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Dufferin Aggregates Paris Pit – 2021 Combined Annual Monitoring Report

Please find enclosed the Combined Annual Monitoring Report for the Dufferin Aggregates Paris Pit for the 2021 calendar year, required by the ARA Licence No. 5601, PTTW No. 5826-ALCNNN (rescinded), Amended PTTW No. 7481-C4BQTA and ECA (ISW) No. 0302-ALCK5W. Dufferin Aggregates is a division of CRH Canada Group Inc.

Hard copies of the report can be provided upon request.

Please do not hesitate to contact me if you have any questions or comments.

Yours sincerely,

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2021 Combined Annual Monitoring Report

Dufferin Aggregates Paris Pit

CRH Canada Group Inc.

March 31, 2022



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1. Introduction

GHD was retained by Dufferin Aggregates, a division of CRH Canada Group Inc. (Dufferin), to complete the 2021 Combined Annual Monitoring Report (AMR) for the period between January 1 and December 31, 2021. This monitoring report was completed pursuant to and combines the associated monitoring results of:

- Aggregate Resource Act (ARA) Licence No. 5601
- Amended Permit to Take Water (PTTW) No. 7481-C4BQTA issued by the Ontario Ministry of the Environment, Conservation and Parks (MECP) on August 13, 2021
- Amended Permit to Take Water (PTTW) No. 5826-ALCINN issued by MECP on April 27, 2017
- Amended Environmental Compliance Approval (ECA) No. 0302-ALCK5W issued by the MECP on April 12, 2017

The Dufferin Paris Pit (Site) is located at 716 Watts Pond Road on Part Lot 27 in Concession 2, Part Lot 26 in Concession 3, and Part of Subdivision Lots 1, 2, and 3 in Concession 2 West of the Grand River and Part of the Canadian National Railway (CNR), in the County of Brant, Ontario. The Site location is presented on Figure 1.1. An area of 249 hectares (ha) is licensed under the ARA (Licence No. 5601) and approved for extraction. A map of the Site and surrounding lands is presented on Figure 1.2.

The purpose of this 2021 Combined Annual Monitoring Report is to document the results of the 2021 monitoring program specified in the ARA Licence (May 21, 2015 Current Monitoring Program letter to MECP), PTTW, and ECA. Copies of the PTTW and ECA are provided in Appendix A and Appendix B, respectively.

The 2021 monitoring program included the following activities:

- Hydraulic monitoring (groundwater levels and surface water levels)
- Additional hydraulic monitoring (weekly events) from June to October 2021
- Trigger level assessment including Site Surface Water/Wetland Impact Assessment Report (SWIAR Report)
- Installation of a supplemental staff gauge location (SG2B) in the SW1B pond
- Water quality monitoring (groundwater, surface water, and recirculation cell)
- Sediment sampling
- Wetland assessment completed as part of the SWIAR Report
- Measurement of water taking amounts

A PTTW Amendment and supporting documentation were submitted to MECP on January 12, 2021. The PTTW Amendment included minor modifications to the existing PTTW that resulted in a reduction in the overall annual water taking limit and a reduction in the maximum approved rate of water taking. The PTTW Amendment included specific modifications to the existing PTTW that included reducing the maximum rate of water taking for the 30-day period to 10,000 litres per minute (L/min), eliminating the word “consecutive” in regard to water taking at the higher rate, and increasing the number of days allowed to pump at 1,400 L/min to 200 days. The comment period was for 30 days (February 9 to March 11, 2021). The Amended PTTW No. 7481-C4BQTA was issued on August 13, 2021 with the above-noted modifications and is summarized in Section 2.3.

On June 25, 2021 a Site SWIAR Report was completed and provided to MECP, in accordance with Item 4 of Section 3.2 of the Trigger Mechanism and Contingency Plan (TMCP). This report was completed in response to the surface water monitoring location SW1B water levels below the trigger levels on approximately June 13, 2021. The impact assessment demonstrated that the low water conditions in the existing natural ponds and wetland were due to dry climatic conditions and not a result of Dufferin water takings; the 2021 dry conditions were compounded by lower-than-average 2020 precipitation data, in particular, the latter months of 2020. Additional information is provided in Section 4.

