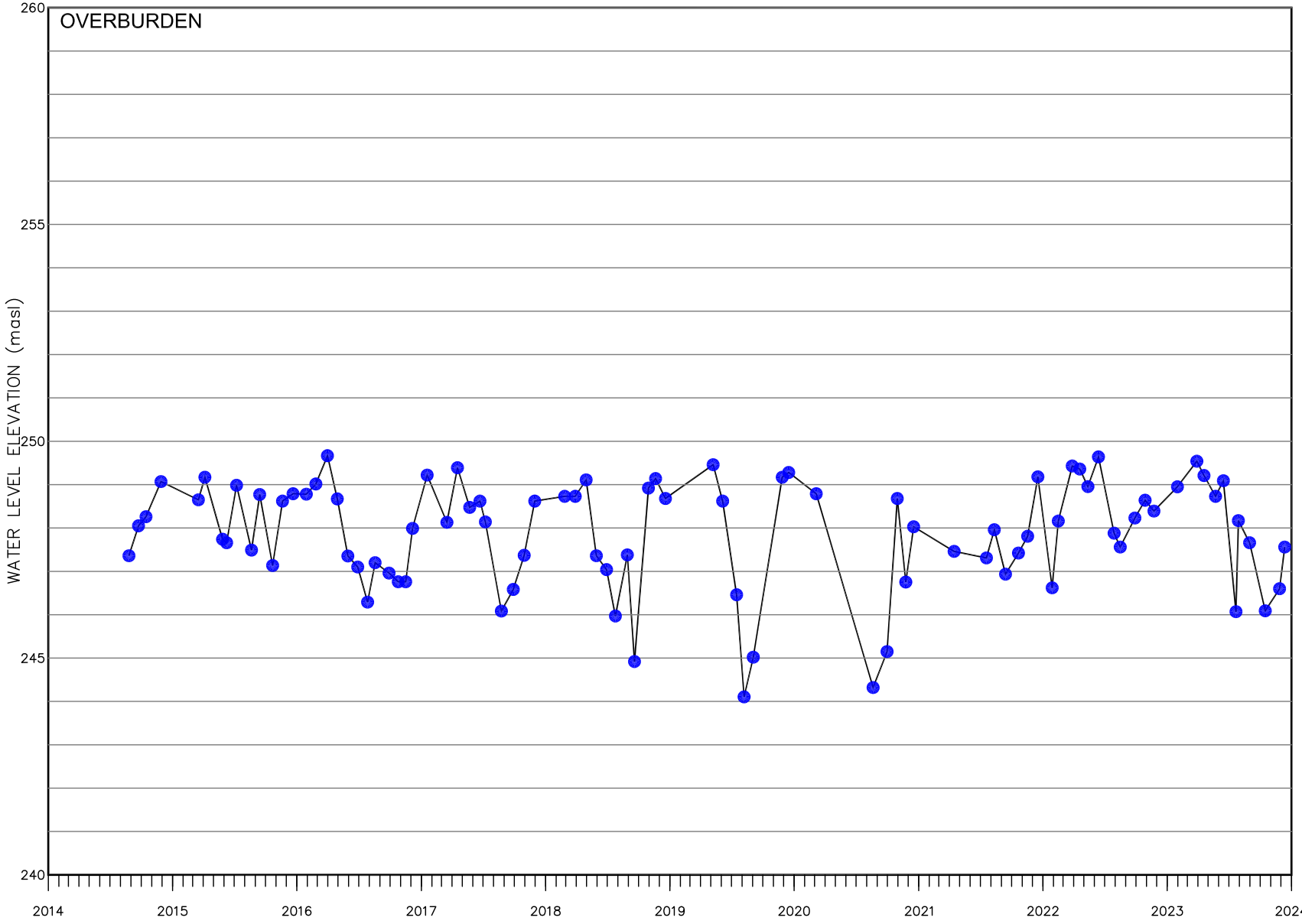
MP Elevation 246.52 masl
Grade 246.2 masl

DATE	ELEVATION
28-Sep-16	242.00
25-Oct-16	242.45
16-Nov-16	242.40
06-Dec-16	242.42
18-Jan-17	242.64
23-Feb-17	243.11
17-Mar-17	244.02
17-Apr-17	244.12
23-May-17	242.72
22-Jun-17	243.38
08-Jul-17	242.62
24-Aug-17	243.05
28-Sep-17	242.82
30-Oct-17	241.86
30-Mar-18	242.82
30-May-18	243.59
25-Jul-18	242.29
29-Aug-18	238.96
19-Sep-18	237.63
30-Oct-18	243.37
08-May-19	244.15
09-May-19	244.03
16-Jul-19	243.26
07-Aug-19	243.12
03-Sep-19	241.70
04-Oct-19	242.66
27-Nov-19	241.43
16-Dec-19	244.07
13-Jan-20	243.54
18-Feb-20	243.21
06-Mar-20	243.36
19-Jul-21	244.20
13-Sep-21	243.37
21-Oct-21	243.59
17-Nov-21	243.68
17-Dec-21	244.09
28-Jan-22	243.91
15-Feb-22	242.80
28-Mar-22	244.20
19-Apr-22	243.82
13-May-22	243.62
13-Jun-22	243.94
29-Jul-22	242.01
16-Aug-22	242.45
28-Sep-22	242.03
28-Oct-22	241.26
23-Nov-22	243.02
21-Dec-22	240.81
31-Jan-23	243.59
28-Feb-23	243.77
29-Mar-23	244.31
19-Apr-23	242.21
23-May-23	242.51
15-Jun-23	243.55
22-Jul-23	242.21
29-Jul-23	243.66
16-Oct-23	242.01
27-Nov-23	243.72
12-Dec-23	244.02

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W023

DW4

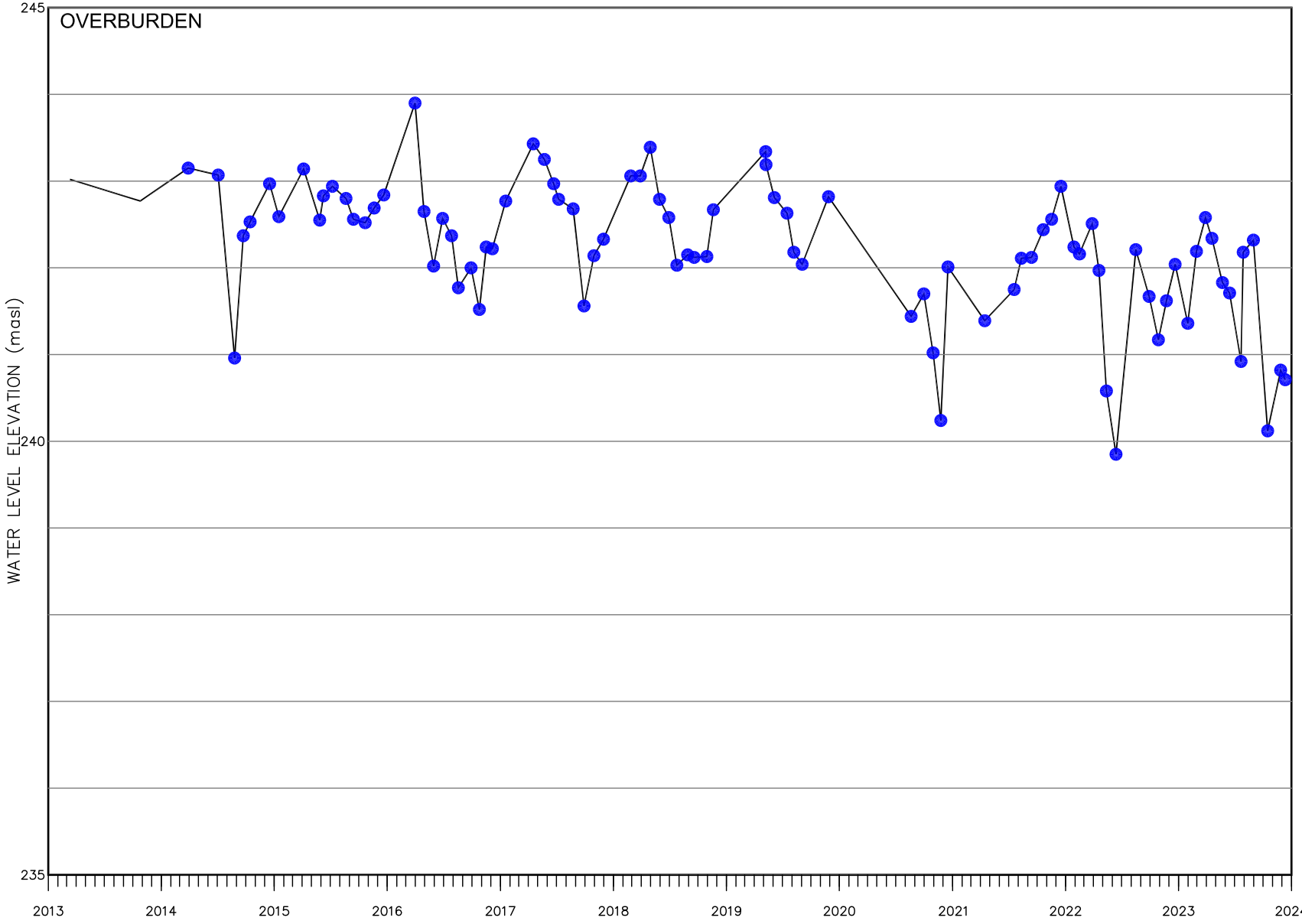
MP Elevation 250.19 masl



DATE	ELEVATION
22-Jun-17	248.62
08-Jul-17	248.14
24-Aug-17	246.08
28-Sep-17	246.58
30-Oct-17	247.37
30-Nov-17	248.62
26-Feb-18	248.73
29-Mar-18	248.73
30-Apr-18	249.11
30-May-18	247.36
29-Jun-18	247.04
25-Jul-18	245.97
29-Aug-18	247.38
19-Sep-18	244.92
30-Oct-18	248.92
20-Nov-18	249.14
19-Dec-18	248.68
08-May-19	249.46
05-Jun-19	248.62
16-Jul-19	246.46
07-Aug-19	244.10
03-Sep-19	245.02
27-Nov-19	249.17
16-Dec-19	249.28
06-Mar-20	248.79
20-Aug-20	244.32
30-Sep-20	245.15
30-Oct-20	248.68
24-Nov-20	246.75
17-Dec-20	248.03
15-Apr-21	247.46
19-Jul-21	247.31
11-Aug-21	247.96
13-Sep-21	246.93
21-Oct-21	247.42
17-Nov-21	247.81
17-Dec-21	249.18
28-Jan-22	246.62
15-Feb-22	248.16
28-Mar-22	249.43
19-Apr-22	249.36
13-May-22	248.96
13-Jun-22	249.64
29-Jul-22	247.88
16-Aug-22	247.56
28-Sep-22	248.23
28-Oct-22	248.64
23-Nov-22	248.39
31-Jan-23	248.95
29-Mar-23	249.54
19-Apr-23	249.21
23-May-23	248.73
15-Jun-23	249.09
22-Jul-23	246.07
29-Jul-23	248.17
31-Aug-23	247.66
16-Oct-23	246.09
27-Nov-23	246.60
12-Dec-23	247.56

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W024

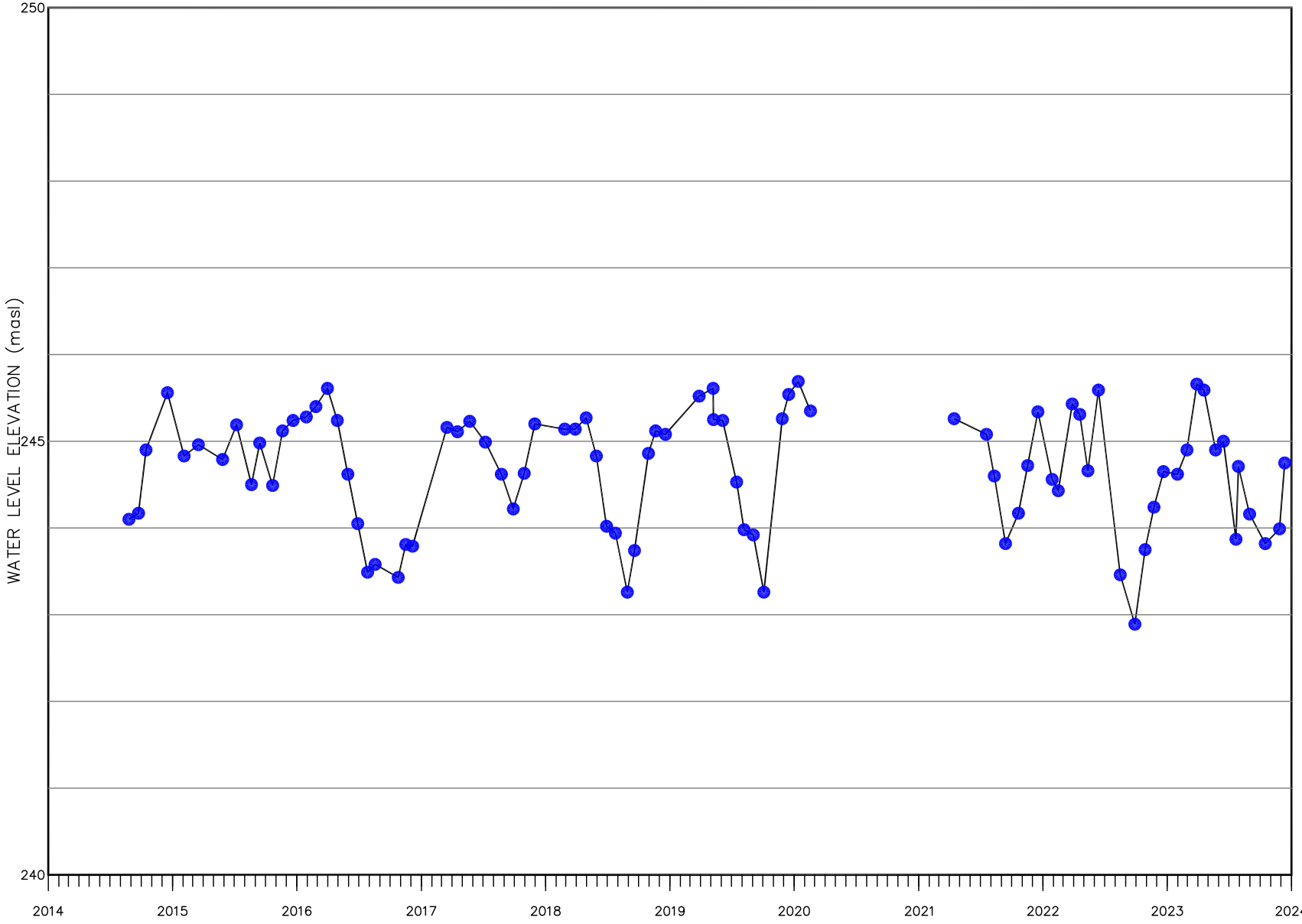
DW6



DATE	ELEVATION
23-May-17	243.25
22-Jun-17	242.97
08-Jul-17	242.79
24-Aug-17	242.68
28-Sep-17	241.56
30-Oct-17	242.14
30-Nov-17	242.33
26-Feb-18	243.06
29-Mar-18	243.06
30-Apr-18	243.39
30-May-18	242.79
29-Jun-18	242.58
25-Jul-18	242.03
29-Aug-18	242.15
19-Sep-18	242.12
30-Oct-18	242.13
20-Nov-18	242.67
08-May-19	243.34
09-May-19	243.19
05-Jun-19	242.81
16-Jul-19	242.63
07-Aug-19	242.18
03-Sep-19	242.04
27-Nov-19	242.82
20-Aug-20	241.44
30-Sep-20	241.70
30-Oct-20	241.02
24-Nov-20	240.24
17-Dec-20	242.01
15-Apr-21	241.39
19-Jul-21	241.75
11-Aug-21	242.11
13-Sep-21	242.12
21-Oct-21	242.44
17-Nov-21	242.56
17-Dec-21	242.94
28-Jan-22	242.24
15-Feb-22	242.16
28-Mar-22	242.51
19-Apr-22	241.97
13-May-22	240.58
13-Jun-22	239.85
16-Aug-22	242.21
28-Sep-22	241.67
28-Oct-22	241.17
23-Nov-22	241.62
21-Dec-22	242.04
31-Jan-23	241.36
28-Feb-23	242.19
29-Mar-23	242.58
19-Apr-23	242.34
23-May-23	241.83
15-Jun-23	241.71
22-Jul-23	240.92
29-Jul-23	242.18
31-Aug-23	242.32
16-Oct-23	240.12
27-Nov-23	240.82
12-Dec-23	240.71

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W025

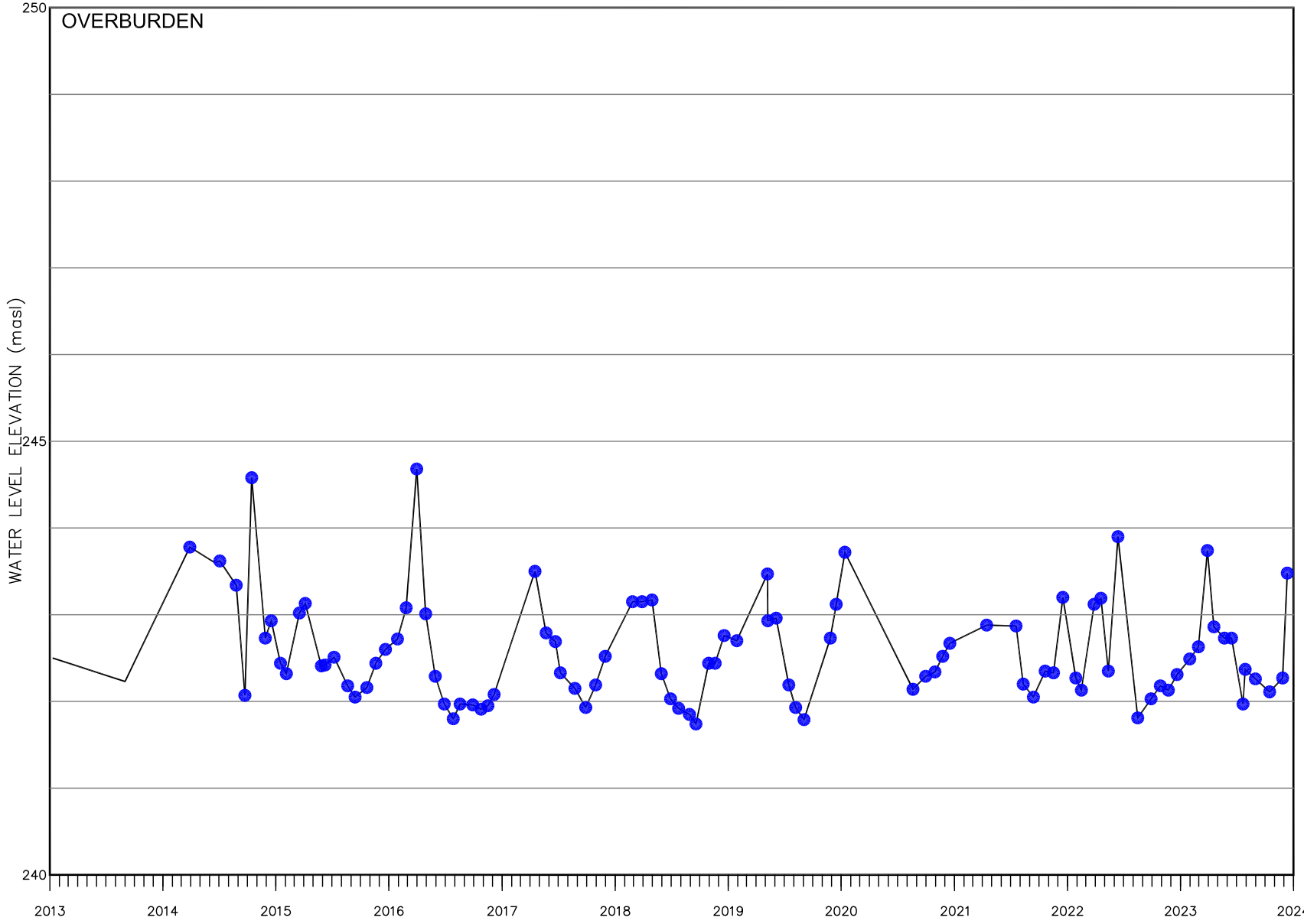
DW7



DATE	ELEVATION
23-May-17	245.23
08-Jul-17	244.99
24-Aug-17	244.62
28-Sep-17	244.22
30-Oct-17	244.63
30-Nov-17	245.20
26-Feb-18	245.14
29-Mar-18	245.14
30-Apr-18	245.27
30-May-18	244.83
29-Jun-18	244.02
25-Jul-18	243.94
29-Aug-18	243.26
19-Sep-18	243.74
30-Oct-18	244.86
20-Nov-18	245.12
19-Dec-18	245.08
28-Mar-19	245.52
08-May-19	245.61
09-May-19	245.25
05-Jun-19	245.24
16-Jul-19	244.53
07-Aug-19	243.98
03-Sep-19	243.92
04-Oct-19	243.26
27-Nov-19	245.26
16-Dec-19	245.54
13-Jan-20	245.69
18-Feb-20	245.35
15-Apr-21	245.26
19-Jul-21	245.08
11-Aug-21	244.60
13-Sep-21	243.82
21-Oct-21	244.17
17-Nov-21	244.72
17-Dec-21	245.34
28-Jan-22	244.56
15-Feb-22	244.43
28-Mar-22	245.43
19-Apr-22	245.31
13-May-22	244.66
13-Jun-22	245.59
16-Aug-22	243.46
28-Sep-22	242.89
28-Oct-22	243.75
23-Nov-22	244.24
21-Dec-22	244.65
31-Jan-23	244.62
28-Feb-23	244.90
29-Mar-23	245.66
19-Apr-23	245.59
23-May-23	244.90
15-Jun-23	245.00
22-Jul-23	243.87
29-Jul-23	244.71
31-Aug-23	244.16
16-Oct-23	243.82
27-Nov-23	243.99
12-Dec-23	244.75

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W026

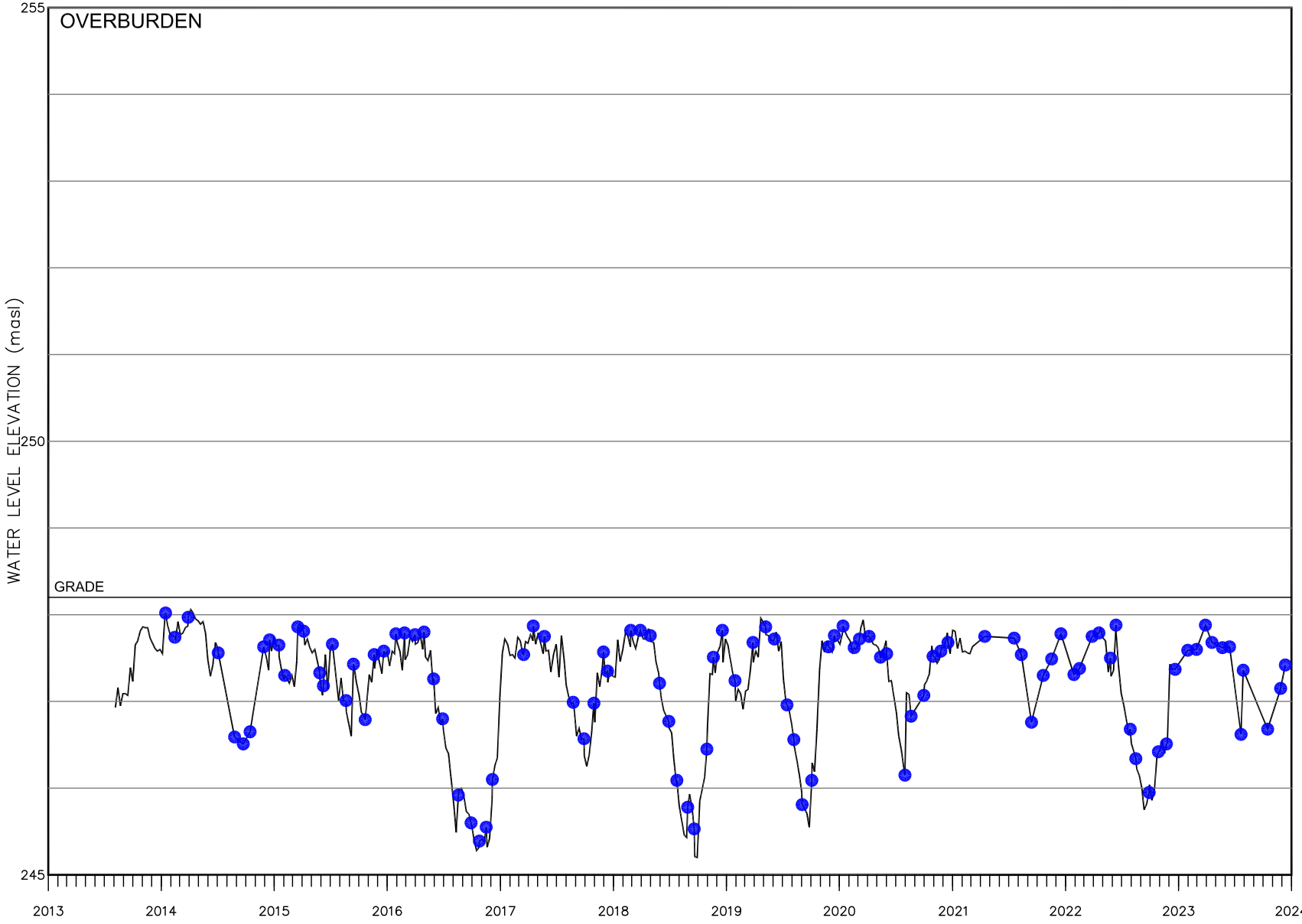
DW8



DATE	ELEVATION
28-Sep-17	241.93
30-Oct-17	242.19
30-Nov-17	242.52
26-Feb-18	243.15
29-Mar-18	243.15
30-Apr-18	243.17
30-May-18	242.32
29-Jun-18	242.03
25-Jul-18	241.92
29-Aug-18	241.85
19-Sep-18	241.74
30-Oct-18	242.44
20-Nov-18	242.44
19-Dec-18	242.76
29-Jan-19	242.70
08-May-19	243.47
09-May-19	242.93
05-Jun-19	242.96
16-Jul-19	242.19
07-Aug-19	241.93
03-Sep-19	241.79
27-Nov-19	242.73
16-Dec-19	243.12
13-Jan-20	243.72
20-Aug-20	242.14
30-Sep-20	242.29
30-Oct-20	242.34
24-Nov-20	242.52
17-Dec-20	242.67
15-Apr-21	242.88
19-Jul-21	242.87
11-Aug-21	242.20
13-Sep-21	242.05
21-Oct-21	242.35
17-Nov-21	242.33
17-Dec-21	243.20
28-Jan-22	242.27
15-Feb-22	242.13
28-Mar-22	243.12
19-Apr-22	243.19
13-May-22	242.35
13-Jun-22	243.90
16-Aug-22	241.81
28-Sep-22	242.03
28-Oct-22	242.18
23-Nov-22	242.13
21-Dec-22	242.31
31-Jan-23	242.49
28-Feb-23	242.63
29-Mar-23	243.74
19-Apr-23	242.86
23-May-23	242.73
15-Jun-23	242.73
22-Jul-23	241.97
29-Jul-23	242.37
31-Aug-23	242.26
16-Oct-23	242.11
27-Nov-23	242.27
12-Dec-23	243.48