The monitoring locations are provided on Figure 1.3, the monitoring well completion details are provided in Table 1.1, and the 2021 monitoring program is summarized in Table 1.2.

2. Background

2.1 Geologic/Hydrogeologic Setting

The geologic framework within the Site was characterized through evaluation of stratigraphic data from historical test pits, boreholes, and monitoring wells. A complete set of stratigraphic and instrumentation logs are provided in Appendix C.

The historical test pit, borehole, and monitoring well stratigraphic data were used to prepare geologic/hydrogeologic cross sections, as presented in the Ontario Water Resources Act (OWRA) S34 Permit to Take Water Application and Supporting Hydrologic and Hydrogeologic Study (CRA, 2013), and updated herein on Figures 2.2 and 2.3 to show 2021 water level data.

As shown on Figures 2.2 and 2.3, sand and gravel deposits of outwash origin are underlain by fine-grained (silt and clay) glacial till. The glacial till deposits are part of the regionally-extensive Port Stanley Till. Bedrock underlying the glacial till deposits was penetrated by a limited number of boreholes or monitoring wells within the Site. Regionally, bedrock is comprised of shale and bedded dolostone of the Salina Formation.

The outwash sand and gravel deposits form the upper unconfined aquifer. Within the Site area these deposits range in saturated thickness from approximately 7.5 metres (m) in the western portion of the Site to 0 m immediately northwest of the existing ponds (BH4-12) and in the central-eastern part of the Site. In this area, the upper part of the Port Stanley Till has a prominent northwest trending ridge defined by the 248.14 m above mean sea level (AMSL) top of till elevation at BH4-12 [see the BH4-12 stratigraphic and instrumentation log in Appendix C and discussions of this prominent ridge in GHD (June 25, 2021)]. This ridge is located northwest of the existing natural ponds. Outside of the Site, the saturated thicknesses of the outwash sand and gravel deposits are approximately 10 to 20 m at the Gilbert Wellfield and up to 34 m at the Telfer Wellfield.

2.2 ARA Licence

The Paris Pit was approved by the province of Ontario for extraction of aggregates (sand and gravel) in 1974 under the provincial Pits and Quarries Control Act, 1971. In 1990, the ARA replaced the Pits and Quarries Control Act and the Site Plans were revised to reflect the necessary changes needed to meet the ARA Provincial Standards at that time. Subsequently the Site Plans have been further updated and approved by the Ministry of Northern Development, Mines, Natural Resources and Forestry (MNR) from time to time. The most recent Site Plan Amendment was approved by MNR on October 16, 2020.

ARA Licence Requirements

The monitoring requirements for the ARA Licence No. 5601 are described below as specified in the Current Monitoring Program letter dated May 21, 2015 to the MECP:

- *Hydraulic (water level) monitoring three times per year at groundwater and surface water locations set for the purpose of the licence. Recording of water levels by transducers and data loggers at a regular frequency.*
 - Hydraulic monitoring was completed in May, August, and December 2021. All groundwater and surface water monitoring locations are equipped with dataloggers.
- *Water quality sampling three times per year from groundwater monitoring locations and surface water locations set for the purpose of the licence. The groundwater samples are analyzed for general chemistry and dissolved metals and the surface water samples are analyzed for general chemistry and total metals.*

- Groundwater and surface water quality monitoring was completed in May, August, and December 2021. The groundwater samples were analyzed for general chemistry and dissolved metals and the surface water samples were analyzed for general chemistry and total metals.
- *Submission of an annual monitoring report to the Ministry of Natural Resources and Forestry (MNRF) and the MECP.*
 - The 2021 Combined Annual Monitoring Report will be submitted to the MNRF and MECP before March 31, 2022.

2.3 Permit to Take Water (PTTW)

In 2021 the Site operated under Amended PTTW No. 5826-ALCNNN dated April 27, 2017 (until August 12, 2021) and PTTW No. 7481-C4BQTA dated August 13, 2021. The PTTWs are provided in Appendix A.

The Amended PTTW No. 7481-C4BQTA that was issued on August 13, 2021 included the following modifications:

- Reduced the maximum rate of water takings for the 30-day period to 10,000 L/min
- Eliminated the word “consecutive” in regard to water taking at the higher rate
- Increased the number of days allowed to pump at 1,400 L/min to 200 days
- Allows for water taking beyond 230 days, provided the maximum annual taking is not exceeded

The issuance of Amended PTTW No. 7481-C4BQTA cancelled and replaced Amended PTTW No. 5826-ALCNNN effective August 13, 2021.