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W027

BORED



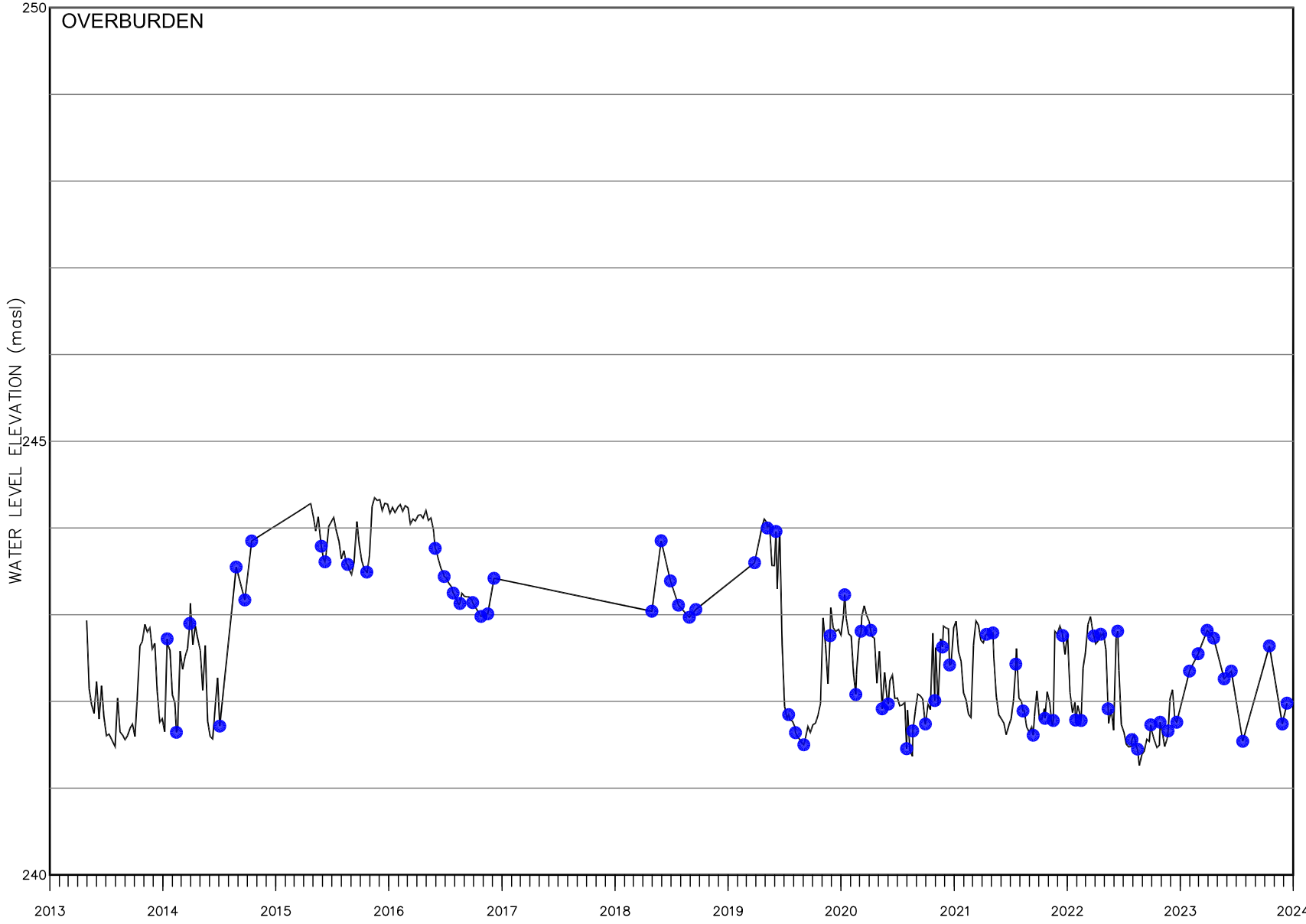
MP Elevation 248.86 masl
Grade 248.2 masl

DATE	ELEVATION
19-Jul-21	247.73
11-Aug-21	247.54
13-Sep-21	246.76
21-Oct-21	247.30
17-Nov-21	247.49
17-Dec-21	247.78
28-Jan-22	247.31
15-Feb-22	247.38
28-Mar-22	247.75
19-Apr-22	247.79
24-Apr-22	247.84
02-May-22	247.73
10-May-22	247.70
19-May-22	247.34
26-May-22	247.50
28-May-22	247.29
05-Jun-22	247.36
13-Jun-22	247.88
14-Jun-22	247.76
22-Jun-22	247.37
30-Jun-22	247.09
08-Jul-22	246.96
16-Jul-22	246.80
24-Jul-22	246.61
29-Jul-22	246.68
02-Aug-22	246.51
10-Aug-22	246.42
16-Aug-22	246.34
19-Aug-22	246.22
27-Aug-22	246.15
04-Sep-22	246.01
12-Sep-22	245.75
20-Sep-22	245.82
28-Sep-22	245.95
29-Sep-22	246.04
07-Oct-22	245.86
15-Oct-22	245.97
23-Oct-22	246.36
28-Oct-22	246.42
01-Nov-22	246.43
09-Nov-22	246.55
17-Nov-22	246.40
23-Nov-22	246.51
26-Nov-22	246.52
04-Dec-22	247.43
12-Dec-22	247.37
20-Dec-22	247.38
21-Dec-22	247.37
31-Jan-23	247.59
28-Feb-23	247.60
29-Mar-23	247.88
19-Apr-23	247.68
23-May-23	247.62
15-Jun-23	247.63
22-Jul-23	246.62
29-Jul-23	247.36
16-Oct-23	246.68
27-Nov-23	247.15
12-Dec-23	247.42

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W028

CKL-1

MP Elevation 244.00 masl

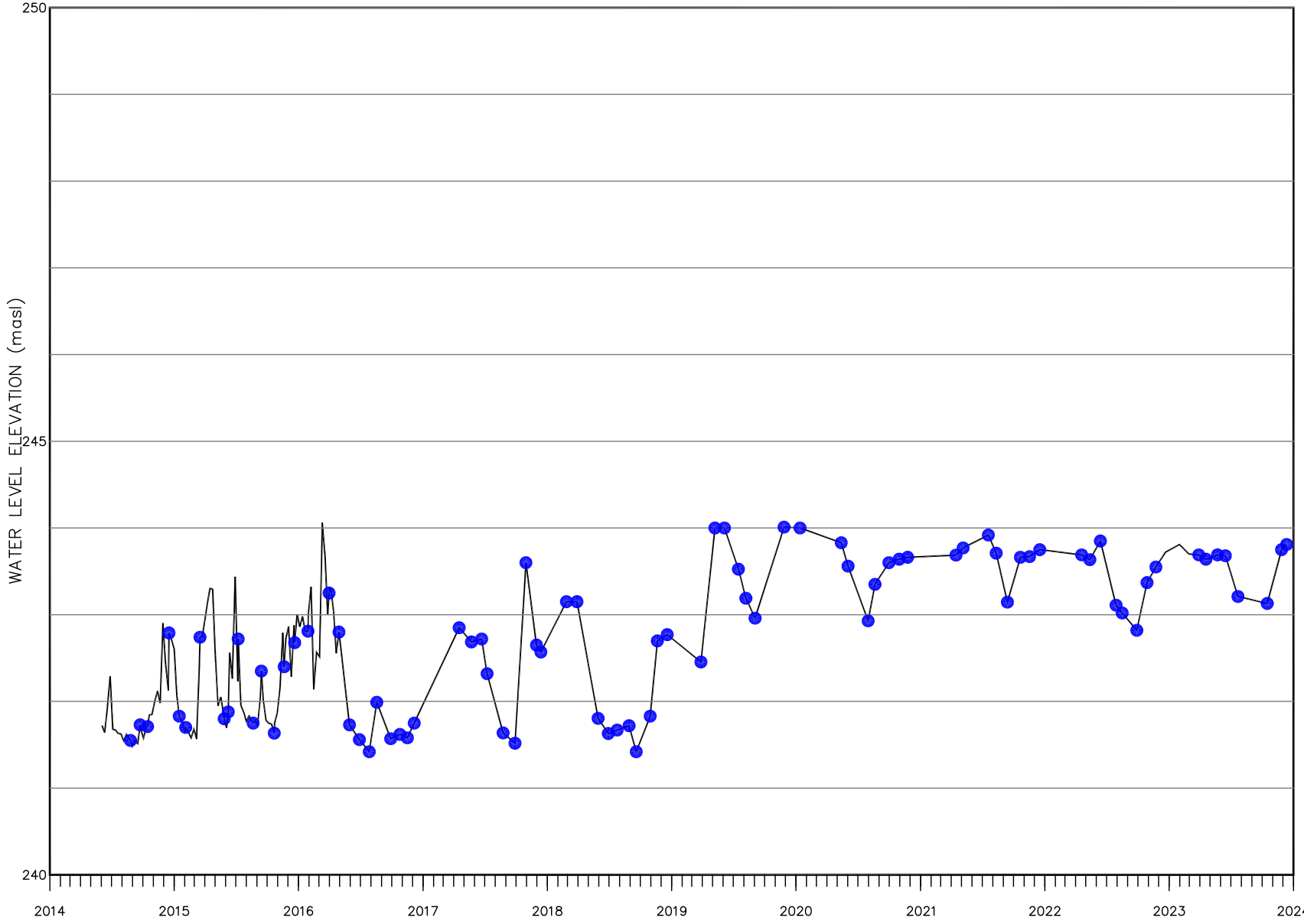


DATE	ELEVATION
12-Feb-22	241.84
15-Feb-22	241.78
21-Feb-22	242.38
01-Mar-22	242.57
09-Mar-22	242.89
17-Mar-22	242.98
25-Mar-22	242.80
28-Mar-22	242.76
03-Apr-22	242.66
11-Apr-22	242.70
19-Apr-22	242.77
20-Apr-22	242.75
28-Apr-22	242.79
06-May-22	242.60
13-May-22	241.91
15-May-22	241.75
23-May-22	241.91
31-May-22	241.67
08-Jun-22	242.73
13-Jun-22	242.81
17-Jun-22	242.36
25-Jun-22	241.73
03-Jul-22	241.65
11-Jul-22	241.51
19-Jul-22	241.48
27-Jul-22	241.48
29-Jul-22	241.56
05-Aug-22	241.62
13-Aug-22	241.47
16-Aug-22	241.45
22-Aug-22	241.26
30-Aug-22	241.39
07-Sep-22	241.43
15-Sep-22	241.56
23-Sep-22	241.54
28-Sep-22	241.73
02-Oct-22	241.65
10-Oct-22	241.55
18-Oct-22	241.47
26-Oct-22	241.50
28-Oct-22	241.76
04-Nov-22	241.65
12-Nov-22	241.48
20-Nov-22	241.57
23-Nov-22	241.66
29-Nov-22	242.03
07-Dec-22	242.13
15-Dec-22	241.79
21-Dec-22	241.76
31-Jan-23	242.35
28-Feb-23	242.55
29-Mar-23	242.82
19-Apr-23	242.73
23-May-23	242.26
15-Jun-23	242.35
22-Jul-23	241.54
16-Oct-23	242.64
27-Nov-23	241.74
12-Dec-23	241.98

GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W029

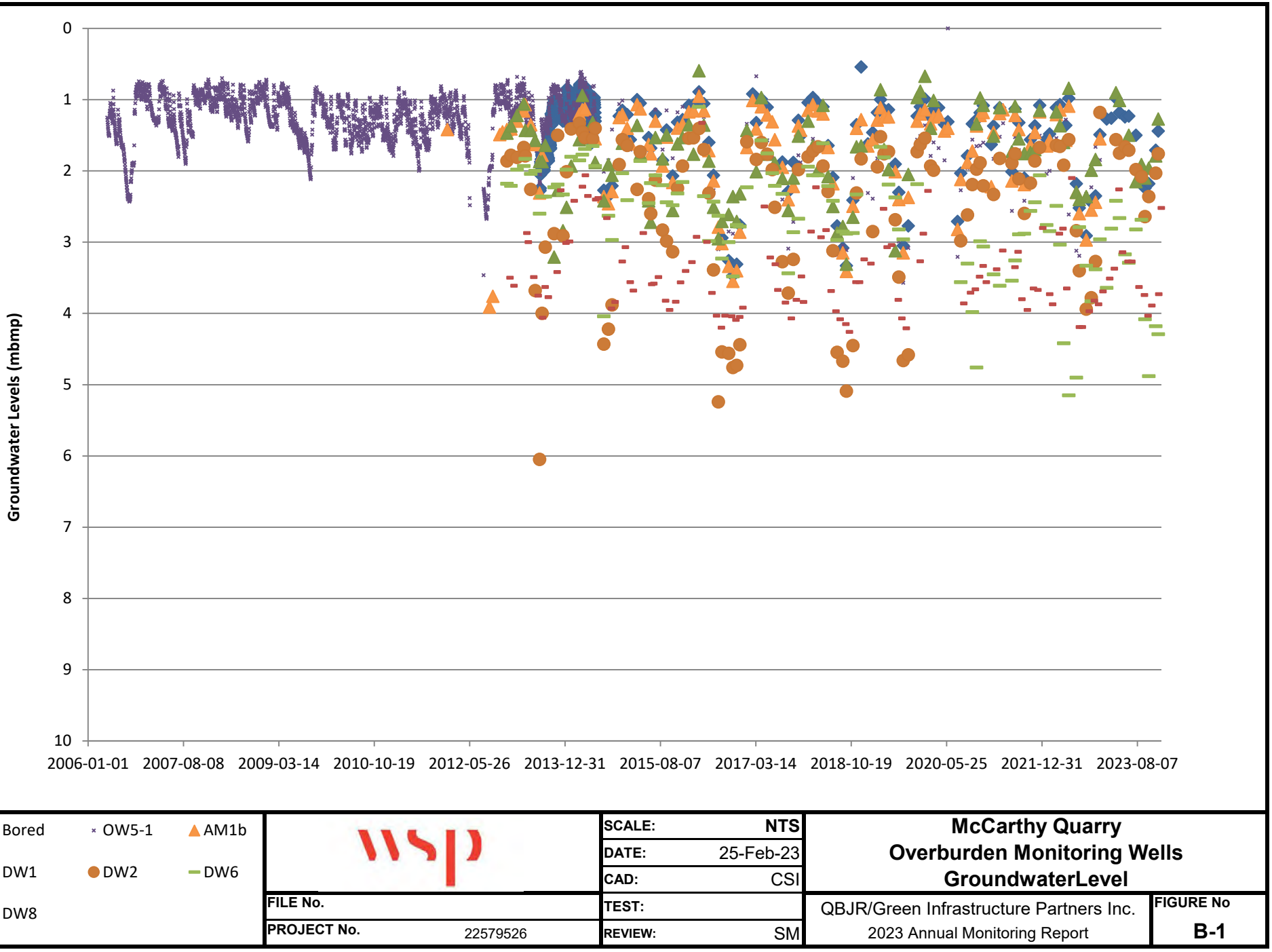
CKL-2

MP Elevation 244.00 masl

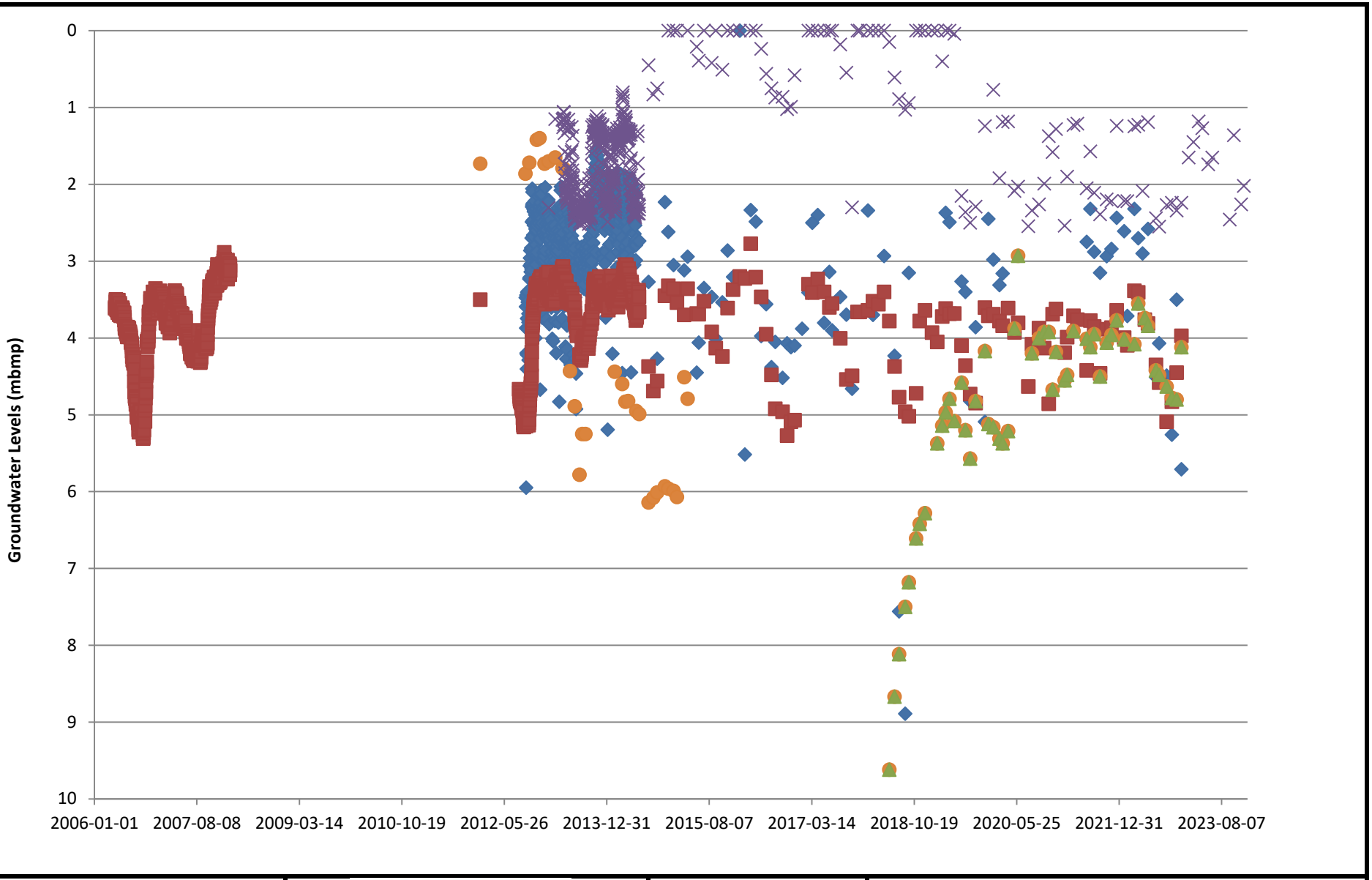


DATE	ELEVATION
24-Aug-17	241.64
28-Sep-17	241.52
30-Oct-17	243.60
30-Nov-17	242.65
13-Dec-17	242.57
26-Feb-18	243.15
29-Mar-18	243.15
30-Apr-18	FLW
30-May-18	241.80
29-Jun-18	241.63
25-Jul-18	241.67
29-Aug-18	241.72
19-Sep-18	241.42
30-Oct-18	241.83
20-Nov-18	242.70
19-Dec-18	242.77
28-Mar-19	242.46
08-May-19	244.00
05-Jun-19	244.00
16-Jul-19	243.52
07-Aug-19	243.19
03-Sep-19	242.96
27-Nov-19	244.01
13-Jan-20	244.00
06-Apr-20	FLW
13-May-20	243.83
02-Jun-20	243.56
31-Jul-20	242.93
20-Aug-20	243.35
30-Sep-20	243.60
30-Oct-20	243.64
24-Nov-20	243.66
15-Apr-21	243.69
06-May-21	243.77
19-Jul-21	243.92
11-Aug-21	243.71
13-Sep-21	243.15
21-Oct-21	243.66
17-Nov-21	243.67
17-Dec-21	243.75
19-Apr-22	243.69
13-May-22	243.63
13-Jun-22	243.85
29-Jul-22	243.11
16-Aug-22	243.02
28-Sep-22	242.82
28-Oct-22	243.37
23-Nov-22	243.55
21-Dec-22	243.72
31-Jan-23	243.81
28-Feb-23	243.70
29-Mar-23	243.69
19-Apr-23	243.64
23-May-23	243.69
15-Jun-23	243.68
22-Jul-23	243.21
16-Oct-23	243.13
27-Nov-23	243.75
12-Dec-23	243.81

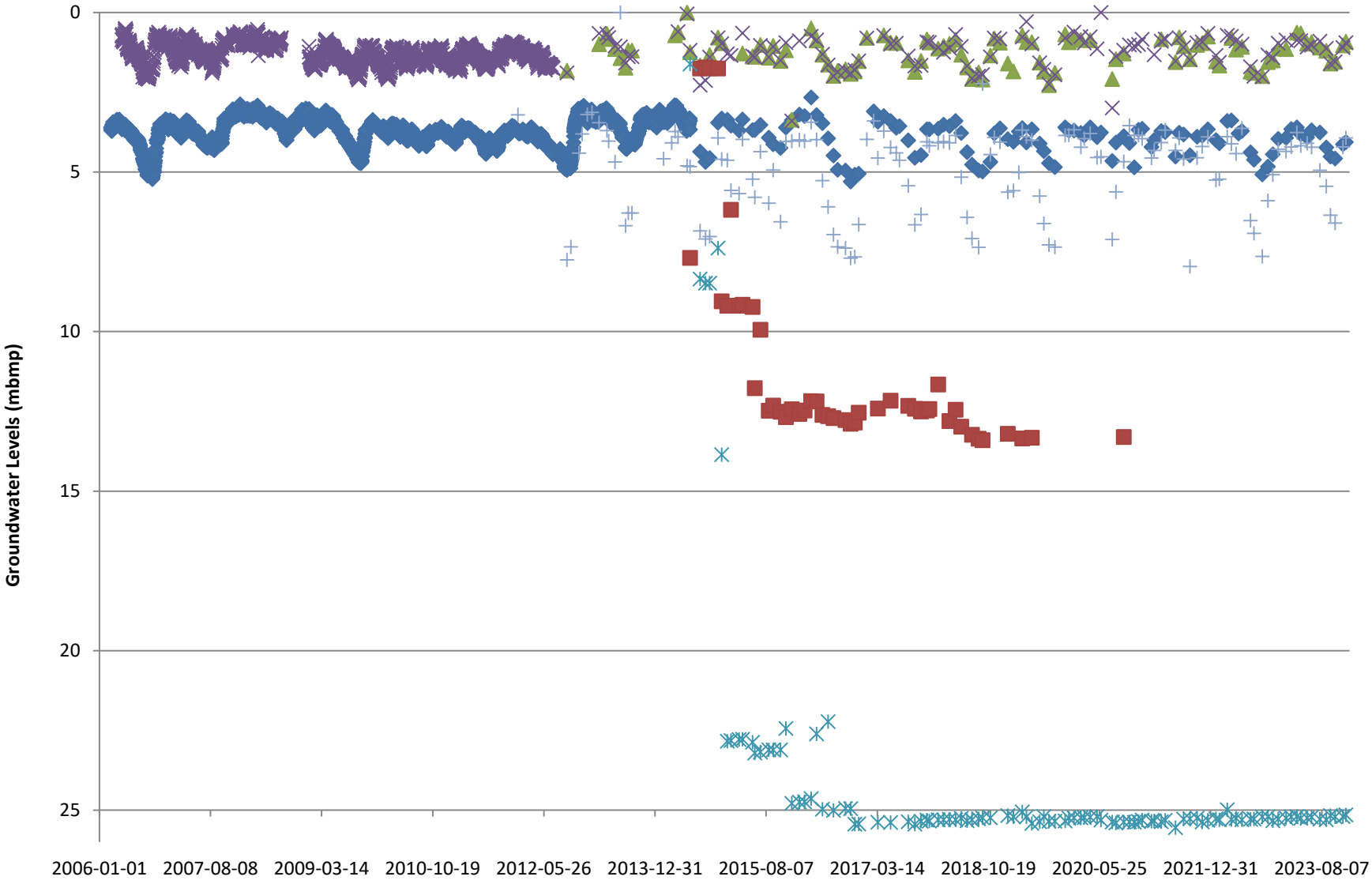
GREEN INFRASTRUCTURE PARTNERS INC. / QBJR STAN McCARTHY QUARRY	Job No. 22579526 Date: 26 Feb 24	wsp	23W030