The PTTW specifies terms and conditions regarding water taking limits, monitoring, reporting, and the response to well interference complaints, should they occur. These collected data are to be presented and interpreted in an annual report to be submitted to the MECP by March 31 for the 12-month period ending December 31 of each year.

As a result of the overlap in approved PTTWs for the Site in the 2021 calendar year, the summary below identifies the different water taking limits, monitoring, and reporting requirements for each of the PTTWs and documents how each was addressed. Where the monitoring and reporting requirements are the same for each of the PTTWs (except modified condition numbers or minor wording revisions), those conditions are summarized under the PTTW No. 7481-C4BQTA summary in Section 2.3.2.

2.3.1 Amended PTTW No. 5826-ALCNNN dated April 27, 2017

Water Taking Limits

Table A of the PTTW allows water taking from the Source Pond for the purpose of aggregate washing and dust suppression at a flow rate not to exceed 14,000 L/min (reduced to a maximum of 1,400 L/min 3 months after operational commencement of the wash plant), for a maximum of 12 hours per day, to a maximum of 10,080,000 litres per day (L/day). The rate and amount of water taking from the Source Pond may revert to that in Table A (14,000 L/min) of the PTTW for a period not to exceed 30 consecutive days for the purpose of refilling of the settling pond (settling cells and recirculation cell) after removal of accumulated sediment for these ponds.

- *Condition 3.5: Water takings shall only occur to a maximum of 180 days between February 15 and December 15.*
 - Water takings occurred between April 8 and December 15 in 2021 for a total of 165 days. Water taking data is provided in Appendix F.
- *Condition 3.6: Within 60 days following two full years of operation, the Permit Holder shall submit to the Director a report examining and reporting on whether water taking can be further reduced.*
 - A letter dated February 11, 2020 was submitted by CRH Canada Group Inc. requesting an extension to the date of submission of the report required under Condition 3.6 to ensure the report was completed in appropriate detail and thoroughness. The PTTW Condition 3.6 was amended on March 3, 2020 to allow for the report to be submitted by May 11, 2020. The Condition 3.6 report was submitted by CRH Canada Group

Inc. to MECP on May 8, 2020. The March 3, 2020 PTTW Condition 3.6 amendment is provided in Appendix A.

- On January 12, 2021, a PTTW Amendment application was submitted and included modifications to support an overall reduction in water takings compared to PTTW No. 5826-ALCNNN.

Monitoring and Reporting Requirements

- *Condition 4.2 (c): Monitoring of the wells in Condition 4.2 (a) during the week prior to and during construction of the Source Pond*
 - The Source Pond construction was completed in 2017. Monitoring wells MW1-12, MW3-16, and BH88-5 were monitored during the week prior to and during construction of the Source Pond.
- *Condition 4.2 (d): Notification to County of Brant and owner of PIN#32039-0053 of commencement of Source Pond construction.*
 - The Source Pond construction was completed in 2017. The County of Brant (Alex Davidson and Heather Boyd) and owner of PIN#32039-0053 were notified on July 20, 2017 of commencement of Source Pond construction.
- *Condition 4.7: Prior to Source Pond construction, develop a Trigger Mechanism and Contingency Plan and implement the plan once approved by the MECP.*
 - The Trigger Mechanism and Contingency Plan was submitted and approved by the MECP on July 19, 2017 (email from Maria Topalovic [CRH] to Belinda Koblik [MECP] on July 19, 2017) and is included as Appendix E. The Plan was implemented prior to Source Pond construction, as detailed in Section 4.
- *Condition 4.8: The plan required by Condition 4.7 be provided to the County of Brant and posted on the CRH website for a thirty (30) day comment period.*
 - The Trigger Mechanism and Contingency Plan was provided to the County of Brant and posted on the CRH website on July 20, 2017.

2.3.2 Amended PTTW No. 7481-C4BQTA dated August 13, 2021

Water Taking Limits

Table A of the PTTW allows water taking from the Source Pond for the purpose of aggregate washing, dust suppression, and vegetation watering at a flow rate not to exceed 10,000 L/min, for a maximum of 12 hours per day, to a maximum of 7,200,000 litres per day (L/day) for a total of 30 days per annum for the purpose of refilling the Settling and Recirculation Ponds after removal of accumulated sediment from these ponds or repairing the liner in the Recirculation Pond. For the remaining 200 days, the water taking shall be at a rate of no more than 1,400 L/min for 12 hours per day.

- *Condition 3.6: Water takings only occur between February 15 and December 31 of each year.*
 - Water takings occurred between April 8 and December 15 in 2021. Water taking data is provided in Appendix F.
- *Condition 3.7: If water is pumped from the Source Pond at lower than the maximum permitted rates, the saved water can be pumped in other days exceeding the total number of 230 days, provided the takings are between February 15 and December 31, the rate of taking shall not exceed 1,400 L/min (1,008,000 L/day), and the cumulative volume pumped in all days between February 15 and December 31 shall not exceed 417,600,000 litres annually.*
 - Water takings occurred between April 8 and December 15 in 2021 for a total of 165 days and a cumulative total of 162,810,054 litres. There were no exceedances of the PTTW maximum permitted rates in 2021. Water taking data is provided in Appendix F.
 - Pumping equipment is equipped with timed shutoff valve to prevent water taking greater than 12-hours per day.

Monitoring and Reporting Requirements

- *Condition 4.1: Record the daily water takings and rates.*
 - Water takings and rates were recorded daily for 2021 and are included in Appendix F.
- *Condition 4.2 (a,b,c,d): Monitor groundwater levels in MW1-12, MW3-16, BH88-5-I and BH88-5-II with hourly dataloggers.*
 - The groundwater levels in MW1-12, MW3-16, BH88-5-I, and BH88-5-II were equipped with hourly programmed dataloggers and monitored monthly, and on a weekly frequency from June through October 2021. Data is provided in Appendix D.
- *Condition 4.3: Monitor surface water levels in SW1A, SW1B and multi-level piezometers (MP1S and MP2S) with hourly dataloggers and calculation of vertical hydraulic gradients at the multi-level piezometers.*
 - The surface water levels in SW1A, SW1B and multi-level piezometers (MP1S/MP2S) were equipped with hourly programmed dataloggers and monitored in 2021. In addition, a new staff gauge (SG2B) was installed on June 4, 2021 to monitor the open water portion of the SW1B pond. Data are provided in Appendix D.
 - Vertical hydraulic gradients at the multi-level piezometers are presented in Section 4.3 and are provided graphically in Appendix D on Figure D.6.
- *Condition 4.4: Submit a Combined Annual Monitoring Report to MECP, Section 34.1 Director and the County of Brant.*
 - The groundwater levels, surface water levels, and all other data (sediment sampling data) collected from the Site are included in the 2021 Combined Annual Monitoring Report. The groundwater and surface water levels collected through the year are compared with the simulated water level changes in Section 4.3. The 2021 Combined Annual Monitoring Report will be provided to the MECP, Section 34.1 Director and the County of Brant by March 31, 2022.
- *Condition 4.5: Make the annual report available to the Community Advisory Panel and publicly by posting it on CRH's website.*
 - Dufferin will make the 2021 Combined Annual Monitoring Report available to the Community Advisory Panel and publicly by posting it on CRH's website by March 31, 2022.
- *Condition 4.6: All permit renewals and amendments (other than administrative amendments) will be accompanied by a hydrogeological assessment report that presents and discusses the data collected in Conditions 4.1, 4.2 and 4.3 and will be signed by a qualified person.*
 - The PTTW Amendment submitted on January 12, 2021 included a hydrogeological assessment report signed by qualified individuals
- *Condition 4.7: Continue to implement the Trigger Mechanism and Contingency Plan for both groundwater and surface water. This Plan will be reviewed and updated with approval by the MECP as necessary and at minimum every two years. This review can be completed as part of the Combined Annual Monitoring report.*
 - The Trigger Mechanism and Contingency Plan was implemented at the Site for both groundwater and surface water in 2021. Details of the monitoring are described in Section 4.

All of the PTTW monitoring and reporting requirements have been met.

2.4 Environmental Compliance Approval (ECA)

The Site operates under Amended ECA No. 0302-ALCK5W dated April 12, 2017. The ECA is provided in Appendix B.