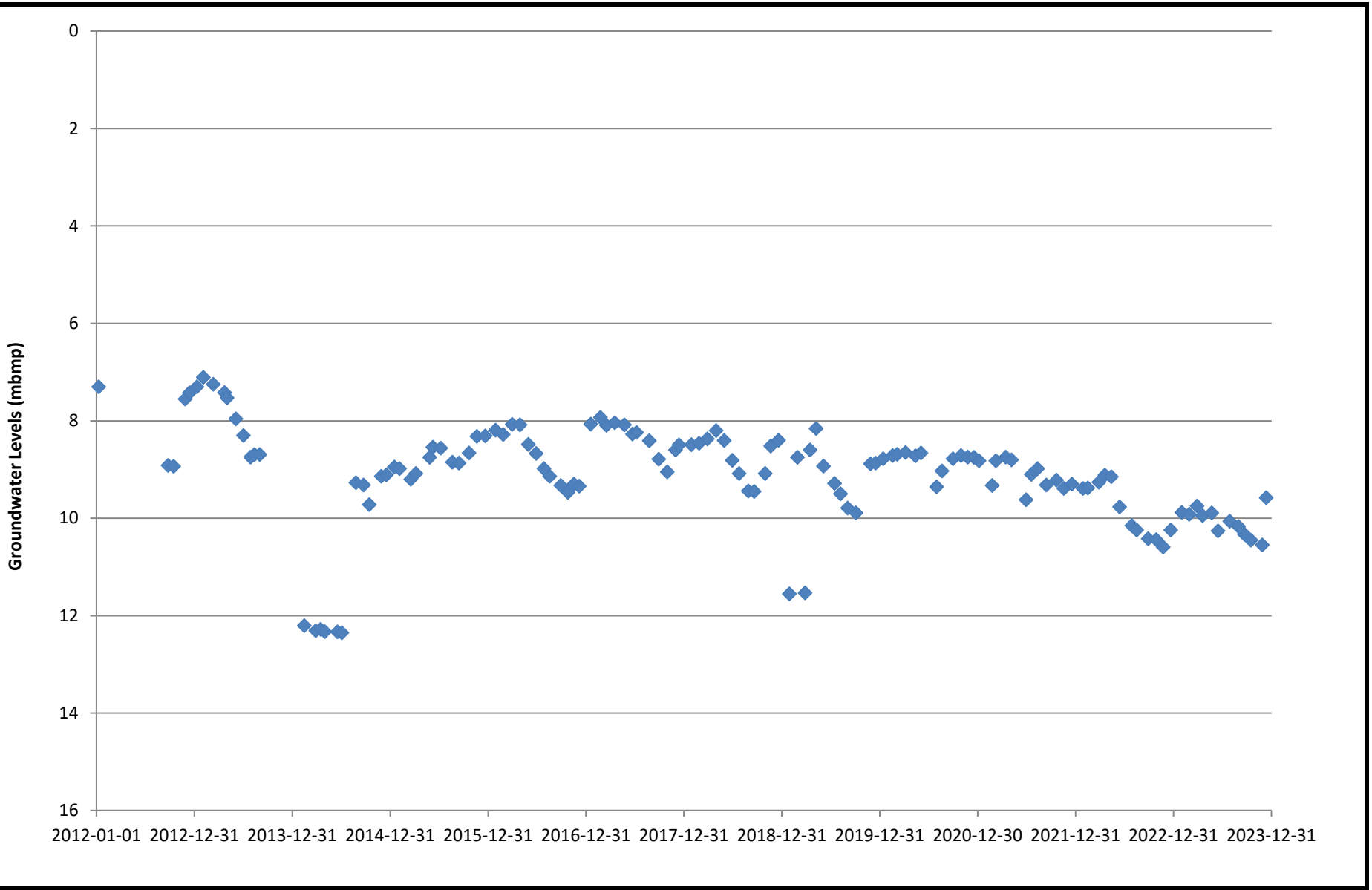
wsp	SCALE: NTS	McCarthy Quarry Overburden Monitoring Wells GroundwaterLevel	
	DATE: 25-Feb-23		
	CAD: CSI		
FILE No.	TEST:	QBJR/Green Infrastructure Partners Inc. 2023 Annual Monitoring Report	FIGURE No B-1
PROJECT No. 22579526	REVIEW: SM		



	SCALE: NTS	McCarthy Quarry Verulam Monitoring Wells Groundwater Level	
	DATE: 25-Feb-24		
	CAD: CSI		
FILE No.	TEST:	QBJR/Green Infrastructure Partners Inc. 2023 Annual Monitoring Report	FIGURE No B-2
PROJECT No. 22579526	REVIEW: SM		



◆ OW4-2 ▲ OW5-2 × OW5-3	wsp	SCALE: NTS	**McCarthy Quarry**
		DATE: 25-Feb-24	**Bobcaygeon Monitoring Wells**
		CAD: CSI	**Groundwater Level**
+ TW1-1 ■ OW9-I ✳ OW9-II	FILE No.	TEST:	QBJR/Green Infrastructure Partners Inc.
	PROJECT No. 22579526	REVIEW: SM	2023 Annual Monitoring Report
			FIGURE No **B-3**



TW1-2

	SCALE: NTS	McCarthy Quarry Precambrian Monitoring Wells Groundwater Level	
	DATE: 25-Feb-24		
	CAD: CSI		
FILE No.	TEST:	QBJR/Green Infrastructure Partners Inc.	FIGURE No
PROJECT No. 22579526	REVIEW: SM	2023 Annual Monitoring Report	B-4

APPENDIX C

Certificates of Analysis

Your Project #: 22579526
Your C.O.C. #: 934504-01-01, 934504-02-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2023/05/30
Report #: R7650236
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3E7232
Received: 2023/05/24, 11:45

Sample Matrix: Water
Samples Received: 16

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	16	N/A	2023/05/26	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	16	N/A	2023/05/29	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	3	N/A	2023/05/25	CAM SOP-00463	SM 23 4500-Cl E m
Chloride by Automated Colourimetry	13	N/A	2023/05/26	CAM SOP-00463	SM 23 4500-Cl E m
Colour	16	N/A	2023/05/26	CAM SOP-00412	SM 23 2120C m
Conductivity	16	N/A	2023/05/26	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	16	N/A	2023/05/25	CAM SOP-00446	SM 23 5310 B m
Fluoride	14	2023/05/24	2023/05/26	CAM SOP-00449	SM 23 4500-F C m
Fluoride	2	2023/05/25	2023/05/26	CAM SOP-00449	SM 23 4500-F C m
Hardness (calculated as CaCO3)	16	N/A	2023/05/30	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	15	N/A	2023/05/29	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2023/05/30	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	16	N/A	2023/05/29	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	16	N/A	2023/05/25	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	14	2023/05/24	2023/05/26	CAM SOP-00413	SM 4500H+ B m
pH	2	2023/05/25	2023/05/26	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	3	N/A	2023/05/25	CAM SOP-00461	SM 23 4500-P E m
Orthophosphate	13	N/A	2023/05/26	CAM SOP-00461	SM 23 4500-P E m
Sulphate by Automated Turbidimetry	3	N/A	2023/05/25	CAM SOP-00464	SM 23 4500-SO42- E m
Sulphate by Automated Turbidimetry	13	N/A	2023/05/26	CAM SOP-00464	SM 23 4500-SO42- E m
Total Dissolved Solids (TDS calc)	16	N/A	2023/05/30		Auto Calc

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement

Your Project #: 22579526
Your C.O.C. #: 934504-01-01, 934504-02-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2023/05/30
Report #: R7650236
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3E7232
Received: 2023/05/24, 11:45

Uncertainty has not been accounted for when stating conformity to the referenced standard.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

==========

This report has been generated and distributed using a secure automated process.
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW596			VWW597		
Sampling Date			2023/05/23 10:45			2023/05/23 11:00		
COC Number			934504-01-01			934504-01-01		
	UNITS	Criteria	AM1B	RDL	QC Batch	AMX-R	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	230	1.0	8681739	1.8	1.0	8681739
Calculated TDS	mg/L	-	300	1.0	8681514	8600	1.0	8681514
Hardness (CaCO3)	mg/L	-	250	1.0	8681022	2800	1.0	8681022
Inorganics								
Total Ammonia-N	mg/L	-	0.19	0.050	8689974	5.9	0.050	8689974
Colour	TCU	-	<2	2	8685685	12	2	8685685
Conductivity	umho/cm	-	500	1.0	8683061	17000	1.0	8683496
Fluoride (F-)	mg/L	-	0.20	0.10	8683055	0.60	0.10	8683498
Dissolved Organic Carbon	mg/L	-	0.69	0.40	8684183	2.1	0.40	8684183
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683078	<0.010	0.010	8683082
pH	pH	6.5:8.5	8.12		8683057	**5.52**		8683495
Dissolved Sulphate (SO4)	mg/L	-	47	1.0	8683076	<1.0	1.0	8683081
Alkalinity (Total as CaCO3)	mg/L	-	230	1.0	8683056	1.8	1.0	8683445
Dissolved Chloride (Cl-)	mg/L	-	<1.0	1.0	8683068	5800	80	8683080
Nitrite (N)	mg/L	-	<0.010	0.010	8683049	0.036	0.010	8683049
Nitrate (N)	mg/L	-	<0.10	0.10	8683049	<0.10	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8683049	0.11	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW598			VWW598		
Sampling Date			2023/05/23 14:45			2023/05/23 14:45		
COC Number			934504-01-01			934504-01-01		
	UNITS	Criteria	TW1-1	RDL	QC Batch	TW1-1 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	290	1.0	8681739			
Calculated TDS	mg/L	-	1200	1.0	8681514			
Hardness (CaCO3)	mg/L	-	580	1.0	8681022			
Inorganics								
Total Ammonia-N	mg/L	-	0.90	0.050	8689974			
Colour	TCU	-	3	2	8685685			
Conductivity	umho/cm	-	2400	1.0	8683061			
Fluoride (F-)	mg/L	-	0.50	0.10	8683055			
Dissolved Organic Carbon	mg/L	-	1.7	0.40	8684183			
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683078			
pH	pH	6.5:8.5	8.08		8683057			
Dissolved Sulphate (SO4)	mg/L	-	28	1.0	8683076			
Alkalinity (Total as CaCO3)	mg/L	-	290	1.0	8683056			
Dissolved Chloride (Cl-)	mg/L	-	560	4.0	8683068			
Nitrite (N)	mg/L	-	<0.010	0.010	8683049	<0.010	0.010	8683049
Nitrate (N)	mg/L	-	<0.10	0.10	8683049	<0.10	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8683049	<0.10	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW599		VWW600			VWW601		
Sampling Date			2023/05/23 10:00		2023/05/23 11:05			2023/05/23 12:40		
COC Number			934504-01-01		934504-01-01			934504-01-01		
	UNITS	Criteria	BORED	RDL	OW4-1	RDL	QC Batch	OW4-2	RDL	QC Batch
Calculated Parameters										
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	260	1.0	210	1.0	8681739	240	1.0	8681739
Calculated TDS	mg/L	-	320	1.0	590	1.0	8681514	850	1.0	8681514
Hardness (CaCO3)	mg/L	-	260	1.0	110	1.0	8681022	220	1.0	8681022
Inorganics										
Total Ammonia-N	mg/L	-	<0.050	0.050	0.66	0.050	8689974	1.1	0.050	8689974
Colour	TCU	-	<2	2	<2	2	8685685	<2	2	8685685
Conductivity	umho/cm	-	540	1.0	1100	1.0	8683061	1700	1.0	8683496
Fluoride (F-)	mg/L	-	0.11	0.10	1.0	0.10	8683055	0.95	0.10	8683498
Dissolved Organic Carbon	mg/L	-	1.0	0.40	1.8	0.40	8684183	1.2	0.40	8684183
Orthophosphate (P)	mg/L	-	<0.010	0.010	<0.010	0.010	8683078	<0.010	0.010	8683078
pH	pH	6.5:8.5	8.22		8.23		8683057	8.00		8683495
Dissolved Sulphate (SO4)	mg/L	-	36	1.0	5.4	1.0	8683076	<1.0	1.0	8683076
Alkalinity (Total as CaCO3)	mg/L	-	270	1.0	210	1.0	8683056	250	1.0	8683445
Dissolved Chloride (Cl-)	mg/L	-	<1.0	1.0	220	2.0	8683068	370	3.0	8683068
Nitrite (N)	mg/L	-	<0.010	0.010	0.033	0.010	8683049	0.041	0.010	8683049
Nitrate (N)	mg/L	-	0.18	0.10	<0.10	0.10	8683049	<0.10	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-	0.18	0.10	<0.10	0.10	8683049	<0.10	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

Bureau Veritas 6740 Campobello Road, Mississauga, Ontario, L5N 2L8 Tel: (905) 817-5700 Toll-Free: 800-563-6266 Fax: (905) 817-5777 www.bvna.com

Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW601			VWW602			VWW603		
Sampling Date			2023/05/23 12:40			2023/05/23 12:15			2023/05/23 12:15		
COC Number			934504-01-01			934504-01-01			934504-01-01		
	UNITS	Criteria	OW4-2 Lab-Dup	RDL	QC Batch	OW5-1	RDL	QC Batch	OW5-2	RDL	QC Batch
Calculated Parameters											
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-				310	1.0	8681739	120	1.0	8681739
Calculated TDS	mg/L	-				410	1.0	8681514	16000	1.0	8681514
Hardness (CaCO3)	mg/L	-				230	1.0	8681022	5200	1.0	8681022
Inorganics											
Total Ammonia-N	mg/L	-				0.46	0.050	8689974	9.3	0.050	8689974
Colour	TCU	-				<2	2	8680394	3	2	8685685
Conductivity	umho/cm	-	1700	1.0	8683496	710	1.0	8683061	26000	1.0	8683061
Fluoride (F-)	mg/L	-	0.95	0.10	8683498	0.53	0.10	8683055	0.40	0.10	8683055
Dissolved Organic Carbon	mg/L	-	1.1	0.40	8684183	1.4	0.40	8684183	1.3	0.40	8684183
Orthophosphate (P)	mg/L	-				<0.010	0.010	8683078	<0.010	0.010	8683078
pH	pH	6.5:8.5	8.07		8683495	7.95		8683057	7.33		8683057
Dissolved Sulphate (SO4)	mg/L	-				47	1.0	8683076	<1.0	1.0	8683076
Alkalinity (Total as CaCO3)	mg/L	-	250	1.0	8683445	310	1.0	8683056	120	1.0	8683056
Dissolved Chloride (Cl-)	mg/L	-				20	1.0	8683068	11000	200	8683068
Nitrite (N)	mg/L	-				0.089	0.010	8683049	<0.010	0.010	8683049
Nitrate (N)	mg/L	-				0.26	0.10	8683049	<0.10	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-				0.35	0.10	8683049	<0.10	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW604			VWW604			VWW605		
Sampling Date			2023/05/23 12:30			2023/05/23 12:30			2023/05/23 09:30		
COC Number			934504-01-01			934504-01-01			934504-01-01		
	UNITS	Criteria	OW5-3	RDL	QC Batch	OW5-3 Lab-Dup	RDL	QC Batch	OW6-2	RDL	QC Batch
Calculated Parameters											
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	120	1.0	8681739				140	1.0	8681739
Calculated TDS	mg/L	-	17000	1.0	8681514				3000	1.0	8681514
Hardness (CaCO3)	mg/L	-	5400	1.0	8681022				1300	1.0	8681022
Inorganics											
Total Ammonia-N	mg/L	-	9.7	0.050	8689974				1.5	0.050	8689974
Colour	TCU	-	<2	2	8685685	<2	2	8685685	9	2	8685685
Conductivity	umho/cm	-	27000	1.0	8683061				5300	1.0	8683061
Fluoride (F-)	mg/L	-	0.39	0.10	8683055				0.72	0.10	8683055
Dissolved Organic Carbon	mg/L	-	0.61	0.40	8684183				1.9	0.40	8684183
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683082				0.019	0.010	8683078
pH	pH	6.5:8.5	7.46		8683057				7.62		8683057
Dissolved Sulphate (SO4)	mg/L	-	2.5	1.0	8683081				660	4.0	8683076
Alkalinity (Total as CaCO3)	mg/L	-	120	1.0	8683056				140	1.0	8683056
Dissolved Chloride (Cl-)	mg/L	-	12000	200	8683080				1200	8.0	8683068
Nitrite (N)	mg/L	-	<0.010	0.010	8683049				0.103	0.010	8683049
Nitrate (N)	mg/L	-	<0.10	0.10	8683049				1.01	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8683049				1.11	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW689			VWW690		
Sampling Date			2023/05/23 13:45			2023/05/23 14:00		
COC Number			934504-02-01			934504-02-01		
	UNITS	Criteria	OW7-1	RDL	QC Batch	OW7-2	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	290	1.0	8681739	270	1.0	8681739
Calculated TDS	mg/L	-	4100	1.0	8681514	3700	1.0	8681514
Hardness (CaCO3)	mg/L	-	990	1.0	8681022	1000	1.0	8681022
Inorganics								
Total Ammonia-N	mg/L	-	2.6	0.050	8689974	2.5	0.050	8689974
Colour	TCU	-	<2	2	8685685	2	2	8685685
Conductivity	umho/cm	-	7700	1.0	8683061	7800	1.0	8683061
Fluoride (F-)	mg/L	-	1.7	0.10	8683055	1.7	0.10	8683055
Dissolved Organic Carbon	mg/L	-	0.70	0.40	8684183	2.0	0.40	8684183
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683078	<0.010	0.010	8683082
pH	pH	6.5:8.5	7.86		8683057	7.78		8683057
Dissolved Sulphate (SO4)	mg/L	-	7.8	1.0	8683076	22	1.0	8683081
Alkalinity (Total as CaCO3)	mg/L	-	290	1.0	8683056	280	1.0	8683056
Dissolved Chloride (Cl-)	mg/L	-	2500	15	8683068	2200	20	8683080
Nitrite (N)	mg/L	-	<0.010	0.010	8683049	<0.010	0.010	8683049
Nitrate (N)	mg/L	-	<0.10	0.10	8683049	<0.10	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8683049	<0.10	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW690			VWW691	VWW692		
Sampling Date			2023/05/23 14:00			2023/05/23 15:20	2023/05/23 15:10		
COC Number			934504-02-01			934504-02-01	934504-02-01		
	UNITS	Criteria	OW7-2 Lab-Dup	RDL	QC Batch	OW8-1	OW8-2	RDL	QC Batch
Calculated Parameters									
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-				300	280	1.0	8681739
Calculated TDS	mg/L	-				450	420	1.0	8681514
Hardness (CaCO3)	mg/L	-				320	310	1.0	8681022
Inorganics									
Total Ammonia-N	mg/L	-				0.36	<0.050	0.050	8689974
Colour	TCU	-				<2	<2	2	8685685
Conductivity	umho/cm	-				780	720	1.0	8683061
Fluoride (F-)	mg/L	-				0.50	0.45	0.10	8683055
Dissolved Organic Carbon	mg/L	-				1.5	1.8	0.40	8684183
Orthophosphate (P)	mg/L	-	<0.010	0.010	8683082	<0.010	<0.010	0.010	8683078
pH	pH	6.5:8.5				7.80	8.04		8683057
Dissolved Sulphate (SO4)	mg/L	-	21	1.0	8683081	61	64	1.0	8683076
Alkalinity (Total as CaCO3)	mg/L	-				300	280	1.0	8683056
Dissolved Chloride (Cl-)	mg/L	-	2200	20	8683080	39	28	1.0	8683068
Nitrite (N)	mg/L	-				<0.010	<0.010	0.010	8683049
Nitrate (N)	mg/L	-				<0.10	0.17	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-				<0.10	0.17	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E7232
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: GJ

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			VWW692			VWW693		VWW694		
Sampling Date			2023/05/23 15:10			2023/05/23		2023/05/23		
COC Number			934504-02-01			934504-02-01		934504-02-01		
	UNITS	Criteria	OW8-2 Lab-Dup	RDL	QC Batch	DUP 2	RDL	DUP 4	RDL	QC Batch
Calculated Parameters										
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-				140	1.0	290	1.0	8681739
Calculated TDS	mg/L	-				3200	1.0	1300	1.0	8681514
Hardness (CaCO3)	mg/L	-				1500	1.0	590	1.0	8681022
Inorganics										
Total Ammonia-N	mg/L	-	<0.050	0.050	8689974	1.5	0.050	0.84	0.050	8689974
Colour	TCU	-				9	2	3	2	8685685
Conductivity	umho/cm	-				5300	1.0	2500	1.0	8683061
Fluoride (F-)	mg/L	-				0.71	0.10	0.49	0.10	8683055
Dissolved Organic Carbon	mg/L	-				1.9	0.40	1.8	0.40	8684183
Orthophosphate (P)	mg/L	-				0.024	0.010	<0.010	0.010	8683078
pH	pH	6.5:8.5				7.62		7.94		8683057
Dissolved Sulphate (SO4)	mg/L	-				730	4.0	27	1.0	8683076
Alkalinity (Total as CaCO3)	mg/L	-				140	1.0	290	1.0	8683056
Dissolved Chloride (Cl-)	mg/L	-				1200	10	570	4.0	8683068
Nitrite (N)	mg/L	-				0.120	0.010	<0.010	0.010	8683049
Nitrate (N)	mg/L	-				0.93	0.10	<0.10	0.10	8683049
Nitrate + Nitrite (N)	mg/L	-				1.05	0.10	<0.10	0.10	8683049

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		VWW596	VWW596		VWW597		VWW598		VWW599		
Sampling Date		2023/05/23 10:45	2023/05/23 10:45		2023/05/23 11:00		2023/05/23 14:45		2023/05/23 10:00		
COC Number		934504-01-01	934504-01-01		934504-01-01		934504-01-01		934504-01-01		
	UNITS	AM1B	AM1B Lab-Dup	RDL	AMX-R	RDL	TW1-1	RDL	BORED	RDL	QC Batch
Metals											
Dissolved Calcium (Ca)	ug/L	50000	50000	200	530000	2000	130000	400	60000	200	8684595
Dissolved Magnesium (Mg)	ug/L	30000	30000	50	360000	250	64000	50	27000	50	8684595
Dissolved Phosphorus (P)	ug/L	<100	<100	100	<500	500	<100	100	<100	100	8684595
Dissolved Potassium (K)	ug/L	2100	2100	200	36000	1000	9500	200	4300	200	8684595
Dissolved Sodium (Na)	ug/L	5900	5900	100	1900000	500	260000	100	14000	100	8684595

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		VWW600	VWW601	VWW602		VWW603	VWW604		
Sampling Date		2023/05/23 11:05	2023/05/23 12:40	2023/05/23 12:15		2023/05/23 12:15	2023/05/23 12:30		
COC Number		934504-01-01	934504-01-01	934504-01-01		934504-01-01	934504-01-01		
	UNITS	OW4-1	OW4-2	OW5-1	RDL	OW5-2	OW5-3	RDL	QC Batch
Metals									
Dissolved Calcium (Ca)	ug/L	20000	42000	44000	200	1100000	1200000	4000	8684595
Dissolved Magnesium (Mg)	ug/L	14000	28000	30000	50	590000	610000	250	8684595
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100	<500	<500	500	8684595
Dissolved Potassium (K)	ug/L	5800	9300	6400	200	57000	58000	1000	8684595
Dissolved Sodium (Na)	ug/L	190000	250000	56000	100	3500000	3500000	1000	8684595

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		VWW605	VWW689	VWW690		VWW691	VWW692		
Sampling Date		2023/05/23 09:30	2023/05/23 13:45	2023/05/23 14:00		2023/05/23 15:20	2023/05/23 15:10		
COC Number		934504-01-01	934504-02-01	934504-02-01		934504-02-01	934504-02-01		
	UNITS	OW6-2	OW7-1	OW7-2	RDL	OW8-1	OW8-2	RDL	QC Batch
Metals									
Dissolved Calcium (Ca)	ug/L	250000	190000	200000	1000	97000	97000	200	8684595
Dissolved Magnesium (Mg)	ug/L	170000	120000	130000	50	19000	17000	50	8684595
Dissolved Phosphorus (P)	ug/L	<100	<100	<100	100	<100	<100	100	8684595
Dissolved Potassium (K)	ug/L	17000	18000	18000	200	3800	3500	200	8684595
Dissolved Sodium (Na)	ug/L	640000	1000000	1100000	500	39000	30000	100	8684595

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		VWW693		VWW694		
Sampling Date		2023/05/23		2023/05/23		
COC Number		934504-02-01		934504-02-01		
	UNITS	DUP 2	RDL	DUP 4	RDL	QC Batch
Metals						
Dissolved Calcium (Ca)	ug/L	310000	1000	130000	400	8684595
Dissolved Magnesium (Mg)	ug/L	170000	50	65000	50	8684595
Dissolved Phosphorus (P)	ug/L	<100	100	<100	100	8684595
Dissolved Potassium (K)	ug/L	17000	200	9700	200	8684595
Dissolved Sodium (Na)	ug/L	600000	500	270000	100	8684595

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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TEST SUMMARY

Bureau Veritas ID: VWW596
Sample ID: AM1B
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW596 Dup
Sample ID: AM1B
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli

Bureau Veritas ID: VWW597
Sample ID: AMX-R
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683445	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683080	N/A	2023/05/25	Alina Dobreanu
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683496	N/A	2023/05/26	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683498	2023/05/25	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683495	2023/05/25	2023/05/26	Kien Tran
Orthophosphate	KONE	8683082	N/A	2023/05/25	Alina Dobreanu
Sulphate by Automated Turbidimetry	KONE	8683081	N/A	2023/05/25	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

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TEST SUMMARY

Bureau Veritas ID: VWW598
Sample ID: TW1-1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW598 Dup
Sample ID: TW1-1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru

Bureau Veritas ID: VWW599
Sample ID: BORED
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

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TEST SUMMARY

Bureau Veritas ID: VWW600
Sample ID: OW4-1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW601
Sample ID: OW4-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683445	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683496	N/A	2023/05/26	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683498	2023/05/25	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683495	2023/05/25	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW601 Dup
Sample ID: OW4-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683445	N/A	2023/05/26	Kien Tran
Conductivity	AT	8683496	N/A	2023/05/26	Surinder Rai
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz

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TEST SUMMARY

Bureau Veritas ID: VWW601 Dup
Sample ID: OW4-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Fluoride	ISE	8683498	2023/05/25	2023/05/26	Kien Tran
pH	AT	8683495	2023/05/25	2023/05/26	Kien Tran

Bureau Veritas ID: VWW602
Sample ID: OW5-1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8680394	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW603
Sample ID: OW5-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

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TEST SUMMARY

Bureau Veritas ID: VWW604
Sample ID: OW5-3
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683080	N/A	2023/05/25	Alina Dobreanu
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683082	N/A	2023/05/25	Alina Dobreanu
Sulphate by Automated Turbidimetry	KONE	8683081	N/A	2023/05/25	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW604 Dup
Sample ID: OW5-3
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz

Bureau Veritas ID: VWW605
Sample ID: OW6-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

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TEST SUMMARY

Bureau Veritas ID: VWW689
Sample ID: OW7-1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW690
Sample ID: OW7-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683080	N/A	2023/05/25	Alina Dobreanu
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683082	N/A	2023/05/25	Alina Dobreanu
Sulphate by Automated Turbidimetry	KONE	8683081	N/A	2023/05/25	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW690 Dup
Sample ID: OW7-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	8683080	N/A	2023/05/25	Alina Dobreanu
Orthophosphate	KONE	8683082	N/A	2023/05/25	Alina Dobreanu
Sulphate by Automated Turbidimetry	KONE	8683081	N/A	2023/05/25	Alina Dobreanu

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TEST SUMMARY

Bureau Veritas ID: VWW691
Sample ID: OW8-1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW692
Sample ID: OW8-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW692 Dup
Sample ID: OW8-2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur

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TEST SUMMARY

Bureau Veritas ID: VWW693
Sample ID: DUP 2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/30	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

Bureau Veritas ID: VWW694
Sample ID: DUP 4
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8683056	N/A	2023/05/26	Kien Tran
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/29	Automated Statchk
Chloride by Automated Colourimetry	KONE	8683068	N/A	2023/05/26	Massarat Jan
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8683061	N/A	2023/05/26	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8683055	2023/05/24	2023/05/26	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Total Ammonia-N	LACH/NH4	8689974	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8683049	N/A	2023/05/25	Viorica Rotaru
pH	AT	8683057	2023/05/24	2023/05/26	Kien Tran
Orthophosphate	KONE	8683078	N/A	2023/05/26	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8683076	N/A	2023/05/26	Massarat Jan
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	5.0°C

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8680394	GID	Spiked Blank	Colour	2023/05/26		101	%	80 - 120
8680394	GID	Method Blank	Colour	2023/05/26	<2		TCU	
8680394	GID	RPD	Colour	2023/05/26	2.2		%	25
8683049	VRO	Matrix Spike [VWW598-01]	Nitrite (N)	2023/05/25		101	%	80 - 120
			Nitrate (N)	2023/05/25		95	%	80 - 120
8683049	VRO	Spiked Blank	Nitrite (N)	2023/05/25		104	%	80 - 120
			Nitrate (N)	2023/05/25		100	%	80 - 120
8683049	VRO	Method Blank	Nitrite (N)	2023/05/25	<0.010		mg/L	
			Nitrate (N)	2023/05/25	<0.10		mg/L	
8683049	VRO	RPD [VWW598-01]	Nitrite (N)	2023/05/25	NC		%	20
			Nitrate (N)	2023/05/25	NC		%	20
8683055	KIT	Matrix Spike	Fluoride (F-)	2023/05/26		97	%	80 - 120
8683055	KIT	Spiked Blank	Fluoride (F-)	2023/05/26		98	%	80 - 120
8683055	KIT	Method Blank	Fluoride (F-)	2023/05/26	<0.10		mg/L	
8683055	KIT	RPD	Fluoride (F-)	2023/05/26	1.9		%	20
8683056	KIT	Spiked Blank	Alkalinity (Total as CaCO3)	2023/05/26		98	%	85 - 115
8683056	KIT	Method Blank	Alkalinity (Total as CaCO3)	2023/05/26	<1.0		mg/L	
8683056	KIT	RPD	Alkalinity (Total as CaCO3)	2023/05/26	0.12		%	20
8683057	KIT	Spiked Blank	pH	2023/05/26		102	%	98 - 103
8683057	KIT	RPD	pH	2023/05/26	0.23		%	N/A
8683061	KIT	Spiked Blank	Conductivity	2023/05/26		101	%	85 - 115
8683061	KIT	Method Blank	Conductivity	2023/05/26	<1.0		umho/cm	
8683061	KIT	RPD	Conductivity	2023/05/26	0.20		%	25
8683068	MJ1	Matrix Spike	Dissolved Chloride (Cl-)	2023/05/26		NC	%	80 - 120
8683068	MJ1	Spiked Blank	Dissolved Chloride (Cl-)	2023/05/26		96	%	80 - 120
8683068	MJ1	Method Blank	Dissolved Chloride (Cl-)	2023/05/26	<1.0		mg/L	
8683068	MJ1	RPD	Dissolved Chloride (Cl-)	2023/05/26	3.0		%	20
8683076	MJ1	Matrix Spike	Dissolved Sulphate (SO4)	2023/05/26		NC	%	75 - 125
8683076	MJ1	Spiked Blank	Dissolved Sulphate (SO4)	2023/05/26		105	%	80 - 120
8683076	MJ1	Method Blank	Dissolved Sulphate (SO4)	2023/05/26	<1.0		mg/L	
8683076	MJ1	RPD	Dissolved Sulphate (SO4)	2023/05/26	1.6		%	20
8683078	MJ1	Matrix Spike	Orthophosphate (P)	2023/05/26		97	%	75 - 125
8683078	MJ1	Spiked Blank	Orthophosphate (P)	2023/05/26		99	%	80 - 120
8683078	MJ1	Method Blank	Orthophosphate (P)	2023/05/26	<0.010		mg/L	
8683078	MJ1	RPD	Orthophosphate (P)	2023/05/26	NC		%	20
8683080	ADB	Matrix Spike [VWW690-01]	Dissolved Chloride (Cl-)	2023/05/25		NC	%	80 - 120
8683080	ADB	Spiked Blank	Dissolved Chloride (Cl-)	2023/05/25		98	%	80 - 120
8683080	ADB	Method Blank	Dissolved Chloride (Cl-)	2023/05/25	<1.0		mg/L	
8683080	ADB	RPD [VWW690-01]	Dissolved Chloride (Cl-)	2023/05/25	0.62		%	20
8683081	ADB	Matrix Spike [VWW690-01]	Dissolved Sulphate (SO4)	2023/05/25		NC	%	75 - 125
8683081	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2023/05/25		97	%	80 - 120
8683081	ADB	Method Blank	Dissolved Sulphate (SO4)	2023/05/25	<1.0		mg/L	
8683081	ADB	RPD [VWW690-01]	Dissolved Sulphate (SO4)	2023/05/25	1.9		%	20
8683082	ADB	Matrix Spike [VWW690-01]	Orthophosphate (P)	2023/05/25		85	%	75 - 125
8683082	ADB	Spiked Blank	Orthophosphate (P)	2023/05/25		96	%	80 - 120
8683082	ADB	Method Blank	Orthophosphate (P)	2023/05/25	<0.010		mg/L	
8683082	ADB	RPD [VWW690-01]	Orthophosphate (P)	2023/05/25	NC		%	20
8683445	KIT	Spiked Blank	Alkalinity (Total as CaCO3)	2023/05/26		98	%	85 - 115

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8683445	KIT	Method Blank	Alkalinity (Total as CaCO3)	2023/05/26	<1.0		mg/L	
8683445	KIT	RPD [VWW601-01]	Alkalinity (Total as CaCO3)	2023/05/26	0.073		%	20
8683495	KIT	Spiked Blank	pH	2023/05/26		102	%	98 - 103
8683495	KIT	RPD [VWW601-01]	pH	2023/05/26	0.88		%	N/A
8683496	SAU	Spiked Blank	Conductivity	2023/05/26		101	%	85 - 115
8683496	SAU	Method Blank	Conductivity	2023/05/26	<1.0		umho/cm	
8683496	SAU	RPD [VWW601-01]	Conductivity	2023/05/26	0.12		%	25
8683498	KIT	Matrix Spike [VWW601-01]	Fluoride (F-)	2023/05/26		93	%	80 - 120
8683498	KIT	Spiked Blank	Fluoride (F-)	2023/05/26		98	%	80 - 120
8683498	KIT	Method Blank	Fluoride (F-)	2023/05/26	<0.10		mg/L	
8683498	KIT	RPD [VWW601-01]	Fluoride (F-)	2023/05/26	0.97		%	20
8684183	GID	Matrix Spike [VWW601-03]	Dissolved Organic Carbon	2023/05/25		93	%	80 - 120
8684183	GID	Spiked Blank	Dissolved Organic Carbon	2023/05/25		96	%	80 - 120
8684183	GID	Method Blank	Dissolved Organic Carbon	2023/05/25	<0.40		mg/L	
8684183	GID	RPD [VWW601-03]	Dissolved Organic Carbon	2023/05/25	4.4		%	20
8684595	AFZ	Matrix Spike [VWW596-02]	Dissolved Calcium (Ca)	2023/05/29		NC	%	80 - 120
			Dissolved Magnesium (Mg)	2023/05/29		NC	%	80 - 120
			Dissolved Phosphorus (P)	2023/05/29		103	%	80 - 120
			Dissolved Potassium (K)	2023/05/29		94	%	80 - 120
			Dissolved Sodium (Na)	2023/05/29		93	%	80 - 120
8684595	AFZ	Spiked Blank	Dissolved Calcium (Ca)	2023/05/29		98	%	80 - 120
			Dissolved Magnesium (Mg)	2023/05/29		94	%	80 - 120
			Dissolved Phosphorus (P)	2023/05/29		101	%	80 - 120
			Dissolved Potassium (K)	2023/05/29		95	%	80 - 120
			Dissolved Sodium (Na)	2023/05/29		94	%	80 - 120
8684595	AFZ	Method Blank	Dissolved Calcium (Ca)	2023/05/29	<200		ug/L	
			Dissolved Magnesium (Mg)	2023/05/29	<50		ug/L	
			Dissolved Phosphorus (P)	2023/05/29	<100		ug/L	
			Dissolved Potassium (K)	2023/05/29	<200		ug/L	
			Dissolved Sodium (Na)	2023/05/29	<100		ug/L	
8684595	AFZ	RPD [VWW596-02]	Dissolved Calcium (Ca)	2023/05/29	0.079		%	20
			Dissolved Magnesium (Mg)	2023/05/29	0.33		%	20
			Dissolved Phosphorus (P)	2023/05/29	NC		%	20
			Dissolved Potassium (K)	2023/05/29	1.8		%	20
			Dissolved Sodium (Na)	2023/05/29	0.67		%	20
8685685	GID	Spiked Blank	Colour	2023/05/26		101	%	80 - 120
8685685	GID	Method Blank	Colour	2023/05/26	<2		TCU	
8685685	GID	RPD [VWW604-01]	Colour	2023/05/26	NC		%	25
8689974	KPJ	Matrix Spike [VWW692-04]	Total Ammonia-N	2023/05/29		103	%	75 - 125
8689974	KPJ	Spiked Blank	Total Ammonia-N	2023/05/29		101	%	80 - 120
8689974	KPJ	Method Blank	Total Ammonia-N	2023/05/29	<0.050		mg/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8689974	KPJ	RPD [VWW692-04]	Total Ammonia-N	2023/05/29	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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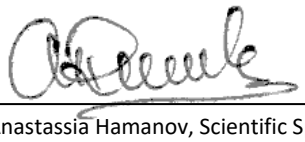
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

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Exceedance Summary Table – Prov. Water Quality Obj.

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 22579526
Site Location: McCarthy
Your C.O.C. #: 934503-01-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2023/05/30
Report #: R7650384
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3E7573
Received: 2023/05/24, 11:45

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2023/05/29	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2023/05/30	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2023/05/26	CAM SOP-00463	SM 23 4500-Cl E m
Colour	4	N/A	2023/05/26	CAM SOP-00412	SM 23 2120C m
Conductivity	4	N/A	2023/05/30	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	4	N/A	2023/05/25	CAM SOP-00446	SM 23 5310 B m
Fluoride	4	2023/05/25	2023/05/30	CAM SOP-00449	SM 23 4500-F C m
Hardness (calculated as CaCO3)	4	N/A	2023/05/30	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2023/05/29	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2023/05/30		
Anion and Cation Sum	4	N/A	2023/05/30		
Total Ammonia-N	4	N/A	2023/05/29	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	4	N/A	2023/05/26	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	4	2023/05/25	2023/05/29	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2023/05/26	CAM SOP-00461	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2023/05/30		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2023/05/30		Auto Calc
Sulphate by Automated Turbidimetry	4	N/A	2023/05/26	CAM SOP-00464	SM 23 4500-SO42- E m
Tannins & Lignins	4	N/A	2023/05/25	CAM SOP-00410	SM 23 5550 B m
Total Dissolved Solids (TDS calc)	4	N/A	2023/05/30		Auto Calc
Turbidity	4	N/A	2023/05/25	CAM SOP-00417	SM 23 2130 B m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement

Your Project #: 22579526
Site Location: McCarthy
Your C.O.C. #: 934503-01-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
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CANADA L4N 8X1

Report Date: 2023/05/30
Report #: R7650384
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3E7573
Received: 2023/05/24, 11:45

Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

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This report has been generated and distributed using a secure automated process.
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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			VWY530			VWY530			VWY531		
Sampling Date			2023/05/23 12:45			2023/05/23 12:45			2023/05/23 13:00		
COC Number			934503-01-01			934503-01-01			934503-01-01		
	UNITS	Criteria	DW1	RDL	QC Batch	DW1 Lab-Dup	RDL	QC Batch	DW2	RDL	QC Batch
Calculated Parameters											
Anion Sum	me/L	-	13.0	N/A	8682207				6.84	N/A	8682207
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	330	1.0	8681739				310	1.0	8681739
Calculated TDS	mg/L	-	720	1.0	8681514				380	1.0	8681514
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	1.7	1.0	8681739				2.5	1.0	8681739
Cation Sum	me/L	-	14.1	N/A	8682207				7.77	N/A	8682207
Hardness (CaCO3)	mg/L	-	590	1.0	8681022				350	1.0	8681022
Ion Balance (% Difference)	%	-	4.29	N/A	8682263				6.35	N/A	8682263
Langelier Index (@ 20C)	N/A	-	1.01		8682208				1.06		8682208
Langelier Index (@ 4C)	N/A	-	0.764		8682209				0.814		8682209
Saturation pH (@ 20C)	N/A	-	6.73		8682208				6.86		8682208
Saturation pH (@ 4C)	N/A	-	6.98		8682209				7.11		8682209
Inorganics											
Total Ammonia-N	mg/L	-	<0.050	0.050	8690187				<0.050	0.050	8690187
Conductivity	umho/cm	-	1400	1.0	8685101	1400	1.0	8685101	670	1.0	8685101
Dissolved Organic Carbon	mg/L	-	1.4	0.40	8685578				2.6	0.40	8685578
Orthophosphate (P)	mg/L	-	<0.010	0.010	8685111				<0.010	0.010	8685111
pH	pH	6.5:8.5	7.74		8685064				7.93		8685064
Dissolved Sulphate (SO4)	mg/L	-	25	1.0	8685119				16	1.0	8685119
Alkalinity (Total as CaCO3)	mg/L	-	330	1.0	8685053				310	1.0	8685053
Dissolved Chloride (Cl-)	mg/L	-	210	2.0	8685108				8.4	1.0	8685108
Nitrite (N)	mg/L	-	<0.010	0.010	8685046				<0.010	0.010	8685046
Nitrate (N)	mg/L	-	0.18	0.10	8685046				0.16	0.10	8685046
Nitrate + Nitrite (N)	mg/L	-	0.18	0.10	8685046				0.16	0.10	8685046
Metals											
Dissolved Aluminum (Al)	ug/L	-	<4.9	4.9	8684595				<4.9	4.9	8684595
Dissolved Antimony (Sb)	ug/L	20	<0.50	0.50	8684595				<0.50	0.50	8684595
Dissolved Arsenic (As)	ug/L	100	<1.0	1.0	8684595				<1.0	1.0	8684595

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999
N/A = Not Applicable

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			VWY530			VWY530			VWY531		
Sampling Date			2023/05/23 12:45			2023/05/23 12:45			2023/05/23 13:00		
COC Number			934503-01-01			934503-01-01			934503-01-01		
	UNITS	Criteria	DW1	RDL	QC Batch	DW1 Lab-Dup	RDL	QC Batch	DW2	RDL	QC Batch
Dissolved Barium (Ba)	ug/L	-	190	2.0	8684595				59	2.0	8684595
Dissolved Beryllium (Be)	ug/L	11	<0.40	0.40	8684595				<0.40	0.40	8684595
Dissolved Boron (B)	ug/L	200	55	10	8684595				42	10	8684595
Dissolved Cadmium (Cd)	ug/L	0.2	<0.090	0.090	8684595				<0.090	0.090	8684595
Dissolved Calcium (Ca)	ug/L	-	180000	200	8684595				120000	200	8684595
Dissolved Chromium (Cr)	ug/L	-	<5.0	5.0	8684595				<5.0	5.0	8684595
Dissolved Cobalt (Co)	ug/L	0.9	<0.50	0.50	8684595				<0.50	0.50	8684595
Dissolved Copper (Cu)	ug/L	5	**36**	0.90	8684595				2.7	0.90	8684595
Dissolved Iron (Fe)	ug/L	300	<100	100	8684595				<100	100	8684595
Dissolved Lead (Pb)	ug/L	5	<0.50	0.50	8684595				<0.50	0.50	8684595
Dissolved Magnesium (Mg)	ug/L	-	34000	50	8684595				12000	50	8684595
Dissolved Manganese (Mn)	ug/L	-	20	2.0	8684595				8.8	2.0	8684595
Dissolved Molybdenum (Mo)	ug/L	40	<0.50	0.50	8684595				<0.50	0.50	8684595
Dissolved Nickel (Ni)	ug/L	25	<1.0	1.0	8684595				<1.0	1.0	8684595
Dissolved Phosphorus (P)	ug/L	-	<100	100	8684595				<100	100	8684595
Dissolved Potassium (K)	ug/L	-	1800	200	8684595				7700	200	8684595
Dissolved Selenium (Se)	ug/L	100	<2.0	2.0	8684595				<2.0	2.0	8684595
Dissolved Silicon (Si)	ug/L	-	7500	50	8684595				3900	50	8684595
Dissolved Silver (Ag)	ug/L	0.1	<0.090	0.090	8684595				<0.090	0.090	8684595
Dissolved Sodium (Na)	ug/L	-	51000	100	8684595				14000	100	8684595
Dissolved Strontium (Sr)	ug/L	-	640	1.0	8684595				370	1.0	8684595
Dissolved Thallium (Tl)	ug/L	0.3	<0.050	0.050	8684595				<0.050	0.050	8684595
Dissolved Titanium (Ti)	ug/L	-	<5.0	5.0	8684595				<5.0	5.0	8684595
Dissolved Uranium (U)	ug/L	5	1.4	0.10	8684595				0.30	0.10	8684595
Dissolved Vanadium (V)	ug/L	6	<0.50	0.50	8684595				<0.50	0.50	8684595
Dissolved Zinc (Zn)	ug/L	30	26	5.0	8684595				13	5.0	8684595

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			VWY532			VWY532		
Sampling Date			2023/05/23 09:15			2023/05/23 09:15		
COC Number			934503-01-01			934503-01-01		
	UNITS	Criteria	DW3	RDL	QC Batch	DW3 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	-	8.03	N/A	8682207			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	230	1.0	8681739			
Calculated TDS	mg/L	-	450	1.0	8681514			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	3.4	1.0	8681739			
Cation Sum	me/L	-	8.55	N/A	8682207			
Hardness (CaCO3)	mg/L	-	180	1.0	8682334			
Ion Balance (% Difference)	%	-	3.15	N/A	8682263			
Langelier Index (@ 20C)	N/A	-	0.624		8682208			
Langelier Index (@ 4C)	N/A	-	0.376		8682209			
Saturation pH (@ 20C)	N/A	-	7.58		8682208			
Saturation pH (@ 4C)	N/A	-	7.83		8682209			
Inorganics								
Total Ammonia-N	mg/L	-	0.41	0.050	8690187			
Conductivity	umho/cm	-	880	1.0	8685101			
Dissolved Organic Carbon	mg/L	-	0.55	0.40	8685578			
Orthophosphate (P)	mg/L	-	<0.010	0.010	8685111	<0.010	0.010	8685111
pH	pH	6.5:8.5	8.21		8685064			
Dissolved Sulphate (SO4)	mg/L	-	4.6	1.0	8685119	4.5	1.0	8685119
Alkalinity (Total as CaCO3)	mg/L	-	230	1.0	8685053			
Dissolved Chloride (Cl-)	mg/L	-	120	1.0	8685108	130	1.0	8685108
Nitrite (N)	mg/L	-	<0.010	0.010	8685046			
Nitrate (N)	mg/L	-	<0.10	0.10	8685046			
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8685046			
Metals								
Dissolved Aluminum (Al)	ug/L	-	<4.9	4.9	8684595			
Dissolved Antimony (Sb)	ug/L	20	<0.50	0.50	8684595			
Dissolved Arsenic (As)	ug/L	100	<1.0	1.0	8684595			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999
N/A = Not Applicable

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			VWY532			VWY532		
Sampling Date			2023/05/23 09:15			2023/05/23 09:15		
COC Number			934503-01-01			934503-01-01		
	UNITS	Criteria	DW3	RDL	QC Batch	DW3 Lab-Dup	RDL	QC Batch
Dissolved Barium (Ba)	ug/L	-	200	2.0	8684595			
Dissolved Beryllium (Be)	ug/L	11	<0.40	0.40	8684595			
Dissolved Boron (B)	ug/L	200	**880**	10	8684595			
Dissolved Cadmium (Cd)	ug/L	0.2	<0.090	0.090	8684595			
Dissolved Calcium (Ca)	ug/L	-	33000	200	8684595			
Dissolved Chromium (Cr)	ug/L	-	<5.0	5.0	8684595			
Dissolved Cobalt (Co)	ug/L	0.9	<0.50	0.50	8684595			
Dissolved Copper (Cu)	ug/L	5	1.6	0.90	8684595			
Dissolved Iron (Fe)	ug/L	300	130	100	8684595			
Dissolved Lead (Pb)	ug/L	5	<0.50	0.50	8684595			
Dissolved Magnesium (Mg)	ug/L	-	25000	50	8684595			
Dissolved Manganese (Mn)	ug/L	-	5.0	2.0	8684595			
Dissolved Molybdenum (Mo)	ug/L	40	<0.50	0.50	8684595			
Dissolved Nickel (Ni)	ug/L	25	<1.0	1.0	8684595			
Dissolved Phosphorus (P)	ug/L	-	<100	100	8684595			
Dissolved Potassium (K)	ug/L	-	6800	200	8684595			
Dissolved Selenium (Se)	ug/L	100	<2.0	2.0	8684595			
Dissolved Silicon (Si)	ug/L	-	5800	50	8684595			
Dissolved Silver (Ag)	ug/L	0.1	<0.090	0.090	8684595			
Dissolved Sodium (Na)	ug/L	-	110000	100	8684595			
Dissolved Strontium (Sr)	ug/L	-	2300	1.0	8684595			
Dissolved Thallium (Tl)	ug/L	0.3	<0.050	0.050	8684595			
Dissolved Titanium (Ti)	ug/L	-	<5.0	5.0	8684595			
Dissolved Uranium (U)	ug/L	5	<0.10	0.10	8684595			
Dissolved Vanadium (V)	ug/L	6	<0.50	0.50	8684595			
Dissolved Zinc (Zn)	ug/L	30	13	5.0	8684595			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			VWY533			VWY533		
Sampling Date			2023/05/23			2023/05/23		
COC Number			934503-01-01			934503-01-01		
	UNITS	Criteria	DUP1	RDL	QC Batch	DUP1 Lab-Dup	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	-	7.97	N/A	8682207			
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	230	1.0	8681739			
Calculated TDS	mg/L	-	450	1.0	8681514			
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	3.0	1.0	8681739			
Cation Sum	me/L	-	8.66	N/A	8682207			
Hardness (CaCO3)	mg/L	-	190	1.0	8682334			
Ion Balance (% Difference)	%	-	4.15	N/A	8682263			
Langelier Index (@ 20C)	N/A	-	0.574		8682208			
Langelier Index (@ 4C)	N/A	-	0.326		8682209			
Saturation pH (@ 20C)	N/A	-	7.58		8682208			
Saturation pH (@ 4C)	N/A	-	7.83		8682209			
Inorganics								
Total Ammonia-N	mg/L	-	0.41	0.050	8690187			
Conductivity	umho/cm	-	870	1.0	8685101			
Dissolved Organic Carbon	mg/L	-	0.47	0.40	8684183			
Orthophosphate (P)	mg/L	-	<0.010	0.010	8685111			
pH	pH	6.5:8.5	8.15		8685064			
Dissolved Sulphate (SO4)	mg/L	-	4.8	1.0	8685119			
Alkalinity (Total as CaCO3)	mg/L	-	230	1.0	8685053			
Dissolved Chloride (Cl-)	mg/L	-	110	1.0	8685108			
Nitrite (N)	mg/L	-	<0.010	0.010	8685046	<0.010	0.010	8685046
Nitrate (N)	mg/L	-	<0.10	0.10	8685046	<0.10	0.10	8685046
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8685046	<0.10	0.10	8685046
Metals								
Dissolved Aluminum (Al)	ug/L	-	<4.9	4.9	8684595			
Dissolved Antimony (Sb)	ug/L	20	<0.50	0.50	8684595			
Dissolved Arsenic (As)	ug/L	100	<1.0	1.0	8684595			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999
N/A = Not Applicable

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			VWY533			VWY533		
Sampling Date			2023/05/23			2023/05/23		
COC Number			934503-01-01			934503-01-01		
	UNITS	Criteria	DUP1	RDL	QC Batch	DUP1 Lab-Dup	RDL	QC Batch
Dissolved Barium (Ba)	ug/L	-	200	2.0	8684595			
Dissolved Beryllium (Be)	ug/L	11	<0.40	0.40	8684595			
Dissolved Boron (B)	ug/L	200	**890**	10	8684595			
Dissolved Cadmium (Cd)	ug/L	0.2	<0.090	0.090	8684595			
Dissolved Calcium (Ca)	ug/L	-	33000	200	8684595			
Dissolved Chromium (Cr)	ug/L	-	<5.0	5.0	8684595			
Dissolved Cobalt (Co)	ug/L	0.9	<0.50	0.50	8684595			
Dissolved Copper (Cu)	ug/L	5	<0.90	0.90	8684595			
Dissolved Iron (Fe)	ug/L	300	120	100	8684595			
Dissolved Lead (Pb)	ug/L	5	4.4	0.50	8684595			
Dissolved Magnesium (Mg)	ug/L	-	25000	50	8684595			
Dissolved Manganese (Mn)	ug/L	-	5.2	2.0	8684595			
Dissolved Molybdenum (Mo)	ug/L	40	<0.50	0.50	8684595			
Dissolved Nickel (Ni)	ug/L	25	<1.0	1.0	8684595			
Dissolved Phosphorus (P)	ug/L	-	<100	100	8684595			
Dissolved Potassium (K)	ug/L	-	7000	200	8684595			
Dissolved Selenium (Se)	ug/L	100	<2.0	2.0	8684595			
Dissolved Silicon (Si)	ug/L	-	5800	50	8684595			
Dissolved Silver (Ag)	ug/L	0.1	<0.090	0.090	8684595			
Dissolved Sodium (Na)	ug/L	-	110000	100	8684595			
Dissolved Strontium (Sr)	ug/L	-	2300	1.0	8684595			
Dissolved Thallium (Tl)	ug/L	0.3	<0.050	0.050	8684595			
Dissolved Titanium (Ti)	ug/L	-	<5.0	5.0	8684595			
Dissolved Uranium (U)	ug/L	5	<0.10	0.10	8684595			
Dissolved Vanadium (V)	ug/L	6	<0.50	0.50	8684595			
Dissolved Zinc (Zn)	ug/L	30	5.3	5.0	8684595			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		VWY530			VWY530			VWY531	VWY532		
Sampling Date		2023/05/23 12:45			2023/05/23 12:45			2023/05/23 13:00	2023/05/23 09:15		
COC Number		934503-01-01			934503-01-01			934503-01-01	934503-01-01		
	UNITS	DW1	RDL	QC Batch	DW1 Lab-Dup	RDL	QC Batch	DW2	DW3	RDL	QC Batch
Inorganics											
Colour	TCU	<2	2	8685685				3	<2	2	8685685
Fluoride (F-)	mg/L	0.10	0.10	8685088	<0.10	0.10	8685088	<0.10	0.75	0.10	8685088
Tannins & Lignins	mg/L	<0.2	0.2	8683193				<0.2	<0.2	0.2	8683193
Turbidity	NTU	1.1	0.1	8684779				0.3	0.6	0.1	8684779

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		VWY532			VWY533		
Sampling Date		2023/05/23 09:15			2023/05/23		
COC Number		934503-01-01			934503-01-01		
	UNITS	DW3 Lab-Dup	RDL	QC Batch	DUP1	RDL	QC Batch
Inorganics							
Colour	TCU				<2	2	8685685
Fluoride (F-)	mg/L				0.75	0.10	8685088
Tannins & Lignins	mg/L				<0.2	0.2	8683193
Turbidity	NTU	0.5	0.1	8684779	0.6	0.1	8684779

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: VWY530
Sample ID: DW1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8685053	N/A	2023/05/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	8685108	N/A	2023/05/26	Alina Dobreanu
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8685101	N/A	2023/05/30	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8685578	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8685088	2023/05/25	2023/05/30	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Ion Balance (% Difference)	CALC	8682263	N/A	2023/05/30	Automated Statchk
Anion and Cation Sum	CALC	8682207	N/A	2023/05/30	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8685046	N/A	2023/05/26	Nimarta Singh
pH	AT	8685064	2023/05/25	2023/05/29	Surinder Rai
Orthophosphate	KONE	8685111	N/A	2023/05/26	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/30	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8685119	N/A	2023/05/26	Alina Dobreanu
Tannins & Lignins	SPEC	8683193	N/A	2023/05/25	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk
Turbidity	AT	8684779	N/A	2023/05/25	Gurparteek KAUR

Bureau Veritas ID: VWY530 Dup
Sample ID: DW1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Conductivity	AT	8685101	N/A	2023/05/30	Kien Tran
Fluoride	ISE	8685088	2023/05/25	2023/05/30	Kien Tran

Bureau Veritas ID: VWY531
Sample ID: DW2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8685053	N/A	2023/05/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	8685108	N/A	2023/05/26	Alina Dobreanu
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8685101	N/A	2023/05/30	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8685578	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8685088	2023/05/25	2023/05/30	Kien Tran
Hardness (calculated as CaCO3)		8681022	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: VWY531
Sample ID: DW2
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Ion Balance (% Difference)	CALC	8682263	N/A	2023/05/30	Automated Statchk
Anion and Cation Sum	CALC	8682207	N/A	2023/05/30	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8685046	N/A	2023/05/26	Nimarta Singh
pH	AT	8685064	2023/05/25	2023/05/29	Surinder Rai
Orthophosphate	KONE	8685111	N/A	2023/05/26	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/30	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8685119	N/A	2023/05/26	Alina Dobreanu
Tannins & Lignins	SPEC	8683193	N/A	2023/05/25	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk
Turbidity	AT	8684779	N/A	2023/05/25	Gurparteek KAUR

Bureau Veritas ID: VWY532
Sample ID: DW3
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8685053	N/A	2023/05/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	8685108	N/A	2023/05/26	Alina Dobreanu
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8685101	N/A	2023/05/30	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8685578	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8685088	2023/05/25	2023/05/30	Kien Tran
Hardness (calculated as CaCO3)		8682334	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Ion Balance (% Difference)	CALC	8682263	N/A	2023/05/30	Automated Statchk
Anion and Cation Sum	CALC	8682207	N/A	2023/05/30	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8685046	N/A	2023/05/26	Nimarta Singh
pH	AT	8685064	2023/05/25	2023/05/29	Surinder Rai
Orthophosphate	KONE	8685111	N/A	2023/05/26	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/30	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8685119	N/A	2023/05/26	Alina Dobreanu
Tannins & Lignins	SPEC	8683193	N/A	2023/05/25	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk
Turbidity	AT	8684779	N/A	2023/05/25	Gurparteek KAUR

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: VWY532 Dup
Sample ID: DW3
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	8685108	N/A	2023/05/26	Alina Dobreanu
Orthophosphate	KONE	8685111	N/A	2023/05/26	Alina Dobreanu
Sulphate by Automated Turbidimetry	KONE	8685119	N/A	2023/05/26	Alina Dobreanu
Turbidity	AT	8684779	N/A	2023/05/25	Gurparteek KAUR

Bureau Veritas ID: VWY533
Sample ID: DUP1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8685053	N/A	2023/05/29	Surinder Rai
Carbonate, Bicarbonate and Hydroxide	CALC	8681739	N/A	2023/05/30	Automated Statchk
Chloride by Automated Colourimetry	KONE	8685108	N/A	2023/05/26	Alina Dobreanu
Colour	SPEC	8685685	N/A	2023/05/26	Gyulshen Idriz
Conductivity	AT	8685101	N/A	2023/05/30	Kien Tran
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8684183	N/A	2023/05/25	Gyulshen Idriz
Fluoride	ISE	8685088	2023/05/25	2023/05/30	Kien Tran
Hardness (calculated as CaCO3)		8682334	N/A	2023/05/30	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8684595	N/A	2023/05/29	Azita Fazaeli
Ion Balance (% Difference)	CALC	8682263	N/A	2023/05/30	Automated Statchk
Anion and Cation Sum	CALC	8682207	N/A	2023/05/30	Automated Statchk
Total Ammonia-N	LACH/NH4	8690187	N/A	2023/05/29	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8685046	N/A	2023/05/26	Nimarta Singh
pH	AT	8685064	2023/05/25	2023/05/29	Surinder Rai
Orthophosphate	KONE	8685111	N/A	2023/05/26	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8682208	N/A	2023/05/30	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8682209	N/A	2023/05/30	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8685119	N/A	2023/05/26	Alina Dobreanu
Tannins & Lignins	SPEC	8683193	N/A	2023/05/25	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8681514	N/A	2023/05/30	Automated Statchk
Turbidity	AT	8684779	N/A	2023/05/25	Gurparteek KAUR

Bureau Veritas ID: VWY533 Dup
Sample ID: DUP1
Matrix: Water

Collected: 2023/05/23
Shipped:
Received: 2023/05/24

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Nitrate & Nitrite as Nitrogen in Water	LACH	8685046	N/A	2023/05/26	Nimarta Singh

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.3°C

Results relate only to the items tested.

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Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8683193	VRO	Matrix Spike	Tannins & Lignins	2023/05/25		99	%	80 - 120
8683193	VRO	Spiked Blank	Tannins & Lignins	2023/05/25		99	%	80 - 120
8683193	VRO	Method Blank	Tannins & Lignins	2023/05/25	<0.2		mg/L	
8683193	VRO	RPD	Tannins & Lignins	2023/05/25	NC		%	20
8684183	GID	Matrix Spike	Dissolved Organic Carbon	2023/05/25		93	%	80 - 120
8684183	GID	Spiked Blank	Dissolved Organic Carbon	2023/05/25		96	%	80 - 120
8684183	GID	Method Blank	Dissolved Organic Carbon	2023/05/25	<0.40		mg/L	
8684183	GID	RPD	Dissolved Organic Carbon	2023/05/25	4.4		%	20
8684595	AFZ	Matrix Spike	Dissolved Aluminum (Al)	2023/05/29		96	%	80 - 120
			Dissolved Antimony (Sb)	2023/05/29		104	%	80 - 120
			Dissolved Arsenic (As)	2023/05/29		98	%	80 - 120
			Dissolved Barium (Ba)	2023/05/29		96	%	80 - 120
			Dissolved Beryllium (Be)	2023/05/29		98	%	80 - 120
			Dissolved Boron (B)	2023/05/29		102	%	80 - 120
			Dissolved Cadmium (Cd)	2023/05/29		100	%	80 - 120
			Dissolved Calcium (Ca)	2023/05/29		NC	%	80 - 120
			Dissolved Chromium (Cr)	2023/05/29		95	%	80 - 120
			Dissolved Cobalt (Co)	2023/05/29		94	%	80 - 120
			Dissolved Copper (Cu)	2023/05/29		94	%	80 - 120
			Dissolved Iron (Fe)	2023/05/29		95	%	80 - 120
			Dissolved Lead (Pb)	2023/05/29		95	%	80 - 120
			Dissolved Magnesium (Mg)	2023/05/29		NC	%	80 - 120
			Dissolved Manganese (Mn)	2023/05/29		96	%	80 - 120
			Dissolved Molybdenum (Mo)	2023/05/29		102	%	80 - 120
			Dissolved Nickel (Ni)	2023/05/29		93	%	80 - 120
			Dissolved Phosphorus (P)	2023/05/29		103	%	80 - 120
			Dissolved Potassium (K)	2023/05/29		94	%	80 - 120
			Dissolved Selenium (Se)	2023/05/29		101	%	80 - 120
			Dissolved Silicon (Si)	2023/05/29		97	%	80 - 120
			Dissolved Silver (Ag)	2023/05/29		98	%	80 - 120
			Dissolved Sodium (Na)	2023/05/29		93	%	80 - 120
			Dissolved Strontium (Sr)	2023/05/29		NC	%	80 - 120
			Dissolved Thallium (Tl)	2023/05/29		95	%	80 - 120
			Dissolved Titanium (Ti)	2023/05/29		95	%	80 - 120
			Dissolved Uranium (U)	2023/05/29		103	%	80 - 120
			Dissolved Vanadium (V)	2023/05/29		96	%	80 - 120
			Dissolved Zinc (Zn)	2023/05/29		97	%	80 - 120
8684595	AFZ	Spiked Blank	Dissolved Aluminum (Al)	2023/05/29		98	%	80 - 120
			Dissolved Antimony (Sb)	2023/05/29		102	%	80 - 120
			Dissolved Arsenic (As)	2023/05/29		97	%	80 - 120
			Dissolved Barium (Ba)	2023/05/29		95	%	80 - 120
			Dissolved Beryllium (Be)	2023/05/29		97	%	80 - 120
			Dissolved Boron (B)	2023/05/29		102	%	80 - 120
			Dissolved Cadmium (Cd)	2023/05/29		97	%	80 - 120
			Dissolved Calcium (Ca)	2023/05/29		98	%	80 - 120
			Dissolved Chromium (Cr)	2023/05/29		95	%	80 - 120
			Dissolved Cobalt (Co)	2023/05/29		95	%	80 - 120
			Dissolved Copper (Cu)	2023/05/29		95	%	80 - 120
			Dissolved Iron (Fe)	2023/05/29		96	%	80 - 120
			Dissolved Lead (Pb)	2023/05/29		96	%	80 - 120
			Dissolved Magnesium (Mg)	2023/05/29		94	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Manganese (Mn)	2023/05/29		97	%	80 - 120
			Dissolved Molybdenum (Mo)	2023/05/29		101	%	80 - 120
			Dissolved Nickel (Ni)	2023/05/29		95	%	80 - 120
			Dissolved Phosphorus (P)	2023/05/29		101	%	80 - 120
			Dissolved Potassium (K)	2023/05/29		95	%	80 - 120
			Dissolved Selenium (Se)	2023/05/29		101	%	80 - 120
			Dissolved Silicon (Si)	2023/05/29		99	%	80 - 120
			Dissolved Silver (Ag)	2023/05/29		99	%	80 - 120
			Dissolved Sodium (Na)	2023/05/29		94	%	80 - 120
			Dissolved Strontium (Sr)	2023/05/29		98	%	80 - 120
			Dissolved Thallium (Tl)	2023/05/29		96	%	80 - 120
			Dissolved Titanium (Ti)	2023/05/29		98	%	80 - 120
			Dissolved Uranium (U)	2023/05/29		103	%	80 - 120
			Dissolved Vanadium (V)	2023/05/29		97	%	80 - 120
			Dissolved Zinc (Zn)	2023/05/29		97	%	80 - 120
8684595	AFZ	Method Blank	Dissolved Aluminum (Al)	2023/05/29	<4.9		ug/L	
			Dissolved Antimony (Sb)	2023/05/29	<0.50		ug/L	
			Dissolved Arsenic (As)	2023/05/29	<1.0		ug/L	
			Dissolved Barium (Ba)	2023/05/29	<2.0		ug/L	
			Dissolved Beryllium (Be)	2023/05/29	<0.40		ug/L	
			Dissolved Boron (B)	2023/05/29	<10		ug/L	
			Dissolved Cadmium (Cd)	2023/05/29	<0.090		ug/L	
			Dissolved Calcium (Ca)	2023/05/29	<200		ug/L	
			Dissolved Chromium (Cr)	2023/05/29	<5.0		ug/L	
			Dissolved Cobalt (Co)	2023/05/29	<0.50		ug/L	
			Dissolved Copper (Cu)	2023/05/29	<0.90		ug/L	
			Dissolved Iron (Fe)	2023/05/29	<100		ug/L	
			Dissolved Lead (Pb)	2023/05/29	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2023/05/29	<50		ug/L	
			Dissolved Manganese (Mn)	2023/05/29	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2023/05/29	<0.50		ug/L	
			Dissolved Nickel (Ni)	2023/05/29	<1.0		ug/L	
			Dissolved Phosphorus (P)	2023/05/29	<100		ug/L	
			Dissolved Potassium (K)	2023/05/29	<200		ug/L	
			Dissolved Selenium (Se)	2023/05/29	<2.0		ug/L	
			Dissolved Silicon (Si)	2023/05/29	<50		ug/L	
			Dissolved Silver (Ag)	2023/05/29	<0.090		ug/L	
			Dissolved Sodium (Na)	2023/05/29	<100		ug/L	
			Dissolved Strontium (Sr)	2023/05/29	<1.0		ug/L	
			Dissolved Thallium (Tl)	2023/05/29	<0.050		ug/L	
			Dissolved Titanium (Ti)	2023/05/29	<5.0		ug/L	
			Dissolved Uranium (U)	2023/05/29	<0.10		ug/L	
			Dissolved Vanadium (V)	2023/05/29	<0.50		ug/L	
			Dissolved Zinc (Zn)	2023/05/29	<5.0		ug/L	
8684595	AFZ	RPD	Dissolved Calcium (Ca)	2023/05/29	0.079		%	20
			Dissolved Magnesium (Mg)	2023/05/29	0.33		%	20
			Dissolved Phosphorus (P)	2023/05/29	NC		%	20
			Dissolved Potassium (K)	2023/05/29	1.8		%	20
			Dissolved Sodium (Na)	2023/05/29	0.67		%	20
8684779	GTK	Spiked Blank	Turbidity	2023/05/25		99	%	80 - 120
8684779	GTK	Method Blank	Turbidity	2023/05/25	<0.1		NTU	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8684779	GTK	RPD [VWY532-04]	Turbidity	2023/05/25	4.3		%	20
8685046	NS3	Matrix Spike [VWY533-01]	Nitrite (N)	2023/05/26		103	%	80 - 120
			Nitrate (N)	2023/05/26		99	%	80 - 120
8685046	NS3	Spiked Blank	Nitrite (N)	2023/05/26		104	%	80 - 120
			Nitrate (N)	2023/05/26		100	%	80 - 120
8685046	NS3	Method Blank	Nitrite (N)	2023/05/26	<0.010		mg/L	
			Nitrate (N)	2023/05/26	<0.10		mg/L	
8685046	NS3	RPD [VWY533-01]	Nitrite (N)	2023/05/26	NC		%	20
			Nitrate (N)	2023/05/26	NC		%	20
8685053	SAU	Spiked Blank	Alkalinity (Total as CaCO3)	2023/05/29		95	%	85 - 115
8685053	SAU	Method Blank	Alkalinity (Total as CaCO3)	2023/05/29	<1.0		mg/L	
8685053	SAU	RPD	Alkalinity (Total as CaCO3)	2023/05/29	3.2		%	20
8685064	SAU	Spiked Blank	pH	2023/05/29		102	%	98 - 103
8685064	SAU	RPD	pH	2023/05/29	1.2		%	N/A
8685088	KIT	Matrix Spike [VWY530-01]	Fluoride (F-)	2023/05/30		95	%	80 - 120
8685088	KIT	Spiked Blank	Fluoride (F-)	2023/05/30		98	%	80 - 120
8685088	KIT	Method Blank	Fluoride (F-)	2023/05/30	<0.10		mg/L	
8685088	KIT	RPD [VWY530-01]	Fluoride (F-)	2023/05/30	0.90		%	20
8685101	KIT	Spiked Blank	Conductivity	2023/05/30		100	%	85 - 115
8685101	KIT	Method Blank	Conductivity	2023/05/30	<1.0		umho/cm	
8685101	KIT	RPD [VWY530-01]	Conductivity	2023/05/30	1.8		%	25
8685108	ADB	Matrix Spike [VWY532-01]	Dissolved Chloride (Cl-)	2023/05/26		NC	%	80 - 120
8685108	ADB	Spiked Blank	Dissolved Chloride (Cl-)	2023/05/26		101	%	80 - 120
8685108	ADB	Method Blank	Dissolved Chloride (Cl-)	2023/05/26	<1.0		mg/L	
8685108	ADB	RPD [VWY532-01]	Dissolved Chloride (Cl-)	2023/05/26	9.1		%	20
8685111	ADB	Matrix Spike [VWY532-01]	Orthophosphate (P)	2023/05/26		93	%	75 - 125
8685111	ADB	Spiked Blank	Orthophosphate (P)	2023/05/26		95	%	80 - 120
8685111	ADB	Method Blank	Orthophosphate (P)	2023/05/26	<0.010		mg/L	
8685111	ADB	RPD [VWY532-01]	Orthophosphate (P)	2023/05/26	NC		%	20
8685119	ADB	Matrix Spike [VWY532-01]	Dissolved Sulphate (SO4)	2023/05/26		93	%	75 - 125
8685119	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2023/05/26		97	%	80 - 120
8685119	ADB	Method Blank	Dissolved Sulphate (SO4)	2023/05/26	<1.0		mg/L	
8685119	ADB	RPD [VWY532-01]	Dissolved Sulphate (SO4)	2023/05/26	2.8		%	20
8685578	GID	Matrix Spike	Dissolved Organic Carbon	2023/05/25		96	%	80 - 120
8685578	GID	Spiked Blank	Dissolved Organic Carbon	2023/05/25		98	%	80 - 120
8685578	GID	Method Blank	Dissolved Organic Carbon	2023/05/25	<0.40		mg/L	
8685578	GID	RPD	Dissolved Organic Carbon	2023/05/25	0.45		%	20
8685685	GID	Spiked Blank	Colour	2023/05/26		101	%	80 - 120
8685685	GID	Method Blank	Colour	2023/05/26	<2		TCU	
8685685	GID	RPD	Colour	2023/05/26	NC		%	25
8690187	KPJ	Matrix Spike	Total Ammonia-N	2023/05/29		102	%	75 - 125
8690187	KPJ	Spiked Blank	Total Ammonia-N	2023/05/29		101	%	80 - 120
8690187	KPJ	Method Blank	Total Ammonia-N	2023/05/29	<0.050		mg/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8690187	KPJ	RPD	Total Ammonia-N	2023/05/29	NC		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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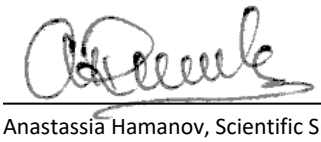
Bureau Veritas Job #: C3E7573
Report Date: 2023/05/30

WSP Canada Inc.
Client Project #: 22579526
Site Location: McCarthy
Sampler Initials: CI

VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by {0}, {1} responsible for {2} {3} laboratory operations.

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Exceedance Summary Table – Prov. Water Quality Obj.

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
DW1	VWY530-02	Dissolved Copper (Cu)	5	36	0.90	ug/L
DW3	VWY532-02	Dissolved Boron (B)	200	880	10	ug/L
DUP1	VWY533-02	Dissolved Boron (B)	200	890	10	ug/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 22579526
Your C.O.C. #: 958198-01-01, 958198-02-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2023/10/30
Report #: R7886689
Version: 1 - Final

CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3W2868
Received: 2023/10/17, 13:00

Sample Matrix: Water
Samples Received: 15

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	13	N/A	2023/10/20	CAM SOP-00448	SM 23 2320 B m
Alkalinity	1	N/A	2023/10/21	CAM SOP-00448	SM 23 2320 B m
Alkalinity	1	N/A	2023/10/25	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	15	N/A	2023/10/21	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	14	N/A	2023/10/21	CAM SOP-00463	SM 23 4500-Cl E m
Chloride by Automated Colourimetry	1	N/A	2023/10/25	CAM SOP-00463	SM 23 4500-Cl E m
Colour	14	N/A	2023/10/20	CAM SOP-00412	SM 23 2120C m
Colour	1	N/A	2023/10/23	CAM SOP-00412	SM 23 2120C m
Conductivity	13	N/A	2023/10/20	CAM SOP-00414	SM 23 2510 m
Conductivity	1	N/A	2023/10/21	CAM SOP-00414	SM 23 2510 m
Conductivity	1	N/A	2023/10/25	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	3	N/A	2023/10/20	CAM SOP-00446	SM 23 5310 B m
Dissolved Organic Carbon (DOC) (1)	12	N/A	2023/10/21	CAM SOP-00446	SM 23 5310 B m
Fluoride	14	2023/10/19	2023/10/20	CAM SOP-00449	SM 23 4500-F C m
Fluoride	1	2023/10/19	2023/10/21	CAM SOP-00449	SM 23 4500-F C m
Hardness (calculated as CaCO3)	15	N/A	2023/10/20	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	14	N/A	2023/10/20	CAM SOP-00447	EPA 6020B m
Dissolved Metals by ICPMS	1	N/A	2023/10/29	CAM SOP-00447	EPA 6020B m
Total Ammonia-N	14	N/A	2023/10/23	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	2	N/A	2023/10/22	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Nitrate & Nitrite as Nitrogen in Water (2)	12	N/A	2023/10/23	CAM SOP-00440	SM 23 4500-NO3I/NO2B
Nitrate & Nitrite as Nitrogen in Water (2)	1	N/A	2023/10/24	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	14	2023/10/19	2023/10/20	CAM SOP-00413	SM 4500H+ B m
pH	1	2023/10/19	2023/10/21	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	15	N/A	2023/10/21	CAM SOP-00461	SM 23 4500-P E m
Sulphate by Automated Turbidimetry	14	N/A	2023/10/21	CAM SOP-00464	SM 23 4500-SO42- E m
Sulphate by Automated Turbidimetry	1	N/A	2023/10/25	CAM SOP-00464	SM 23 4500-SO42- E m
Total Dissolved Solids (TDS calc)	15	N/A	2023/10/23		Auto Calc

Your Project #: 22579526
Your C.O.C. #: 958198-01-01, 958198-02-01

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CANADA L4N 8X1

Report Date: 2023/10/30
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3W2868
Received: 2023/10/17, 13:00
Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Your Project #: 22579526
Your C.O.C. #: 958198-01-01, 958198-02-01

Attention: Colin Imrie

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CANADA L4N 8X1

Report Date: 2023/10/30
Report #: R7886689
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CERTIFICATE OF ANALYSIS