The ECA specified terms and conditions regarding monitoring and reporting. These collected data are to be presented and interpreted in an annual report to be submitted to the MECP by March 31 for the 12-month period ending December 31 of each year.

Monitoring & Reporting Requirements

The following provides a summary of ECA monitoring and reporting requirements and how they are addressed:

- *Condition 3.1 and 3.2: Develop and implement an operations manual prior to the construction, use and operation of the Works.*
 - The Operations Manual was developed and implemented prior to the construction, use, and operation of the Works. It was first issued December 28, 2015 and further revised on May 15, 2017.
- *Condition 3.3: Develop a seal at the bottom of the settling pond (cells and recirculation cell).*
 - The seal at the bottom of the settling ponds (cells and recirculation cell) was initiated in September 2017 and is now completed. The recirculation pond was lined in November 2019. Additional information is provided in Section 3.2 and 3.3.
- *Condition 4.1: Groundwater monitoring from seven upper sand and gravel aquifer monitoring wells (BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW4-16, MW5-16, and MW6-16).*
 - Groundwater monitoring was performed at the seven upper sand and gravel aquifer monitoring wells: BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW4-16, MW5-16, and MW6-16; the results are discussed in Section 4.
- *Condition 4.2: Submission and approval by MECP of the locations and screened depth of the monitoring wells in Condition 4.1.*
 - The locations and screened depths of the monitoring wells in Condition 4.1 were submitted and approved by MECP on December 30, 2015
- *Condition 4.3 and 4.4: Groundwater will be sampled from seven upper sand and gravel aquifer monitoring wells (BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW4-16, MW5-16, and MW6-16) in May, August, and December each year and analyzed for general chemistry, dissolved metals, and pesticides (including organochlorine pesticides and herbicides).*
 - Groundwater was sampled from BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW4-16, MW5-16, and MW6-16 in May, August, and December 2021 and analyzed for general chemistry, dissolved metals, and pesticides; the results are discussed in Section 6.
- *Condition 4.5: Surface water samples will be collected from SW1B in May, August, and December each year and analyzed for field parameters, general chemistry, total metals, oil & grease, and pesticides (including organochlorine pesticides and herbicides).*
 - Surface water was sampled from the SW1B Pond in May, August, and December 2021 and analyzed for field parameters, general chemistry, total metals, oil & grease, and pesticides; the results are discussed in Section 6.
- *Condition 4.6: Sediment Sampling Plan for implementation prior to removal of settling pond fines.*
 - The Sediment Sampling Plan was originally submitted to MECP within 3 months of issuance of the ECA and was subsequently approved by MECP on January 7, 2019 (letter from Fariha Pannu [MECP] to Kevin Mitchell [CRH] on January 7, 2019). The Sediment Sampling Plan is provided in Appendix H and additional information is provided in Section 3.4.
- *Condition 4.7 and 4.8: Identifies the sampling parameters and comparison standards for sediment sampling to discuss with MECP for suitable sediment uses.*
 - Sediment sampling was completed in accordance with the approved Sediment Sampling Plan in 2021. Additional information is provided in Section 3.4.
- *Condition 4.9 and 4.10: Water samples collected from the recirculation pond and analyzed for general chemistry, nutrients, metals, and pesticides (including glyphosate, atrazine, atrazine desethyl and aminomethylphosphonic acid [AMPA]).*