BUREAU VERITAS JOB #: C3W2868
Received: 2023/10/17, 13:00

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700

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RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW983			XHW984		
Sampling Date			2023/10/16 10:20			2023/10/16 10:15		
COC Number			958198-01-01			958198-01-01		
	UNITS	Criteria	AM1B	RDL	QC Batch	AMX-R	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	270	1.0	8988283	2.2	1.0	8988283
Calculated TDS	mg/L	-	340	1.0	8988281	9100	1.0	8988281
Hardness (CaCO3)	mg/L	-	310	1.0	8988276	3200	1.0	8988276
Inorganics								
Total Ammonia-N	mg/L	-	0.084	0.050	8997792	5.9	0.050	8997792
Colour	TCU	-	<2	2	8993281	34	2	8998012
Conductivity	umho/cm	-	570	1.0	8993359	17000	1.0	8993874
Fluoride (F-)	mg/L	-	0.21	0.10	8993360	0.65	0.10	8993875
Dissolved Organic Carbon	mg/L	-	0.62	0.40	8994928	1.4	0.40	8994928
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993438	<0.010	0.010	8993438
pH	pH	6.5:8.5	7.99		8993358	**5.70**		8993876
Dissolved Sulphate (SO4)	mg/L	-	36	1.0	8993435	<1.0	1.0	8993435
Alkalinity (Total as CaCO3)	mg/L	-	280	1.0	8993347	2.2	1.0	8993869
Dissolved Chloride (Cl-)	mg/L	-	<1.0	1.0	8993418	5800	50	8993418
Nitrite (N)	mg/L	-	0.013	0.010	8992598	0.048	0.010	8993332
Nitrate (N)	mg/L	-	<0.10	0.10	8992598	0.37	0.10	8993332
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8992598	0.42	0.10	8993332

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3W2868
Report Date: 2023/10/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW985			XHW985			XHW986		
Sampling Date			2023/10/16 14:30			2023/10/16 14:30			2023/10/16 09:45		
COC Number			958198-01-01			958198-01-01			958198-01-01		
	UNITS	Criteria	TW1-1	RDL	QC Batch	TW1-1 Lab-Dup	RDL	QC Batch	BORED	RDL	QC Batch
Calculated Parameters											
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	300	1.0	8988283				240	1.0	8988283
Calculated TDS	mg/L	-	1100	1.0	8988281				310	1.0	8988281
Hardness (CaCO3)	mg/L	-	510	1.0	8988276				240	1.0	8988276
Inorganics											
Total Ammonia-N	mg/L	-	0.85	0.050	8997792				<0.050	0.050	8997792
Colour	TCU	-	<2	2	8993281				<2	2	8993281
Conductivity	umho/cm	-	2000	1.0	8993874				510	1.0	8993359
Fluoride (F-)	mg/L	-	0.53	0.10	8993875				0.12	0.10	8993360
Dissolved Organic Carbon	mg/L	-	1.7	0.40	8994928	1.7	0.40	8994928	1.1	0.40	8992993
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993918				<0.010	0.010	8993438
pH	pH	6.5:8.5	7.86		8993876				8.27		8993358
Dissolved Sulphate (SO4)	mg/L	-	32	1.0	8993915				30	1.0	8993435
Alkalinity (Total as CaCO3)	mg/L	-	300	1.0	8993869				250	1.0	8993347
Dissolved Chloride (Cl-)	mg/L	-	450	5.0	8993910				<1.0	1.0	8993418
Nitrite (N)	mg/L	-	0.039	0.010	8993322				<0.010	0.010	8992584
Nitrate (N)	mg/L	-	0.11	0.10	8993322				0.27	0.10	8992584
Nitrate + Nitrite (N)	mg/L	-	0.15	0.10	8993322				0.27	0.10	8992584

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW987			XHW988		
Sampling Date			2023/10/16 10:15			2023/10/16 10:00		
COC Number			958198-01-01			958198-01-01		
	UNITS	Criteria	OW4-1	RDL	QC Batch	OW4-2	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	260	1.0	8988283	250	1.0	8988283
Calculated TDS	mg/L	-	730	1.0	8988281	920	1.0	8988281
Hardness (CaCO3)	mg/L	-	140	1.0	8988276	250	1.0	8988276
Inorganics								
Total Ammonia-N	mg/L	-	1.6	0.050	8997792	1.2	0.050	8998040
Colour	TCU	-	4	2	8993281	<2	2	8993281
Conductivity	umho/cm	-	1300	1.0	8993874	1800	1.0	8993874
Fluoride (F-)	mg/L	-	0.94	0.10	8993875	0.95	0.10	8993875
Dissolved Organic Carbon	mg/L	-	1.8	0.40	8994928	1.1	0.40	8994928
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993918	<0.010	0.010	8993918
pH	pH	6.5:8.5	8.27		8993876	8.00		8993876
Dissolved Sulphate (SO4)	mg/L	-	9.5	1.0	8993915	<1.0	1.0	8993915
Alkalinity (Total as CaCO3)	mg/L	-	260	1.0	8993869	250	1.0	8993869
Dissolved Chloride (Cl-)	mg/L	-	250	3.0	8993910	390	2.0	8993910
Nitrite (N)	mg/L	-	0.065	0.010	8993322	0.029	0.010	8993322
Nitrate (N)	mg/L	-	<0.10	0.10	8993322	<0.10	0.10	8993322
Nitrate + Nitrite (N)	mg/L	-	0.12	0.10	8993322	<0.10	0.10	8993322

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3W2868
Report Date: 2023/10/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW988			XHW989		
Sampling Date			2023/10/16 10:00			2023/10/16 12:30		
COC Number			958198-01-01			958198-01-01		
	UNITS	Criteria	OW4-2 Lab-Dup	RDL	QC Batch	OW5-1	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-				330	1.0	8988283
Calculated TDS	mg/L	-				450	1.0	8988281
Hardness (CaCO3)	mg/L	-				300	1.0	8988276
Inorganics								
Total Ammonia-N	mg/L	-				0.33	0.050	8997792
Colour	TCU	-				<2	2	8993281
Conductivity	umho/cm	-				770	1.0	8993874
Fluoride (F-)	mg/L	-				0.52	0.10	8993875
Dissolved Organic Carbon	mg/L	-				1.2	0.40	8994928
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993918	<0.010	0.010	8993438
pH	pH	6.5:8.5				7.78		8993876
Dissolved Sulphate (SO4)	mg/L	-	<1.0	1.0	8993915	50	1.0	8993435
Alkalinity (Total as CaCO3)	mg/L	-				330	1.0	8993869
Dissolved Chloride (Cl-)	mg/L	-	400	2.0	8993910	17	1.0	8993418
Nitrite (N)	mg/L	-				<0.010	0.010	8993332
Nitrate (N)	mg/L	-				0.40	0.10	8993332
Nitrate + Nitrite (N)	mg/L	-				0.40	0.10	8993332

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
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Bureau Veritas Job #: C3W2868
Report Date: 2023/10/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW990			XHW991			XHW991		
Sampling Date			2023/10/16 12:40			2023/10/16 12:50			2023/10/16 12:50		
COC Number			958198-01-01			958198-01-01			958198-01-01		
	UNITS	Criteria	OW5-2	RDL	QC Batch	OW5-3	RDL	QC Batch	OW5-3 Lab-Dup	RDL	QC Batch
Calculated Parameters											
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	130	1.0	8988283	110	1.0	8988283			
Calculated TDS	mg/L	-	15000	1.0	8988281	17000	1.0	8988281			
Hardness (CaCO3)	mg/L	-	6100	1.0	8990943	6400	1.0	8990943			
Inorganics											
Total Ammonia-N	mg/L	-	9.4	0.050	8997792	9.7	0.050	8998040			
Colour	TCU	-	16	2	8993281	59	2	8993281	68	2	8993281
Conductivity	umho/cm	-	26000	1.0	8993874	29000	1.0	8993359			
Fluoride (F-)	mg/L	-	0.44	0.10	8993875	0.44	0.10	8993360			
Dissolved Organic Carbon	mg/L	-	4.8	0.40	8994928	0.52	0.40	8994928			
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993438	<0.010	0.010	8993438			
pH	pH	6.5:8.5	7.23		8993876	7.33		8993358			
Dissolved Sulphate (SO4)	mg/L	-	<1.0	1.0	8993435	13	1.0	8993435			
Alkalinity (Total as CaCO3)	mg/L	-	130	1.0	8993869	110	1.0	8993347			
Dissolved Chloride (Cl-)	mg/L	-	9300	50	8993418	11000	100	8993418			
Nitrite (N)	mg/L	-	<0.010	0.010	8993332	<0.010	0.010	8992584			
Nitrate (N)	mg/L	-	<0.10	0.10	8993332	<0.10	0.10	8992584			
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8993332	<0.10	0.10	8992584			

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
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Bureau Veritas Job #: C3W2868
Report Date: 2023/10/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW992			XHW995		
Sampling Date			2023/10/16 09:15			2023/10/16 01:30		
COC Number			958198-01-01			958198-02-01		
	UNITS	Criteria	OW6-2	RDL	QC Batch	OW7-1	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	160	1.0	8990941	120	1.0	8990941
Calculated TDS	mg/L	-	3900	1.0	8988281	5200	1.0	8988281
Hardness (CaCO3)	mg/L	-	1700	1.0	8990943	1900	1.0	8990943
Inorganics								
Total Ammonia-N	mg/L	-	1.8	0.050	8998040	4.1	0.050	8997792
Colour	TCU	-	4	2	8993281	560	20	8993281
Conductivity	umho/cm	-	6500	1.0	8993874	8800	1.0	8993874
Fluoride (F-)	mg/L	-	0.93	0.10	8993875	1.1	0.10	8993875
Dissolved Organic Carbon	mg/L	-	0.49	0.40	8992993	0.99	0.40	8994928
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993438	<0.010	0.010	8993438
pH	pH	6.5:8.5	7.64		8993876	7.32		8993876
Dissolved Sulphate (SO4)	mg/L	-	950	4.0	8993435	89	1.0	8993435
Alkalinity (Total as CaCO3)	mg/L	-	160	1.0	8993869	120	1.0	8993869
Dissolved Chloride (Cl-)	mg/L	-	1500	20	8993418	2800	25	8993418
Nitrite (N)	mg/L	-	<0.010	0.010	8993332	<0.010	0.010	8993332
Nitrate (N)	mg/L	-	<0.10	0.10	8993332	<0.10	0.10	8993332
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8993332	<0.10	0.10	8993332

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3W2868
Report Date: 2023/10/30

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW996			XHW996			XHW997		
Sampling Date			2023/10/16 01:35			2023/10/16 01:35			2023/10/16 02:50		
COC Number			958198-02-01			958198-02-01			958198-02-01		
	UNITS	Criteria	OW7-2	RDL	QC Batch	OW7-2 Lab-Dup	RDL	QC Batch	OW8-1	RDL	QC Batch
Calculated Parameters											
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	190	1.0	8990941				280	1.0	8990941
Calculated TDS	mg/L	-	7000	1.0	8988281				700	1.0	8988281
Hardness (CaCO3)	mg/L	-	3100	1.0	8990943				430	1.0	8990943
Inorganics											
Total Ammonia-N	mg/L	-	3.2	0.050	8998040				0.53	0.050	8997792
Colour	TCU	-	5	2	8993281				<2	2	8993281
Conductivity	umho/cm	-	12000	1.0	9004578				1300	1.0	8993874
Fluoride (F-)	mg/L	-	1.3	0.10	8993875	1.4	0.10	8993875	0.66	0.10	8993875
Dissolved Organic Carbon	mg/L	-	1.1	0.40	8994928				1.3	0.40	8994928
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993438				<0.010	0.010	8993438
pH	pH	6.5:8.5	7.50		8993876	7.48		8993876	7.70		8993876
Dissolved Sulphate (SO4)	mg/L	-	36	1.0	9003888				47	1.0	8993435
Alkalinity (Total as CaCO3)	mg/L	-	190	1.0	9004574				290	1.0	8993869
Dissolved Chloride (Cl-)	mg/L	-	3700	30	9003887				210	2.0	8993418
Nitrite (N)	mg/L	-	<0.010	0.010	8993332				<0.010	0.010	8993332
Nitrate (N)	mg/L	-	<0.10	0.10	8993332				<0.10	0.10	8993332
Nitrate + Nitrite (N)	mg/L	-	<0.10	0.10	8993332				<0.10	0.10	8993332

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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RESULTS OF ANALYSES OF WATER

Bureau Veritas ID			XHW998			XHW999		
Sampling Date			2023/10/16			2023/10/16		
COC Number			958198-02-01			958198-02-01		
	UNITS	Criteria	DUP2	RDL	QC Batch	DUP4	RDL	QC Batch
Calculated Parameters								
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	160	1.0	8990941	290	1.0	8988283
Calculated TDS	mg/L	-	4000	1.0	8988281	1100	1.0	8988281
Hardness (CaCO3)	mg/L	-	1600	1.0	8990943	500	1.0	8988276
Inorganics								
Total Ammonia-N	mg/L	-	1.7	0.050	8998040			
Colour	TCU	-	2	2	8993281	2	2	8993281
Conductivity	umho/cm	-	6500	1.0	8993874	2000	1.0	8993874
Fluoride (F-)	mg/L	-	0.94	0.10	8993875	0.53	0.10	8993875
Dissolved Organic Carbon	mg/L	-	0.51	0.40	8994928	1.7	0.40	8992993
Orthophosphate (P)	mg/L	-	<0.010	0.010	8993918	<0.010	0.010	8993438
pH	pH	6.5:8.5	7.56		8993876	7.87		8993876
Dissolved Sulphate (SO4)	mg/L	-	950	4.0	8993915	32	1.0	8993435
Alkalinity (Total as CaCO3)	mg/L	-	160	1.0	8993869	300	1.0	8993869
Dissolved Chloride (Cl-)	mg/L	-	1600	10	8993910	440	4.0	8993418
Nitrite (N)	mg/L	-	0.027	0.010	8993322	0.020	0.010	8993332
Nitrate (N)	mg/L	-	<0.10	0.10	8993322	0.10	0.10	8993332
Nitrate + Nitrite (N)	mg/L	-	0.12	0.10	8993322	0.12	0.10	8993332

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		XHW983		XHW984		XHW985		XHW986	XHW987		
Sampling Date		2023/10/16 10:20		2023/10/16 10:15		2023/10/16 14:30		2023/10/16 09:45	2023/10/16 10:15		
COC Number		958198-01-01		958198-01-01		958198-01-01		958198-01-01	958198-01-01		
	UNITS	AM1B	RDL	AMX-R	RDL	TW1-1	RDL	BORED	OW4-1	RDL	QC Batch
Metals											
Dissolved Calcium (Ca)	ug/L	63000	200	630000	2000	110000	400	54000	27000	200	8994737
Dissolved Magnesium (Mg)	ug/L	36000	50	410000	250	56000	50	27000	18000	50	8994737
Dissolved Phosphorus (P)	ug/L	<100	100	<500	500	<100	100	<100	<100	100	8994737
Dissolved Potassium (K)	ug/L	2500	200	43000	1000	9700	200	8100	8500	200	8994737
Dissolved Sodium (Na)	ug/L	6100	100	2100000	500	230000	100	20000	240000	100	8994737

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		XHW988	XHW989		XHW990	XHW991		XHW992		
Sampling Date		2023/10/16 10:00	2023/10/16 12:30		2023/10/16 12:40	2023/10/16 12:50		2023/10/16 09:15		
COC Number		958198-01-01	958198-01-01		958198-01-01	958198-01-01		958198-01-01		
	UNITS	OW4-2	OW5-1	RDL	OW5-2	OW5-3	RDL	OW6-2	RDL	QC Batch
Metals										
Dissolved Calcium (Ca)	ug/L	47000	60000	200	1300000	1300000	5000	350000	1000	8994737
Dissolved Magnesium (Mg)	ug/L	32000	36000	50	710000	750000	250	190000	50	8994737
Dissolved Phosphorus (P)	ug/L	<100	<100	100	<500	<500	500	<100	100	8994737
Dissolved Potassium (K)	ug/L	10000	8000	200	73000	77000	1000	20000	200	8994737
Dissolved Sodium (Na)	ug/L	280000	56000	100	3800000	3800000	1000	770000	500	8994737

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

Bureau Veritas ID		XHW995			XHW996			XHW997		
Sampling Date		2023/10/16 01:30			2023/10/16 01:35			2023/10/16 02:50		
COC Number		958198-02-01			958198-02-01			958198-02-01		
	UNITS	OW7-1	RDL	QC Batch	OW7-2	RDL	QC Batch	OW8-1	RDL	QC Batch
Metals										
Dissolved Calcium (Ca)	ug/L	380000	1000	8994737	650000	2000	9010786	120000	200	8994737
Dissolved Magnesium (Mg)	ug/L	240000	50	8994737	370000	50	9010786	30000	50	8994737
Dissolved Phosphorus (P)	ug/L	<100	100	8994737	<100	100	9010786	<100	100	8994737
Dissolved Potassium (K)	ug/L	29000	200	8994737	32000	200	9010786	5600	200	8994737
Dissolved Sodium (Na)	ug/L	1500000	500	8994737	2100000	500	9010786	100000	100	8994737

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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ELEMENTS BY ATOMIC SPECTROSCOPY (WATER)

Bureau Veritas ID		XHW998		XHW999	XHW999		
Sampling Date		2023/10/16		2023/10/16	2023/10/16		
COC Number		958198-02-01		958198-02-01	958198-02-01		
	UNITS	DUP2	RDL	DUP4	DUP4 Lab-Dup	RDL	QC Batch
Metals							
Dissolved Calcium (Ca)	ug/L	340000	1000	110000	110000	400	8994737
Dissolved Magnesium (Mg)	ug/L	190000	50	54000	54000	50	8994737
Dissolved Phosphorus (P)	ug/L	<100	100	<100	<100	100	8994737
Dissolved Potassium (K)	ug/L	21000	200	9100	9200	200	8994737
Dissolved Sodium (Na)	ug/L	800000	500	220000	220000	100	8994737

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

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TEST SUMMARY

Bureau Veritas ID: XHW983
Sample ID: AM1B
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993347	N/A	2023/10/21	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993359	N/A	2023/10/21	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993360	2023/10/19	2023/10/21	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8992598	N/A	2023/10/24	Chandra Nandlal
pH	AT	8993358	2023/10/19	2023/10/21	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW984
Sample ID: AMX-R
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8998012	N/A	2023/10/23	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW985
Sample ID: TW1-1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993910	N/A	2023/10/21	Massarat Jan

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TEST SUMMARY

Bureau Veritas ID: XHW985
Sample ID: TW1-1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993322	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993918	N/A	2023/10/21	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8993915	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW985 Dup
Sample ID: TW1-1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz

Bureau Veritas ID: XHW986
Sample ID: BORED
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993347	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993359	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8992993	N/A	2023/10/20	Gyulshen Idriz
Fluoride	ISE	8993360	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8992584	N/A	2023/10/22	Chandra Nandlal
pH	AT	8993358	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

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TEST SUMMARY

Bureau Veritas ID: XHW987
Sample ID: OW4-1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993910	N/A	2023/10/21	Massarat Jan
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993322	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993918	N/A	2023/10/21	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8993915	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW988
Sample ID: OW4-2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993910	N/A	2023/10/21	Massarat Jan
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8998040	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993322	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993918	N/A	2023/10/21	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8993915	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW988 Dup
Sample ID: OW4-2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Chloride by Automated Colourimetry	KONE	8993910	N/A	2023/10/21	Massarat Jan
Orthophosphate	KONE	8993918	N/A	2023/10/21	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8993915	N/A	2023/10/21	Yogesh Patel

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TEST SUMMARY

Bureau Veritas ID: XHW989
Sample ID: OW5-1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW990
Sample ID: OW5-2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8990943	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW991
Sample ID: OW5-3
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993347	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel

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TEST SUMMARY

Bureau Veritas ID: XHW991
Sample ID: OW5-3
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993359	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993360	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8990943	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8998040	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8992584	N/A	2023/10/22	Chandra Nandlal
pH	AT	8993358	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW991 Dup
Sample ID: OW5-3
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru

Bureau Veritas ID: XHW992
Sample ID: OW6-2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8990941	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8992993	N/A	2023/10/20	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8990943	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8998040	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

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TEST SUMMARY

Bureau Veritas ID: XHW995
Sample ID: OW7-1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8990941	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8990943	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW996
Sample ID: OW7-2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	9004574	N/A	2023/10/25	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8990941	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	9003887	N/A	2023/10/25	Alina Dobreanu
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	9004578	N/A	2023/10/25	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8990943	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	9010786	N/A	2023/10/29	Thuy Linh Nguyen
Total Ammonia-N	LACH/NH4	8998040	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	9003888	N/A	2023/10/25	Alina Dobreanu
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW996 Dup
Sample ID: OW7-2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil

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TEST SUMMARY

Bureau Veritas ID: XHW997
Sample ID: OW8-1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8990941	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8990943	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8997792	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW998
Sample ID: DUP2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8990941	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993910	N/A	2023/10/21	Massarat Jan
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8994928	N/A	2023/10/21	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8990943	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Total Ammonia-N	LACH/NH4	8998040	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8993322	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993918	N/A	2023/10/21	Massarat Jan
Sulphate by Automated Turbidimetry	KONE	8993915	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW999
Sample ID: DUP4
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8993869	N/A	2023/10/20	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/21	Automated Statchk
Chloride by Automated Colourimetry	KONE	8993418	N/A	2023/10/21	Yogesh Patel

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TEST SUMMARY

Bureau Veritas ID: XHW999
Sample ID: DUP4
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Colour	SPEC	8993281	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8993874	N/A	2023/10/20	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8992993	N/A	2023/10/20	Gyulshen Idriz
Fluoride	ISE	8993875	2023/10/19	2023/10/20	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/20	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad
Nitrate & Nitrite as Nitrogen in Water	LACH	8993332	N/A	2023/10/23	Chandra Nandlal
pH	AT	8993876	2023/10/19	2023/10/20	Nachiketa Gohil
Orthophosphate	KONE	8993438	N/A	2023/10/21	Yogesh Patel
Sulphate by Automated Turbidimetry	KONE	8993435	N/A	2023/10/21	Yogesh Patel
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk

Bureau Veritas ID: XHW999 Dup
Sample ID: DUP4
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Dissolved Metals by ICPMS	ICP/MS	8994737	N/A	2023/10/20	Arefa Dabhad

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	4.3°C
Package 2	5.0°C

Sample XHW984 [AMX-R] : Metal Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample XHW990 [OW5-2] : Metal Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample XHW991 [OW5-3] : Metal Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Sample XHW996 [OW7-2] : Metal Analysis: Due to the sample matrix, sample required dilution. Detection limits were adjusted accordingly.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8992584	C_N	Matrix Spike	Nitrite (N)	2023/10/22		104	%	80 - 120
			Nitrate (N)	2023/10/22		105	%	80 - 120
8992584	C_N	Spiked Blank	Nitrite (N)	2023/10/22		107	%	80 - 120
			Nitrate (N)	2023/10/22		100	%	80 - 120
8992584	C_N	Method Blank	Nitrite (N)	2023/10/22	<0.010		mg/L	
			Nitrate (N)	2023/10/22	<0.10		mg/L	
8992584	C_N	RPD	Nitrite (N)	2023/10/22	19		%	20
			Nitrate (N)	2023/10/22	1.2		%	20
8992598	C_N	Matrix Spike	Nitrite (N)	2023/10/24		105	%	80 - 120
			Nitrate (N)	2023/10/24		99	%	80 - 120
8992598	C_N	Spiked Blank	Nitrite (N)	2023/10/24		106	%	80 - 120
			Nitrate (N)	2023/10/24		100	%	80 - 120
8992598	C_N	Method Blank	Nitrite (N)	2023/10/24	<0.010		mg/L	
			Nitrate (N)	2023/10/24	<0.10		mg/L	
8992598	C_N	RPD	Nitrite (N)	2023/10/24	NC		%	20
			Nitrate (N)	2023/10/24	3.3		%	20
8992993	GID	Matrix Spike	Dissolved Organic Carbon	2023/10/19		92	%	80 - 120
8992993	GID	Spiked Blank	Dissolved Organic Carbon	2023/10/19		95	%	80 - 120
8992993	GID	Method Blank	Dissolved Organic Carbon	2023/10/19	<0.40		mg/L	
8992993	GID	RPD	Dissolved Organic Carbon	2023/10/19	8.3		%	20
8993281	VRO	Spiked Blank	Colour	2023/10/20		101	%	80 - 120
8993281	VRO	Method Blank	Colour	2023/10/20	<2		TCU	
8993281	VRO	RPD [XHW991-01]	Colour	2023/10/20	15		%	25
8993322	C_N	Matrix Spike	Nitrite (N)	2023/10/23		101	%	80 - 120
			Nitrate (N)	2023/10/23		NC	%	80 - 120
8993322	C_N	Spiked Blank	Nitrite (N)	2023/10/23		104	%	80 - 120
			Nitrate (N)	2023/10/23		103	%	80 - 120
8993322	C_N	Method Blank	Nitrite (N)	2023/10/23	<0.010		mg/L	
			Nitrate (N)	2023/10/23	<0.10		mg/L	
8993322	C_N	RPD	Nitrite (N)	2023/10/23	0.92		%	20
			Nitrate (N)	2023/10/23	2.0		%	20
8993332	C_N	Matrix Spike	Nitrite (N)	2023/10/23		103	%	80 - 120
			Nitrate (N)	2023/10/23		102	%	80 - 120
8993332	C_N	Spiked Blank	Nitrite (N)	2023/10/23		106	%	80 - 120
			Nitrate (N)	2023/10/23		105	%	80 - 120
8993332	C_N	Method Blank	Nitrite (N)	2023/10/23	<0.010		mg/L	
			Nitrate (N)	2023/10/23	<0.10		mg/L	
8993332	C_N	RPD	Nitrite (N)	2023/10/23	NC		%	20
			Nitrate (N)	2023/10/23	NC		%	20
8993347	NGI	Spiked Blank	Alkalinity (Total as CaCO3)	2023/10/21		97	%	85 - 115
8993347	NGI	Method Blank	Alkalinity (Total as CaCO3)	2023/10/21	<1.0		mg/L	
8993347	NGI	RPD	Alkalinity (Total as CaCO3)	2023/10/20	3.5		%	20
8993358	NGI	Spiked Blank	pH	2023/10/20		102	%	98 - 103
8993358	NGI	RPD	pH	2023/10/20	0.51		%	N/A
8993359	NGI	Spiked Blank	Conductivity	2023/10/20		100	%	85 - 115
8993359	NGI	Method Blank	Conductivity	2023/10/20	<1.0		umho/cm	
8993359	NGI	RPD	Conductivity	2023/10/20	0.096		%	10
8993360	NGI	Matrix Spike	Fluoride (F-)	2023/10/20		87	%	80 - 120
8993360	NGI	Spiked Blank	Fluoride (F-)	2023/10/20		104	%	80 - 120
8993360	NGI	Method Blank	Fluoride (F-)	2023/10/20	<0.10		mg/L	
8993360	NGI	RPD	Fluoride (F-)	2023/10/20	0.46		%	20
8993418	YPA	Matrix Spike	Dissolved Chloride (Cl-)	2023/10/21		NC	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8993418	YPA	Spiked Blank	Dissolved Chloride (Cl-)	2023/10/21		95	%	80 - 120
8993418	YPA	Method Blank	Dissolved Chloride (Cl-)	2023/10/21	<1.0		mg/L	
8993418	YPA	RPD	Dissolved Chloride (Cl-)	2023/10/21	1.0		%	20
8993435	YPA	Matrix Spike	Dissolved Sulphate (SO4)	2023/10/21		NC	%	75 - 125
8993435	YPA	Spiked Blank	Dissolved Sulphate (SO4)	2023/10/21		103	%	80 - 120
8993435	YPA	Method Blank	Dissolved Sulphate (SO4)	2023/10/21	<1.0		mg/L	
8993435	YPA	RPD	Dissolved Sulphate (SO4)	2023/10/21	2.0		%	20
8993438	YPA	Matrix Spike	Orthophosphate (P)	2023/10/21		91	%	75 - 125
8993438	YPA	Spiked Blank	Orthophosphate (P)	2023/10/21		92	%	80 - 120
8993438	YPA	Method Blank	Orthophosphate (P)	2023/10/21	<0.010		mg/L	
8993438	YPA	RPD	Orthophosphate (P)	2023/10/21	NC		%	20
8993869	NGI	Spiked Blank	Alkalinity (Total as CaCO3)	2023/10/20		97	%	85 - 115
8993869	NGI	Method Blank	Alkalinity (Total as CaCO3)	2023/10/20	<1.0		mg/L	
8993874	NGI	Spiked Blank	Conductivity	2023/10/20		100	%	85 - 115
8993874	NGI	Method Blank	Conductivity	2023/10/20	<1.0		umho/cm	
8993875	NGI	Matrix Spike [XHW996-01]	Fluoride (F-)	2023/10/20		84	%	80 - 120
8993875	NGI	Spiked Blank	Fluoride (F-)	2023/10/20		101	%	80 - 120
8993875	NGI	Method Blank	Fluoride (F-)	2023/10/20	<0.10		mg/L	
8993875	NGI	RPD [XHW996-01]	Fluoride (F-)	2023/10/20	0.50		%	20
8993876	NGI	Spiked Blank	pH	2023/10/20		102	%	98 - 103
8993876	NGI	RPD [XHW996-01]	pH	2023/10/20	0.25		%	N/A
8993910	MJ1	Matrix Spike [XHW988-01]	Dissolved Chloride (Cl-)	2023/10/21		NC	%	80 - 120
8993910	MJ1	Spiked Blank	Dissolved Chloride (Cl-)	2023/10/21		94	%	80 - 120
8993910	MJ1	Method Blank	Dissolved Chloride (Cl-)	2023/10/21	<1.0		mg/L	
8993910	MJ1	RPD [XHW988-01]	Dissolved Chloride (Cl-)	2023/10/21	2.8		%	20
8993915	YPA	Matrix Spike [XHW988-01]	Dissolved Sulphate (SO4)	2023/10/21		98	%	75 - 125
8993915	YPA	Spiked Blank	Dissolved Sulphate (SO4)	2023/10/21		104	%	80 - 120
8993915	YPA	Method Blank	Dissolved Sulphate (SO4)	2023/10/21	<1.0		mg/L	
8993915	YPA	RPD [XHW988-01]	Dissolved Sulphate (SO4)	2023/10/21	NC		%	20
8993918	MJ1	Matrix Spike [XHW988-01]	Orthophosphate (P)	2023/10/21		93	%	75 - 125
8993918	MJ1	Spiked Blank	Orthophosphate (P)	2023/10/21		92	%	80 - 120
8993918	MJ1	Method Blank	Orthophosphate (P)	2023/10/21	<0.010		mg/L	
8993918	MJ1	RPD [XHW988-01]	Orthophosphate (P)	2023/10/21	NC		%	20
8994737	ADA	Matrix Spike [XHW999-02]	Dissolved Calcium (Ca)	2023/10/20		NC	%	80 - 120
			Dissolved Magnesium (Mg)	2023/10/20		NC	%	80 - 120
			Dissolved Phosphorus (P)	2023/10/20		113	%	80 - 120
			Dissolved Potassium (K)	2023/10/20		112	%	80 - 120
			Dissolved Sodium (Na)	2023/10/20		NC	%	80 - 120
8994737	ADA	Spiked Blank	Dissolved Calcium (Ca)	2023/10/20		106	%	80 - 120
			Dissolved Magnesium (Mg)	2023/10/20		105	%	80 - 120
			Dissolved Phosphorus (P)	2023/10/20		110	%	80 - 120
			Dissolved Potassium (K)	2023/10/20		108	%	80 - 120
			Dissolved Sodium (Na)	2023/10/20		104	%	80 - 120
8994737	ADA	Method Blank	Dissolved Calcium (Ca)	2023/10/20	<200		ug/L	
			Dissolved Magnesium (Mg)	2023/10/20	<50		ug/L	
			Dissolved Phosphorus (P)	2023/10/20	<100		ug/L	
			Dissolved Potassium (K)	2023/10/20	<200		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Sodium (Na)	2023/10/20	<100		ug/L	
8994737	ADA	RPD [XHW999-02]	Dissolved Calcium (Ca)	2023/10/20	3.6		%	20
			Dissolved Magnesium (Mg)	2023/10/20	0.91		%	20
			Dissolved Phosphorus (P)	2023/10/20	NC		%	20
			Dissolved Potassium (K)	2023/10/20	0.55		%	20
			Dissolved Sodium (Na)	2023/10/20	0.17		%	20
8994928	GID	Matrix Spike [XHW985-03]	Dissolved Organic Carbon	2023/10/21		93	%	80 - 120
8994928	GID	Spiked Blank	Dissolved Organic Carbon	2023/10/21		95	%	80 - 120
8994928	GID	Method Blank	Dissolved Organic Carbon	2023/10/21	<0.40		mg/L	
8994928	GID	RPD [XHW985-03]	Dissolved Organic Carbon	2023/10/21	2.2		%	20
8997792	KPJ	Matrix Spike	Total Ammonia-N	2023/10/23		102	%	75 - 125
8997792	KPJ	Spiked Blank	Total Ammonia-N	2023/10/23		102	%	80 - 120
8997792	KPJ	Method Blank	Total Ammonia-N	2023/10/23	<0.050		mg/L	
8997792	KPJ	RPD	Total Ammonia-N	2023/10/23	2.5		%	20
8998012	VRO	Spiked Blank	Colour	2023/10/23		102	%	80 - 120
8998012	VRO	Method Blank	Colour	2023/10/23	<2		TCU	
8998012	VRO	RPD	Colour	2023/10/23	NC		%	25
8998040	KPJ	Matrix Spike	Total Ammonia-N	2023/10/23		102	%	75 - 125
8998040	KPJ	Spiked Blank	Total Ammonia-N	2023/10/23		101	%	80 - 120
8998040	KPJ	Method Blank	Total Ammonia-N	2023/10/23	<0.050		mg/L	
8998040	KPJ	RPD	Total Ammonia-N	2023/10/23	8.9		%	20
9003887	ADB	Matrix Spike	Dissolved Chloride (Cl-)	2023/10/25		NC	%	80 - 120
9003887	ADB	Spiked Blank	Dissolved Chloride (Cl-)	2023/10/25		93	%	80 - 120
9003887	ADB	Method Blank	Dissolved Chloride (Cl-)	2023/10/25	<1.0		mg/L	
9003887	ADB	RPD	Dissolved Chloride (Cl-)	2023/10/25	0.88		%	20
9003888	ADB	Matrix Spike	Dissolved Sulphate (SO4)	2023/10/25		NC	%	75 - 125
9003888	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2023/10/25		98	%	80 - 120
9003888	ADB	Method Blank	Dissolved Sulphate (SO4)	2023/10/25	<1.0		mg/L	
9003888	ADB	RPD	Dissolved Sulphate (SO4)	2023/10/25	0.20		%	20
9004574	NGI	Spiked Blank	Alkalinity (Total as CaCO3)	2023/10/25		97	%	85 - 115
9004574	NGI	Method Blank	Alkalinity (Total as CaCO3)	2023/10/25	<1.0		mg/L	
9004574	NGI	RPD	Alkalinity (Total as CaCO3)	2023/10/25	0.53		%	20
9004578	NGI	Spiked Blank	Conductivity	2023/10/25		101	%	85 - 115
9004578	NGI	Method Blank	Conductivity	2023/10/25	<1.0		umho/cm	
9004578	NGI	RPD	Conductivity	2023/10/25	0.19		%	10
9010786	TLG	Matrix Spike	Dissolved Calcium (Ca)	2023/10/29		NC	%	80 - 120
			Dissolved Magnesium (Mg)	2023/10/29		NC	%	80 - 120
			Dissolved Phosphorus (P)	2023/10/29		103	%	80 - 120
			Dissolved Potassium (K)	2023/10/29		NC	%	80 - 120
			Dissolved Sodium (Na)	2023/10/29		NC	%	80 - 120
9010786	TLG	Spiked Blank	Dissolved Calcium (Ca)	2023/10/29		97	%	80 - 120
			Dissolved Magnesium (Mg)	2023/10/29		104	%	80 - 120
			Dissolved Phosphorus (P)	2023/10/29		103	%	80 - 120
			Dissolved Potassium (K)	2023/10/29		102	%	80 - 120
			Dissolved Sodium (Na)	2023/10/29		99	%	80 - 120
9010786	TLG	Method Blank	Dissolved Calcium (Ca)	2023/10/29	<200		ug/L	
			Dissolved Magnesium (Mg)	2023/10/29	<50		ug/L	
			Dissolved Phosphorus (P)	2023/10/29	<100		ug/L	
			Dissolved Potassium (K)	2023/10/29	<200		ug/L	
			Dissolved Sodium (Na)	2023/10/29	<100		ug/L	
9010786	TLG	RPD	Dissolved Calcium (Ca)	2023/10/29	0.64		%	20

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Magnesium (Mg)	2023/10/29	0.48		%	20
			Dissolved Phosphorus (P)	2023/10/29	NC		%	20
			Dissolved Potassium (K)	2023/10/29	0.57		%	20
			Dissolved Sodium (Na)	2023/10/29	0.64		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

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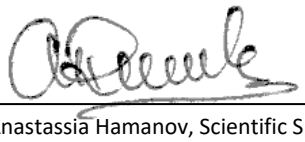
VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:



Anastassia Hamanov, Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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Exceedance Summary Table – Prov. Water Quality Obj.

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
No Exceedances						

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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Your Project #: 22579526
Your C.O.C. #: 958197-01-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2023/11/06
Report #: R7896921
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3W2973
Received: 2023/10/17, 13:00

Sample Matrix: Water
Samples Received: 4

Analyses	Quantity	Date Extracted	Date Analyzed	Laboratory Method	Analytical Method
Alkalinity	4	N/A	2023/10/19	CAM SOP-00448	SM 23 2320 B m
Carbonate, Bicarbonate and Hydroxide	4	N/A	2023/10/19	CAM SOP-00102	APHA 4500-CO2 D
Chloride by Automated Colourimetry	4	N/A	2023/10/23	CAM SOP-00463	SM 23 4500-Cl E m
Colour	4	N/A	2023/10/20	CAM SOP-00412	SM 23 2120C m
Conductivity	4	N/A	2023/10/19	CAM SOP-00414	SM 23 2510 m
Dissolved Organic Carbon (DOC) (1)	4	N/A	2023/10/19	CAM SOP-00446	SM 23 5310 B m
Fluoride	4	2023/10/18	2023/10/19	CAM SOP-00449	SM 23 4500-F C m
Hardness (calculated as CaCO3)	4	N/A	2023/10/19	CAM SOP 00102/00408/00447	SM 2340 B
Dissolved Metals by ICPMS	4	N/A	2023/10/19	CAM SOP-00447	EPA 6020B m
Ion Balance (% Difference)	4	N/A	2023/10/23		
Anion and Cation Sum	4	N/A	2023/10/19		
Total Ammonia-N	2	N/A	2023/10/23	CAM SOP-00441	USGS I-2522-90 m
Total Ammonia-N	2	N/A	2023/11/02	CAM SOP-00441	USGS I-2522-90 m
Nitrate & Nitrite as Nitrogen in Water (2)	4	N/A	2023/10/20	CAM SOP-00440	SM 23 4500-NO3I/NO2B
pH	4	2023/10/18	2023/10/19	CAM SOP-00413	SM 4500H+ B m
Orthophosphate	4	N/A	2023/10/19	CAM SOP-00461	SM 23 4500-P E m
Sat. pH and Langelier Index (@ 20C)	4	N/A	2023/10/23		Auto Calc
Sat. pH and Langelier Index (@ 4C)	4	N/A	2023/10/23		Auto Calc
Sulphate by Automated Turbidimetry	4	N/A	2023/10/19	CAM SOP-00464	SM 23 4500-SO42- E m
Tannins & Lignins	4	N/A	2023/10/19	CAM SOP-00410	SM 24 5550 B m
Total Dissolved Solids (TDS calc)	4	N/A	2023/10/23		Auto Calc
Turbidity	4	N/A	2023/10/19	CAM SOP-00417	SM 23 2130 B m

Remarks:

Bureau Veritas is accredited to ISO/IEC 17025 for specific parameters on scopes of accreditation. Unless otherwise noted, procedures used by Bureau Veritas are based upon recognized Provincial, Federal or US method compendia such as CCME, MELCCFP, EPA, APHA.

All work recorded herein has been done in accordance with procedures and practices ordinarily exercised by professionals in Bureau Veritas' profession using accepted testing methodologies, quality assurance and quality control procedures (except where otherwise agreed by the client and Bureau Veritas in writing). All data is in statistical control and has met quality control and method performance criteria unless otherwise noted. All method blanks are

Your Project #: 22579526
Your C.O.C. #: 958197-01-01

Attention: Colin Imrie

WSP Canada Inc.
121 Commerce Park Drive
Unit L
Barrie, ON
CANADA L4N 8X1

Report Date: 2023/11/06
Report #: R7896921
Version: 2 - Revision

CERTIFICATE OF ANALYSIS – REVISED REPORT

BUREAU VERITAS JOB #: C3W2973
Received: 2023/10/17, 13:00

reported; unless indicated otherwise, associated sample data are not blank corrected. Where applicable, unless otherwise noted, Measurement Uncertainty has not been accounted for when stating conformity to the referenced standard.

Bureau Veritas liability is limited to the actual cost of the requested analyses, unless otherwise agreed in writing. There is no other warranty expressed or implied. Bureau Veritas has been retained to provide analysis of samples provided by the Client using the testing methodology referenced in this report. Interpretation and use of test results are the sole responsibility of the Client and are not within the scope of services provided by Bureau Veritas, unless otherwise agreed in writing. Bureau Veritas is not responsible for the accuracy or any data impacts, that result from the information provided by the customer or their agent.

Solid sample results, except biota, are based on dry weight unless otherwise indicated. Organic analyses are not recovery corrected except for isotope dilution methods.
Results relate to samples tested. When sampling is not conducted by Bureau Veritas, results relate to the supplied samples tested.

Reference Method suffix “m” indicates test methods incorporate validated modifications from specific reference methods to improve performance.
* RPDs calculated using raw data. The rounding of final results may result in the apparent difference.
(1) Dissolved Organic Carbon (DOC) present in the sample should be considered as non-purgeable DOC.
(2) Values for calculated parameters may not appear to add up due to rounding of raw data and significant figures.

Encryption Key

Please direct all questions regarding this Certificate of Analysis to:
Ankita Bhalla, Project Manager
Email: Ankita.Bhalla@bureauveritas.com
Phone# (905) 817-5700
==========
Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

Bureau Veritas Job #: C3W2973
Report Date: 2023/11/06

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			XHX497		XHX498		XHX499		
Sampling Date			2023/10/16 12:15		2023/10/16 12:30		2023/10/16 11:00		
COC Number			958197-01-01		958197-01-01		958197-01-01		
	UNITS	Criteria	DW1	RDL	DW2	QC Batch	DW3	RDL	QC Batch
Calculated Parameters									
Anion Sum	me/L	-	14.8	N/A	6.61	8988278	8.21	N/A	8988278
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-	340	1.0	300	8988283	230	1.0	8988283
Calculated TDS	mg/L	-	820	1.0	360	8988281	450	1.0	8988281
Carb. Alkalinity (calc. as CaCO3)	mg/L	-	1.0	1.0	1.9	8988283	2.2	1.0	8988283
Cation Sum	me/L	-	15.9	N/A	7.40	8988278	8.63	N/A	8988278
Hardness (CaCO3)	mg/L	-	650	1.0	340	8988276	190	1.0	8988276
Ion Balance (% Difference)	%	-	3.38	N/A	5.64	8988277	2.45	N/A	8988277
Langelier Index (@ 20C)	N/A	-	0.809		0.913	8988279	0.410		8988279
Langelier Index (@ 4C)	N/A	-	0.563		0.665	8988280	0.162		8988280
Saturation pH (@ 20C)	N/A	-	6.70		6.91	8988279	7.59		8988279
Saturation pH (@ 4C)	N/A	-	6.95		7.16	8988280	7.83		8988280
Inorganics									
Total Ammonia-N	mg/L	-	<0.050	0.050	<0.050	8992787	0.12	0.050	9018112
Conductivity	umho/cm	-	1600	1.0	620	8990881	860	1.0	8990881
Dissolved Organic Carbon	mg/L	-	1.1	0.40	1.6	8991418	0.51	0.40	8991418
Orthophosphate (P)	mg/L	-	<0.010	0.010	<0.010	8990930	<0.010	0.010	8990930
pH	pH	6.5:8.5	7.51		7.82	8990883	8.00		8990883
Dissolved Sulphate (SO4)	mg/L	-	28	1.0	13	8990929	2.5	1.0	8990929
Alkalinity (Total as CaCO3)	mg/L	-	350	1.0	300	8990880	230	1.0	8990880
Dissolved Chloride (Cl-)	mg/L	-	260	3.0	9.4	8990923	120	1.0	8990923
Nitrite (N)	mg/L	-	<0.010	0.010	<0.010	8990892	<0.010	0.010	8990892
Nitrate (N)	mg/L	-	0.10	0.10	0.18	8990892	<0.10	0.10	8990892
Nitrate + Nitrite (N)	mg/L	-	0.10	0.10	0.18	8990892	<0.10	0.10	8990892
Metals									
Dissolved Aluminum (Al)	ug/L	-	<4.9	4.9	<4.9	8991434	<4.9	4.9	8991434
Dissolved Antimony (Sb)	ug/L	20	<0.50	0.50	<0.50	8991434	<0.50	0.50	8991434
Dissolved Arsenic (As)	ug/L	100	<1.0	1.0	<1.0	8991434	<1.0	1.0	8991434
Dissolved Barium (Ba)	ug/L	-	210	2.0	53	8991434	200	2.0	8991434
Dissolved Beryllium (Be)	ug/L	11	<0.40	0.40	<0.40	8991434	<0.40	0.40	8991434

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999
N/A = Not Applicable

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Bureau Veritas Job #: C3W2973
Report Date: 2023/11/06

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			XHX497		XHX498		XHX499		
Sampling Date			2023/10/16 12:15		2023/10/16 12:30		2023/10/16 11:00		
COC Number			958197-01-01		958197-01-01		958197-01-01		
	UNITS	Criteria	DW1	RDL	DW2	QC Batch	DW3	RDL	QC Batch
Dissolved Boron (B)	ug/L	200	41	10	23	8991434	**770**	10	8991434
Dissolved Cadmium (Cd)	ug/L	0.2	<0.090	0.090	<0.090	8991434	<0.090	0.090	8991434
Dissolved Calcium (Ca)	ug/L	-	190000	200	110000	8991434	32000	200	8991434
Dissolved Chromium (Cr)	ug/L	-	<5.0	5.0	<5.0	8991434	<5.0	5.0	8991434
Dissolved Cobalt (Co)	ug/L	0.9	<0.50	0.50	<0.50	8991434	<0.50	0.50	8991434
Dissolved Copper (Cu)	ug/L	5	**25**	0.90	1.5	8991434	<0.90	0.90	8991434
Dissolved Iron (Fe)	ug/L	300	<100	100	<100	8991434	<100	100	8991434
Dissolved Lead (Pb)	ug/L	5	<0.50	0.50	<0.50	8991434	<0.50	0.50	8991434
Dissolved Magnesium (Mg)	ug/L	-	40000	50	15000	8991434	26000	50	8991434
Dissolved Manganese (Mn)	ug/L	-	70	2.0	13	8991434	4.8	2.0	8991434
Dissolved Molybdenum (Mo)	ug/L	40	<0.50	0.50	<0.50	8991434	<0.50	0.50	8991434
Dissolved Nickel (Ni)	ug/L	25	<1.0	1.0	<1.0	8991434	<1.0	1.0	8991434
Dissolved Phosphorus (P)	ug/L	-	<100	100	<100	8991434	<100	100	8991434
Dissolved Potassium (K)	ug/L	-	2200	200	4900	8991434	6700	200	8991434
Dissolved Selenium (Se)	ug/L	100	<2.0	2.0	<2.0	8991434	<2.0	2.0	8991434
Dissolved Silicon (Si)	ug/L	-	9100	50	6400	8991434	5400	50	8991434
Dissolved Silver (Ag)	ug/L	0.1	<0.090	0.090	<0.090	8991434	<0.090	0.090	8991434
Dissolved Sodium (Na)	ug/L	-	66000	100	13000	8991434	110000	100	8991434
Dissolved Strontium (Sr)	ug/L	-	670	1.0	300	8991434	2400	1.0	8991434
Dissolved Thallium (Tl)	ug/L	0.3	<0.050	0.050	<0.050	8991434	<0.050	0.050	8991434
Dissolved Titanium (Ti)	ug/L	-	<5.0	5.0	<5.0	8991434	<5.0	5.0	8991434
Dissolved Uranium (U)	ug/L	5	1.4	0.10	0.33	8991434	<0.10	0.10	8991434
Dissolved Vanadium (V)	ug/L	6	<0.50	0.50	<0.50	8991434	<0.50	0.50	8991434
Dissolved Zinc (Zn)	ug/L	30	17	5.0	6.1	8991434	7.2	5.0	8991434

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3W2973
Report Date: 2023/11/06

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			XHX499			XHX500		
Sampling Date			2023/10/16 11:00			2023/10/16		
COC Number			958197-01-01			958197-01-01		
	UNITS	Criteria	DW3 Lab-Dup	RDL	QC Batch	DUP1	RDL	QC Batch
Calculated Parameters								
Anion Sum	me/L	-				8.22	N/A	8988278
Bicarb. Alkalinity (calc. as CaCO3)	mg/L	-				230	1.0	8988283
Calculated TDS	mg/L	-				450	1.0	8988281
Carb. Alkalinity (calc. as CaCO3)	mg/L	-				3.2	1.0	8988283
Cation Sum	me/L	-				8.65	N/A	8988278
Hardness (CaCO3)	mg/L	-				180	1.0	8988276
Ion Balance (% Difference)	%	-				2.58	N/A	8988277
Langelier Index (@ 20C)	N/A	-				0.576		8988279
Langelier Index (@ 4C)	N/A	-				0.328		8988280
Saturation pH (@ 20C)	N/A	-				7.59		8988279
Saturation pH (@ 4C)	N/A	-				7.84		8988280
Inorganics								
Total Ammonia-N	mg/L	-	0.12	0.050	9018112	0.13	0.050	9018112
Conductivity	umho/cm	-				860	1.0	8990881
Dissolved Organic Carbon	mg/L	-				0.54	0.40	8991418
Orthophosphate (P)	mg/L	-				<0.010	0.010	8990930
pH	pH	6.5:8.5				8.17		8990883
Dissolved Sulphate (SO4)	mg/L	-				2.3	1.0	8990929
Alkalinity (Total as CaCO3)	mg/L	-				230	1.0	8990880
Dissolved Chloride (Cl-)	mg/L	-				120	1.0	8990923
Nitrite (N)	mg/L	-				<0.010	0.010	8990892
Nitrate (N)	mg/L	-				<0.10	0.10	8990892
Nitrate + Nitrite (N)	mg/L	-				<0.10	0.10	8990892
Metals								
Dissolved Aluminum (Al)	ug/L	-				<4.9	4.9	8991434
Dissolved Antimony (Sb)	ug/L	20				<0.50	0.50	8991434
Dissolved Arsenic (As)	ug/L	100				<1.0	1.0	8991434
Dissolved Barium (Ba)	ug/L	-				200	2.0	8991434

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999
N/A = Not Applicable

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RCAP - COMPREHENSIVE (WATER)