- Water samples from the recirculation cell were collected in March and November 2021 and analyzed for general chemistry, nutrients, metals, and pesticides. Additional information is provided in Section 3.3 and the results are discussed in Section 6.
- *Condition 5.1 to 5.3: Develop a Contingency and Pollution Prevention Plan prior to the commencement of the Works.*
 - A Contingency and Pollution Prevention Plan was developed prior to the commencement of the Works and submitted to the MECP on May 29, 2017 (email from Maria Topalovic [CRH] to Fariha Pannu [MECP] on May 29, 2017).
- *Condition 5.4: The plan required by Condition 5.1 be provided to the County of Brant and posted on the CRH website for a thirty (30) day comment period.*
 - The Contingency and Pollution Prevention Plan was provided to the County of Brant and posted on the CRH website on April 13, 2017 with the 30-day comment period completed on May 13, 2017.
- *Condition 6.1: Notification to the MECP District Manager one week prior to the start-up of the operation of the Works.*
 - A letter to the MECP District Manager (Ms. Amy Shaw) was submitted on September 5, 2017 providing notification of the start up of the operation of the Works.
- *Condition 6.2: Submit a spill report to the MECP District Manager within ten (10) working days of a reportable spill into the environment.*
 - No reportable spills occurred at the Site in 2021.
- *Condition 6.3: Submit an annual Report to the MECP District Manager within ninety (90) days following the end of the period being reported upon.*
 - The 2021 Combined Annual Monitoring Report will be submitted before the March 31, 2022 due date.
- *Condition 7: Make the annual report available to the Community Advisory Panel and publicly by posting is on the CRH website.*
 - The 2021 Combined Annual Monitoring Report will be made available to the Community Advisory Panel and the public on the CRH website by March 31, 2022.

All of the ECA monitoring and reporting requirements have been met.

A summary of the 2021 water level monitoring and sampling program as required by the ARA, PTTW, and ECA is provided in Table 1.2.

3. Pit Operations and Activities

3.1 2021 Monitoring Program

The 2021 Monitoring Program consisted of hydraulic monitoring at 18 groundwater monitoring well locations, 2 piezometer locations, and 2 surface water features. Water quality sampling events were conducted on May 26/27, August 18/19, and December 8/9, 2021 at 15 groundwater monitoring wells installed on the property as well as 1 surface water monitoring location.

The groundwater and surface water monitoring locations are provided on Figure 1.3, the monitoring well completion details are provided in Table 1.1, and the 2021 Monitoring Program is detailed in Table 1.2.

3.2 Settling Pond

There were no issues encountered during operation of the Settling Pond in 2021.

In November 2019, the Recirculation Cell was lined with a synthetic liner (i.e., high density polyethylene [HDPE]), to reduce the amount of make-up water required. This was completed in accordance with Item 4 of Schedule A of the ECA.

3.3 Recirculation Pond Sampling

Water samples were collected in March and November 2021 prior to cessation of washing operations in 2021. The water samples were collected from the recirculation pond adjacent to the pump using a telescoping sample rod.

The recirculation pond samples were analyzed for general chemistry, metals, and pesticides (including glyphosate, atrazine, atrazine desethyl and AMPA), as specified in Condition 4.10 of the ECA.

3.4 Sediment Sampling

Conditions 4.6 to 4.8 of the ECA stipulates a sediment sampling plan will be submitted for approval by the MECP pertaining to the sediment accumulated within the settling cell(s). The purpose of the sediment sampling plan is to determine the distribution and concentration of pesticides within the settling cell(s). The ECA requirement to sample sediment is for the sampling to occur and be reported to MECP prior to placement of accumulated sediment into other areas of the Site for rehabilitation.

The Sediment Sampling Plan was originally submitted to MECP within 3 months of issuance of the ECA and was subsequently approved by MECP on January 7, 2019. The Sediment Sampling Plan is provided in Attachment H.

In accordance with the Sediment Sampling Plan, each sample was collected as a composite over a 1-week period from the slurry aggregation tank. Sediment samples were collected daily Monday to Friday, and an equal mass of sediment was composited from each day of collection. The resulting composite sediment sample was submitted for analysis with a duplicate sample for quality assurance/quality control (QA/QC) measures. A total of five monthly composite sediment samples were collected from May to September 2021. In total, 10 samples were submitted for analysis, including QA/QC samples. Samples were submitted to ALS Laboratories, in Waterloo, Ontario.

Results for the 2021 sediment sampling activities are provided in Section 6.2 and in Table 6.7.

3.5 Operation, Inspection and Maintenance

The Operations Manual required in Condition 3 of the ECA has been completed, reviewed, updated as necessary, and implemented. It includes information pertaining to operating procedures for routine operations, inspection programs, repair and maintenance programs, contingency plans and procedures, and procedures for receiving and responding to public complaints.

The Contingency and Pollution Prevention Plan required in Condition 5 of the ECA has been completed, reviewed, and updated as necessary.

3.6 Adequacy of the Works

No operating problems were encountered at the Site in 2021 that required corrective actions or maintenance on major structures, apparatus, or mechanisms forming part of the Works.

4. Hydraulic Monitoring

Hydraulic monitoring (manual water level measurement) was performed three times as part of the regular monitoring program in 2021 for all groundwater and surface water monitoring locations around the Site in accordance with the

Site Plans. More frequent bimonthly/weekly monitoring was completed at a select number of monitoring locations, as per Condition 4.7 of the PTTW - Trigger Mechanism and Contingency Plan (TMCP; GHD, 2017).

Groundwater depths were measured manually at 18 monitoring wells and two piezometers using an electronic water level meter. Surface water elevations were measured manually at three locations (SW1A, SW1B, and SG2B) from surveyed staff gauges. Staff gauge location SG2B was installed proactively on June 4, 2021 to ensure monitoring of the main pond could continue should the SW1B monitoring location go dry.

Dataloggers were operating at all groundwater and surface water locations and were downloaded during each monitoring event. Short-lived datalogger malfunctions were experienced at a few monitoring locations (BH88-1-I, BH88-4-I, BH88-5-I, BH88-5-II, and MW5-16) but have all been replaced/repairs as necessary.

The 2021 groundwater and surface water manual elevations are provided in Table 4.1, the historical groundwater and surface water data are provided in Table D.1 (in Appendix D.1) and individual hydrographs are provided in Appendix D.2.

Note that the last monitoring event for all groundwater and surface water locations at the Site was completed on December 8 and 9, 2021. The hydrographs in Appendix D.2 show transducer data up to December 8 and 9, 2021, and not to the end of the year (December 31, 2021) for most locations.

4.1 Precipitation

The 2021 monthly precipitation data obtained from Environment Canada for Hamilton A Station is provided in Table 4.2. Table 4.2 also shows the Climate Normals: 1981-2010 for Hamilton A Station.

As shown in Table 4.2, the first half of 2021 had considerably less precipitation when compared with the 1981-2010 Climate Normals data and showed a range of differences from 5 to 56% less precipitation when comparing the monthly climate normals. The 2021 dry conditions were compounded by lower-than-average 2020 precipitation data, in particular, the latter months of 2020. The lack of precipitation in late-2020 and early-2021 resulted in lower-than-normal water levels in monitoring data.

Note that under average precipitation conditions, surface water and groundwater levels increase in the spring then decrease as precipitation decreases and evaporation increases. This pattern, however, did not occur in 2020 and 2021. Precipitation in 2020 and 2021 did not peak in the spring, and in fact was below average historical conditions.

The precipitation in June returned to average conditions with approximately 99 mm (compared to climate normal data of 85 mm for June). September (184 mm) and October 2021 (155 mm) saw considerably more precipitation with 125% and 100% more, respectively, when compared to climate normal data. Due to the increase in precipitation in the latter part of the year, the 2021 total precipitation was 938 mm, which is comparable to the 930-mm with the climate normal data.

Looking at the hydrographs in Appendix D.2, all groundwater and surface water elevations measured in 2021 were on the low end of the historical ranges or slightly lower for each of the monitoring locations for the first half of the year. Water levels generally increased for both groundwater and surface water levels coinciding with the additional precipitation in September 2021.

4.2 Site Wide Groundwater Elevations

Groundwater monitoring wells at the Site are screened in the unconfined overburden aquifer (BH88-1-I, BH88-2-I, BH88-4-I, BH88-4A-II, BH88-5-I, BH88-5-II, BH88-6-I, MW1-12, MW2-12, MW3-16, MW4-16, MW5-16, MW6-16, OW1-96B, and OW1-96C), and confined bedrock aquifer (BH88-4A-I, BH88-5A-I, and OW1-96A). The locations of the groundwater monitoring wells are shown on Figure 1.3. Groundwater elevations measured in 2021 are provided in Table 4.1.

Hydrographs showing 2021 data for the groundwater monitoring wells completed in the overburden are provided on Figure 4.1a, and hydrographs of the groundwater monitoring wells completed in the bedrock are provided on

Figure 4.2a. Corresponding historical hydrographs are presented on Figures 4.1b for overburden and 4.2b for bedrock. Individual hydrographs for all groundwater monitoring wells are provided in Appendix D.

Figures 4.1a, 4.1b, 4.2a, and 4.2b show the overall generally stable water level patterns while the hydrographs in Appendix D detail the individual variations.