Bureau Veritas ID			XHX499			XHX500		
Sampling Date			2023/10/16 11:00			2023/10/16		
COC Number			958197-01-01			958197-01-01		
	UNITS	Criteria	DW3 Lab-Dup	RDL	QC Batch	DUP1	RDL	QC Batch
Dissolved Beryllium (Be)	ug/L	11				<0.40	0.40	8991434
Dissolved Boron (B)	ug/L	200				**780**	10	8991434
Dissolved Cadmium (Cd)	ug/L	0.2				<0.090	0.090	8991434
Dissolved Calcium (Ca)	ug/L	-				32000	200	8991434
Dissolved Chromium (Cr)	ug/L	-				<5.0	5.0	8991434
Dissolved Cobalt (Co)	ug/L	0.9				<0.50	0.50	8991434
Dissolved Copper (Cu)	ug/L	5				1.2	0.90	8991434
Dissolved Iron (Fe)	ug/L	300				<100	100	8991434
Dissolved Lead (Pb)	ug/L	5				<0.50	0.50	8991434
Dissolved Magnesium (Mg)	ug/L	-				25000	50	8991434
Dissolved Manganese (Mn)	ug/L	-				5.2	2.0	8991434
Dissolved Molybdenum (Mo)	ug/L	40				<0.50	0.50	8991434
Dissolved Nickel (Ni)	ug/L	25				<1.0	1.0	8991434
Dissolved Phosphorus (P)	ug/L	-				<100	100	8991434
Dissolved Potassium (K)	ug/L	-				6700	200	8991434
Dissolved Selenium (Se)	ug/L	100				<2.0	2.0	8991434
Dissolved Silicon (Si)	ug/L	-				5500	50	8991434
Dissolved Silver (Ag)	ug/L	0.1				<0.090	0.090	8991434
Dissolved Sodium (Na)	ug/L	-				110000	100	8991434
Dissolved Strontium (Sr)	ug/L	-				2400	1.0	8991434
Dissolved Thallium (Tl)	ug/L	0.3				<0.050	0.050	8991434
Dissolved Titanium (Ti)	ug/L	-				<5.0	5.0	8991434
Dissolved Uranium (U)	ug/L	5				<0.10	0.10	8991434
Dissolved Vanadium (V)	ug/L	6				<0.50	0.50	8991434
Dissolved Zinc (Zn)	ug/L	30				14	5.0	8991434

No Fill	No Exceedance
Grey	Exceeds 1 criteria policy/level
Black	Exceeds both criteria/levels

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate
Criteria: Ontario Provincial Water Quality Objectives
Ref. to MOEE Water Management document dated Feb.1999

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Bureau Veritas Job #: C3W2973
Report Date: 2023/11/06

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

RESULTS OF ANALYSES OF WATER

Bureau Veritas ID		XHX497			XHX497			XHX498	XHX499		
Sampling Date		2023/10/16 12:15			2023/10/16 12:15			2023/10/16 12:30	2023/10/16 11:00		
COC Number		958197-01-01			958197-01-01			958197-01-01	958197-01-01		
	UNITS	DW1	RDL	QC Batch	DW1 Lab-Dup	RDL	QC Batch	DW2	DW3	RDL	QC Batch
Inorganics											
Colour	TCU	<2	2	8993300				<2	<2	2	8993300
Fluoride (F-)	mg/L	<0.10	0.10	8990882				<0.10	0.70	0.10	8990882
Tannins & Lignins	mg/L	<0.2	0.2	8991859	<0.2	0.2	8991859	<0.2	<0.2	0.2	8991859
Turbidity	NTU	0.2	0.1	8990916				0.2	0.2	0.1	8990916

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch
Lab-Dup = Laboratory Initiated Duplicate

Bureau Veritas ID		XHX500		
Sampling Date		2023/10/16		
COC Number		958197-01-01		
	UNITS	DUP1	RDL	QC Batch
Inorganics				
Colour	TCU	<2	2	8993300
Fluoride (F-)	mg/L	0.70	0.10	8990882
Tannins & Lignins	mg/L	<0.2	0.2	8991859
Turbidity	NTU	0.2	0.1	8990916

RDL = Reportable Detection Limit
QC Batch = Quality Control Batch

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TEST SUMMARY

Bureau Veritas ID: XHX497
Sample ID: DW1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8990880	N/A	2023/10/19	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/19	Automated Statchk
Chloride by Automated Colourimetry	KONE	8990923	N/A	2023/10/23	Massarat Jan
Colour	SPEC	8993300	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8990881	N/A	2023/10/19	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8991418	N/A	2023/10/19	Gyulshen Idriz
Fluoride	ISE	8990882	2023/10/18	2023/10/19	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/19	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8991434	N/A	2023/10/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	8988277	N/A	2023/10/23	Automated Statchk
Anion and Cation Sum	CALC	8988278	N/A	2023/10/19	Automated Statchk
Total Ammonia-N	LACH/NH4	8992787	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8990892	N/A	2023/10/20	Chandra Nandlal
pH	AT	8990883	2023/10/18	2023/10/19	Nachiketa Gohil
Orthophosphate	KONE	8990930	N/A	2023/10/19	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8988279	N/A	2023/10/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8988280	N/A	2023/10/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8990929	N/A	2023/10/19	Alina Dobreanu
Tannins & Lignins	SPEC	8991859	N/A	2023/10/19	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk
Turbidity	AT	8990916	N/A	2023/10/19	Leily Karimi

Bureau Veritas ID: XHX497 Dup
Sample ID: DW1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Tannins & Lignins	SPEC	8991859	N/A	2023/10/19	Viorica Rotaru

Bureau Veritas ID: XHX498
Sample ID: DW2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8990880	N/A	2023/10/19	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/19	Automated Statchk
Chloride by Automated Colourimetry	KONE	8990923	N/A	2023/10/23	Massarat Jan
Colour	SPEC	8993300	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8990881	N/A	2023/10/19	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8991418	N/A	2023/10/19	Gyulshen Idriz
Fluoride	ISE	8990882	2023/10/18	2023/10/19	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/19	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8991434	N/A	2023/10/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	8988277	N/A	2023/10/23	Automated Statchk
Anion and Cation Sum	CALC	8988278	N/A	2023/10/19	Automated Statchk

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Bureau Veritas Job #: C3W2973
Report Date: 2023/11/06

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: XHX498
Sample ID: DW2
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	8992787	N/A	2023/10/23	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8990892	N/A	2023/10/20	Chandra Nandlal
pH	AT	8990883	2023/10/18	2023/10/19	Nachiketa Gohil
Orthophosphate	KONE	8990930	N/A	2023/10/19	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8988279	N/A	2023/10/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8988280	N/A	2023/10/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8990929	N/A	2023/10/19	Alina Dobreanu
Tannins & Lignins	SPEC	8991859	N/A	2023/10/19	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk
Turbidity	AT	8990916	N/A	2023/10/19	Leily Karimi

Bureau Veritas ID: XHX499
Sample ID: DW3
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8990880	N/A	2023/10/19	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/19	Automated Statchk
Chloride by Automated Colourimetry	KONE	8990923	N/A	2023/10/23	Massarat Jan
Colour	SPEC	8993300	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8990881	N/A	2023/10/19	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8991418	N/A	2023/10/19	Gyulshen Idriz
Fluoride	ISE	8990882	2023/10/18	2023/10/19	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/19	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8991434	N/A	2023/10/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	8988277	N/A	2023/10/23	Automated Statchk
Anion and Cation Sum	CALC	8988278	N/A	2023/10/19	Automated Statchk
Total Ammonia-N	LACH/NH4	9018112	N/A	2023/11/02	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8990892	N/A	2023/10/20	Chandra Nandlal
pH	AT	8990883	2023/10/18	2023/10/19	Nachiketa Gohil
Orthophosphate	KONE	8990930	N/A	2023/10/19	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8988279	N/A	2023/10/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8988280	N/A	2023/10/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8990929	N/A	2023/10/19	Alina Dobreanu
Tannins & Lignins	SPEC	8991859	N/A	2023/10/19	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk
Turbidity	AT	8990916	N/A	2023/10/19	Leily Karimi

Bureau Veritas ID: XHX499 Dup
Sample ID: DW3
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Total Ammonia-N	LACH/NH4	9018112	N/A	2023/11/02	Prabhjot Kaur

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Bureau Veritas Job #: C3W2973
Report Date: 2023/11/06

WSP Canada Inc.
Client Project #: 22579526
Sampler Initials: CI

TEST SUMMARY

Bureau Veritas ID: XHX500
Sample ID: DUP1
Matrix: Water

Collected: 2023/10/16
Shipped:
Received: 2023/10/17

Test Description	Instrumentation	Batch	Extracted	Date Analyzed	Analyst
Alkalinity	AT	8990880	N/A	2023/10/19	Nachiketa Gohil
Carbonate, Bicarbonate and Hydroxide	CALC	8988283	N/A	2023/10/19	Automated Statchk
Chloride by Automated Colourimetry	KONE	8990923	N/A	2023/10/23	Massarat Jan
Colour	SPEC	8993300	N/A	2023/10/20	Viorica Rotaru
Conductivity	AT	8990881	N/A	2023/10/19	Nachiketa Gohil
Dissolved Organic Carbon (DOC)	TOCV/NDIR	8991418	N/A	2023/10/19	Gyulshen Idriz
Fluoride	ISE	8990882	2023/10/18	2023/10/19	Nachiketa Gohil
Hardness (calculated as CaCO3)		8988276	N/A	2023/10/19	Automated Statchk
Dissolved Metals by ICPMS	ICP/MS	8991434	N/A	2023/10/19	Arefa Dabhad
Ion Balance (% Difference)	CALC	8988277	N/A	2023/10/23	Automated Statchk
Anion and Cation Sum	CALC	8988278	N/A	2023/10/19	Automated Statchk
Total Ammonia-N	LACH/NH4	9018112	N/A	2023/11/02	Prabhjot Kaur
Nitrate & Nitrite as Nitrogen in Water	LACH	8990892	N/A	2023/10/20	Chandra Nandlal
pH	AT	8990883	2023/10/18	2023/10/19	Nachiketa Gohil
Orthophosphate	KONE	8990930	N/A	2023/10/19	Alina Dobreanu
Sat. pH and Langelier Index (@ 20C)	CALC	8988279	N/A	2023/10/23	Automated Statchk
Sat. pH and Langelier Index (@ 4C)	CALC	8988280	N/A	2023/10/23	Automated Statchk
Sulphate by Automated Turbidimetry	KONE	8990929	N/A	2023/10/19	Alina Dobreanu
Tannins & Lignins	SPEC	8991859	N/A	2023/10/19	Viorica Rotaru
Total Dissolved Solids (TDS calc)	CALC	8988281	N/A	2023/10/23	Automated Statchk
Turbidity	AT	8990916	N/A	2023/10/19	Leily Karimi

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GENERAL COMMENTS

Each temperature is the average of up to three cooler temperatures taken at receipt

Package 1	6.3°C

Revised Report [2023/11/06]: Ammonia analysis added to samples DW3 and Dup1.

Results relate only to the items tested.

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QUALITY ASSURANCE REPORT

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
8990880	NGI	Spiked Blank	Alkalinity (Total as CaCO3)	2023/10/19		96	%	85 - 115
8990880	NGI	Method Blank	Alkalinity (Total as CaCO3)	2023/10/19	<1.0		mg/L	
8990880	NGI	RPD	Alkalinity (Total as CaCO3)	2023/10/19	1.3		%	20
8990881	NGI	Spiked Blank	Conductivity	2023/10/19		101	%	85 - 115
8990881	NGI	Method Blank	Conductivity	2023/10/19	<1.0		umho/cm	
8990881	NGI	RPD	Conductivity	2023/10/19	0.053		%	10
8990882	NGI	Matrix Spike	Fluoride (F-)	2023/10/19		92	%	80 - 120
8990882	NGI	Spiked Blank	Fluoride (F-)	2023/10/19		94	%	80 - 120
8990882	NGI	Method Blank	Fluoride (F-)	2023/10/19	<0.10		mg/L	
8990882	NGI	RPD	Fluoride (F-)	2023/10/19	0.96		%	20
8990883	NGI	Spiked Blank	pH	2023/10/19		102	%	98 - 103
8990883	NGI	RPD	pH	2023/10/19	2.2		%	N/A
8990892	C_N	Matrix Spike	Nitrite (N)	2023/10/20		100	%	80 - 120
			Nitrate (N)	2023/10/20		95	%	80 - 120
8990892	C_N	Spiked Blank	Nitrite (N)	2023/10/20		105	%	80 - 120
			Nitrate (N)	2023/10/20		100	%	80 - 120
8990892	C_N	Method Blank	Nitrite (N)	2023/10/20	<0.010		mg/L	
			Nitrate (N)	2023/10/20	<0.10		mg/L	
8990892	C_N	RPD	Nitrite (N)	2023/10/20	NC		%	20
			Nitrate (N)	2023/10/20	NC		%	20
8990916	LKI	Spiked Blank	Turbidity	2023/10/19		101	%	80 - 120
8990916	LKI	Method Blank	Turbidity	2023/10/19	<0.1		NTU	
8990916	LKI	RPD	Turbidity	2023/10/19	3.7		%	20
8990923	MJ1	Matrix Spike	Dissolved Chloride (Cl-)	2023/10/23		NC	%	80 - 120
8990923	MJ1	Spiked Blank	Dissolved Chloride (Cl-)	2023/10/23		97	%	80 - 120
8990923	MJ1	Method Blank	Dissolved Chloride (Cl-)	2023/10/23	<1.0		mg/L	
8990923	MJ1	RPD	Dissolved Chloride (Cl-)	2023/10/23	4.5		%	20
8990929	ADB	Matrix Spike	Dissolved Sulphate (SO4)	2023/10/19		NC	%	75 - 125
8990929	ADB	Spiked Blank	Dissolved Sulphate (SO4)	2023/10/19		97	%	80 - 120
8990929	ADB	Method Blank	Dissolved Sulphate (SO4)	2023/10/19	<1.0		mg/L	
8990929	ADB	RPD	Dissolved Sulphate (SO4)	2023/10/19	0.22		%	20
8990930	ADB	Matrix Spike	Orthophosphate (P)	2023/10/19		91	%	75 - 125
8990930	ADB	Spiked Blank	Orthophosphate (P)	2023/10/19		91	%	80 - 120
8990930	ADB	Method Blank	Orthophosphate (P)	2023/10/19	<0.010		mg/L	
8990930	ADB	RPD	Orthophosphate (P)	2023/10/19	NC		%	20
8991418	GID	Matrix Spike	Dissolved Organic Carbon	2023/10/19		93	%	80 - 120
8991418	GID	Spiked Blank	Dissolved Organic Carbon	2023/10/19		95	%	80 - 120
8991418	GID	Method Blank	Dissolved Organic Carbon	2023/10/19	<0.40		mg/L	
8991418	GID	RPD	Dissolved Organic Carbon	2023/10/19	0.69		%	20
8991434	ADA	Matrix Spike	Dissolved Aluminum (Al)	2023/10/19		101	%	80 - 120
			Dissolved Antimony (Sb)	2023/10/19		104	%	80 - 120
			Dissolved Arsenic (As)	2023/10/19		101	%	80 - 120
			Dissolved Barium (Ba)	2023/10/19		98	%	80 - 120
			Dissolved Beryllium (Be)	2023/10/19		96	%	80 - 120
			Dissolved Boron (B)	2023/10/19		93	%	80 - 120
			Dissolved Cadmium (Cd)	2023/10/19		101	%	80 - 120
			Dissolved Calcium (Ca)	2023/10/19		NC	%	80 - 120
			Dissolved Chromium (Cr)	2023/10/19		97	%	80 - 120
			Dissolved Cobalt (Co)	2023/10/19		98	%	80 - 120
			Dissolved Copper (Cu)	2023/10/19		96	%	80 - 120
			Dissolved Iron (Fe)	2023/10/19		101	%	80 - 120
			Dissolved Lead (Pb)	2023/10/19		94	%	80 - 120

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Magnesium (Mg)	2023/10/19		NC	%	80 - 120
			Dissolved Manganese (Mn)	2023/10/19		98	%	80 - 120
			Dissolved Molybdenum (Mo)	2023/10/19		99	%	80 - 120
			Dissolved Nickel (Ni)	2023/10/19		96	%	80 - 120
			Dissolved Phosphorus (P)	2023/10/19		106	%	80 - 120
			Dissolved Potassium (K)	2023/10/19		104	%	80 - 120
			Dissolved Selenium (Se)	2023/10/19		103	%	80 - 120
			Dissolved Silicon (Si)	2023/10/19		101	%	80 - 120
			Dissolved Silver (Ag)	2023/10/19		59 (1)	%	80 - 120
			Dissolved Sodium (Na)	2023/10/19		NC	%	80 - 120
			Dissolved Strontium (Sr)	2023/10/19		NC	%	80 - 120
			Dissolved Thallium (Tl)	2023/10/19		98	%	80 - 120
			Dissolved Titanium (Ti)	2023/10/19		102	%	80 - 120
			Dissolved Uranium (U)	2023/10/19		99	%	80 - 120
			Dissolved Vanadium (V)	2023/10/19		98	%	80 - 120
			Dissolved Zinc (Zn)	2023/10/19		98	%	80 - 120
8991434	ADA	Spiked Blank	Dissolved Aluminum (Al)	2023/10/19		104	%	80 - 120
			Dissolved Antimony (Sb)	2023/10/19		103	%	80 - 120
			Dissolved Arsenic (As)	2023/10/19		98	%	80 - 120
			Dissolved Barium (Ba)	2023/10/19		100	%	80 - 120
			Dissolved Beryllium (Be)	2023/10/19		97	%	80 - 120
			Dissolved Boron (B)	2023/10/19		94	%	80 - 120
			Dissolved Cadmium (Cd)	2023/10/19		100	%	80 - 120
			Dissolved Calcium (Ca)	2023/10/19		105	%	80 - 120
			Dissolved Chromium (Cr)	2023/10/19		94	%	80 - 120
			Dissolved Cobalt (Co)	2023/10/19		96	%	80 - 120
			Dissolved Copper (Cu)	2023/10/19		96	%	80 - 120
			Dissolved Iron (Fe)	2023/10/19		100	%	80 - 120
			Dissolved Lead (Pb)	2023/10/19		97	%	80 - 120
			Dissolved Magnesium (Mg)	2023/10/19		103	%	80 - 120
			Dissolved Manganese (Mn)	2023/10/19		98	%	80 - 120
			Dissolved Molybdenum (Mo)	2023/10/19		97	%	80 - 120
			Dissolved Nickel (Ni)	2023/10/19		96	%	80 - 120
			Dissolved Phosphorus (P)	2023/10/19		104	%	80 - 120
			Dissolved Potassium (K)	2023/10/19		100	%	80 - 120
			Dissolved Selenium (Se)	2023/10/19		103	%	80 - 120
			Dissolved Silicon (Si)	2023/10/19		105	%	80 - 120
			Dissolved Silver (Ag)	2023/10/19		96	%	80 - 120
			Dissolved Sodium (Na)	2023/10/19		98	%	80 - 120
			Dissolved Strontium (Sr)	2023/10/19		96	%	80 - 120
			Dissolved Thallium (Tl)	2023/10/19		103	%	80 - 120
			Dissolved Titanium (Ti)	2023/10/19		103	%	80 - 120
			Dissolved Uranium (U)	2023/10/19		104	%	80 - 120
			Dissolved Vanadium (V)	2023/10/19		95	%	80 - 120
			Dissolved Zinc (Zn)	2023/10/19		97	%	80 - 120
8991434	ADA	Method Blank	Dissolved Aluminum (Al)	2023/10/19	<4.9		ug/L	
			Dissolved Antimony (Sb)	2023/10/19	<0.50		ug/L	
			Dissolved Arsenic (As)	2023/10/19	<1.0		ug/L	
			Dissolved Barium (Ba)	2023/10/19	<2.0		ug/L	
			Dissolved Beryllium (Be)	2023/10/19	<0.40		ug/L	
			Dissolved Boron (B)	2023/10/19	<10		ug/L	
			Dissolved Cadmium (Cd)	2023/10/19	<0.090		ug/L	

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
			Dissolved Calcium (Ca)	2023/10/19	<200		ug/L	
			Dissolved Chromium (Cr)	2023/10/19	<5.0		ug/L	
			Dissolved Cobalt (Co)	2023/10/19	<0.50		ug/L	
			Dissolved Copper (Cu)	2023/10/19	<0.90		ug/L	
			Dissolved Iron (Fe)	2023/10/19	<100		ug/L	
			Dissolved Lead (Pb)	2023/10/19	<0.50		ug/L	
			Dissolved Magnesium (Mg)	2023/10/19	<50		ug/L	
			Dissolved Manganese (Mn)	2023/10/19	<2.0		ug/L	
			Dissolved Molybdenum (Mo)	2023/10/19	<0.50		ug/L	
			Dissolved Nickel (Ni)	2023/10/19	<1.0		ug/L	
			Dissolved Phosphorus (P)	2023/10/19	<100		ug/L	
			Dissolved Potassium (K)	2023/10/19	<200		ug/L	
			Dissolved Selenium (Se)	2023/10/19	<2.0		ug/L	
			Dissolved Silicon (Si)	2023/10/19	<50		ug/L	
			Dissolved Silver (Ag)	2023/10/19	<0.090		ug/L	
			Dissolved Sodium (Na)	2023/10/19	<100		ug/L	
			Dissolved Strontium (Sr)	2023/10/19	<1.0		ug/L	
			Dissolved Thallium (Tl)	2023/10/19	<0.050		ug/L	
			Dissolved Titanium (Ti)	2023/10/19	<5.0		ug/L	
			Dissolved Uranium (U)	2023/10/19	<0.10		ug/L	
			Dissolved Vanadium (V)	2023/10/19	<0.50		ug/L	
			Dissolved Zinc (Zn)	2023/10/19	<5.0		ug/L	
8991434	ADA	RPD	Dissolved Antimony (Sb)	2023/10/19	NC		%	20
			Dissolved Arsenic (As)	2023/10/19	NC		%	20
			Dissolved Barium (Ba)	2023/10/19	2.1		%	20
			Dissolved Beryllium (Be)	2023/10/19	NC		%	20
			Dissolved Boron (B)	2023/10/19	4.1		%	20
			Dissolved Cadmium (Cd)	2023/10/19	NC		%	20
			Dissolved Chromium (Cr)	2023/10/19	NC		%	20
			Dissolved Cobalt (Co)	2023/10/19	NC		%	20
			Dissolved Copper (Cu)	2023/10/19	2.8		%	20
			Dissolved Lead (Pb)	2023/10/19	NC		%	20
			Dissolved Molybdenum (Mo)	2023/10/19	2.9		%	20
			Dissolved Nickel (Ni)	2023/10/19	1.8		%	20
			Dissolved Selenium (Se)	2023/10/19	NC		%	20
			Dissolved Silver (Ag)	2023/10/19	NC		%	20
			Dissolved Sodium (Na)	2023/10/19	0.016		%	20
			Dissolved Thallium (Tl)	2023/10/19	5.8		%	20
			Dissolved Uranium (U)	2023/10/19	0.14		%	20
			Dissolved Vanadium (V)	2023/10/19	NC		%	20
			Dissolved Zinc (Zn)	2023/10/19	NC		%	20
8991859	VRO	Matrix Spike [XHX497-03]	Tannins & Lignins	2023/10/19		98	%	80 - 120
8991859	VRO	Spiked Blank	Tannins & Lignins	2023/10/19		104	%	80 - 120
8991859	VRO	Method Blank	Tannins & Lignins	2023/10/19	<0.2		mg/L	
8991859	VRO	RPD [XHX497-03]	Tannins & Lignins	2023/10/19	NC		%	20
8992787	KPJ	Matrix Spike	Total Ammonia-N	2023/10/23		102	%	75 - 125
8992787	KPJ	Spiked Blank	Total Ammonia-N	2023/10/23		102	%	80 - 120
8992787	KPJ	Method Blank	Total Ammonia-N	2023/10/23	<0.050		mg/L	
8992787	KPJ	RPD	Total Ammonia-N	2023/10/23	20		%	20
8993300	VRO	Spiked Blank	Colour	2023/10/20		101	%	80 - 120
8993300	VRO	Method Blank	Colour	2023/10/20	<2		TCU	
8993300	VRO	RPD	Colour	2023/10/20	NC		%	25

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QUALITY ASSURANCE REPORT(CONT'D)

QA/QC Batch	Init	QC Type	Parameter	Date Analyzed	Value	Recovery	UNITS	QC Limits
9018112	KPJ	Matrix Spike [XHX499-05]	Total Ammonia-N	2023/11/02		101	%	75 - 125
9018112	KPJ	Spiked Blank	Total Ammonia-N	2023/11/02		101	%	80 - 120
9018112	KPJ	Method Blank	Total Ammonia-N	2023/11/02	<0.050		mg/L	
9018112	KPJ	RPD [XHX499-05]	Total Ammonia-N	2023/11/02	1.4		%	20

N/A = Not Applicable

Duplicate: Paired analysis of a separate portion of the same sample. Used to evaluate the variance in the measurement.

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

Spiked Blank: A blank matrix sample to which a known amount of the analyte, usually from a second source, has been added. Used to evaluate method accuracy.

Method Blank: A blank matrix containing all reagents used in the analytical procedure. Used to identify laboratory contamination.

NC (Matrix Spike): The recovery in the matrix spike was not calculated. The relative difference between the concentration in the parent sample and the spike amount was too small to permit a reliable recovery calculation (matrix spike concentration was less than the native sample concentration)

NC (Duplicate RPD): The duplicate RPD was not calculated. The concentration in the sample and/or duplicate was too low to permit a reliable RPD calculation (absolute difference <= 2x RDL).

(1) Matrix Spike exceeds acceptance limits, probable matrix interference

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VALIDATION SIGNATURE PAGE

The analytical data and all QC contained in this report were reviewed and validated by:

Anastassia Hamanov, Scientific Specialist

Cristina Carriere, Senior Scientific Specialist

Bureau Veritas has procedures in place to guard against improper use of the electronic signature and have the required "signatories", as per ISO/IEC 17025, signing the reports. For Service Group specific validation, please refer to the Validation Signatures page if included, otherwise available by request. For Department specific Analyst/Supervisor validation names, please refer to the Test Summary section if included, otherwise available by request. This report is authorized by Rodney Major, General Manager responsible for Ontario Environmental laboratory operations.

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Exceedance Summary Table – Prov. Water Quality Obj.

Result Exceedances

Sample ID	Bureau Veritas ID	Parameter	Criteria	Result	DL	UNITS
DW1	XHX497-02	Dissolved Copper (Cu)	5	25	0.90	ug/L
DW3	XHX499-02	Dissolved Boron (B)	200	770	10	ug/L
DUP1	XHX500-02	Dissolved Boron (B)	200	780	10	ug/L

The exceedance summary table is for information purposes only and should not be considered a comprehensive listing or statement of conformance to applicable regulatory guidelines.

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