Seasonal groundwater contours were prepared for the Outwash Sand and Gravel Deposits (overburden) using groundwater elevation data collected on May 27, 2021 and August 18, 2021, as presented on Figures 4.3 and 4.4, respectively. Historically, the May groundwater elevation contours show the seasonally high spring water table conditions and the August groundwater elevations contours show the seasonally low summer water table conditions, however due to very dry climatic conditions in early 2021 the May and August 2021 groundwater elevation contours are very similar. The May 27, 2021 groundwater levels are significantly lower than average conditions specifically due to the lack of precipitation in March, April, and May 2021.

Groundwater flow patterns for both May 27 and August 18, 2021 remain similar to those under average or wet conditions. Groundwater flows generally in a southeasterly flow towards the Grand River with an average horizontal hydraulic gradient of approximately 0.01 and are consistent with historical flow patterns and average horizontal hydraulic gradients.

The bedrock groundwater levels show frequent oscillation in water levels (provided on Figure 4.2a and 4.2b). These oscillations are attributed to pumping at nearby municipal bedrock wells for the Gilbert Wellfield (P28 and P29) and the Telfer Wellfield (P32).

In addition to the hydraulic monitoring described above, monitoring wells BH88-5-I, MW1-12, and MW3-16 were also monitored closely as part of the Trigger Mechanism and Contingency Plan (Condition 4.7 of the PTTW), as described in Section 4.3 below.

Note that groundwater in the Upper Unconfined Aquifer at the Site is recharged vertically through infiltration of precipitation and laterally from the north and northwest.

4.3 PTTW Groundwater Monitoring

The PTTW to allow water taking from the Source Pond was issued on April 27, 2017 and amended on August 13, 2021. The water taking is for the purpose of aggregate washing, dust control, and vegetation watering.

As required by Condition 4.7 of the PTTW, a TMCP was submitted and approved by the MECP on July 19, 2017. The purpose of the TMCP is to have an assessment and evaluation procedure in place to review water levels during the time when Dufferin is taking water from the Source Pond and an action plan to respond if key groundwater or surface water levels drop below predicted levels evaluated as part of the PTTW assessment.

The Condition 4.2 of the PTTW and TMCP identified the following monitoring locations to be closely monitored:

- BH88-5-I
- MW1-12
- MW3-16
- SW1B

For each of these locations, historical lows, early-warning threshold levels (EWTL) and trigger levels were established to facilitate monitoring during Source Pond operation as part of the TMCP. This plan is provided in Appendix E. Details of the 2021 trigger level monitoring and specific actions taken are provided in Section 4.3.1.

In 2021, all trigger monitoring wells showed water levels that were on the low end of the historical range and for a time lower than the historical data range. Each of the trigger monitoring wells had groundwater levels below the established EWTL but did not go below the established trigger levels.

Figures summarizing the trigger mechanism water elevations for 2021 are provided on Figures 4.5a through 4.5c for BH88-5-I, MW1-12 and MW3-16, respectively. Shown on these hydrographs are the 2015/2016 to 2021 water elevation data, historical water elevation ranges, EWTLs, and trigger levels.

At BH88-5-I, shown on Figure 4.5a, the 2021 groundwater elevations were on the lower end of historical observations and went below the historic range in May/June 2021. Water levels in BH88-5-I went below the early warning threshold level on approximately May 2 until approximately June 16 but did not approach the established trigger level.

At MW1-12, shown on Figure 4.5b, the 2021 groundwater elevations were on the lower end of historical observations and went below the historical range in May/June 2021. Water levels in MW1-12 went below the early warning threshold level on approximately April 20 until approximately June 26 but did not approach the established trigger level.

At MW3-16, shown on Figure 4.5c, the 2021 groundwater elevations were on the lower end of historical observations and went below the historical range in May/June 2021. Water levels in MW3-16 went below the early warning threshold level on approximately April 20 until approximately June 26 but did not approach the established trigger level.

The maximum predicted drawdowns below the historical low water levels used to establish the trigger levels at each of these monitoring locations are as follows: BH88-5-I (0.6 m), MW1-12 (1.0 m), and MW3-16 (0.75 m)

Therefore in 2021, operation of the Source Pond resulted in drawdown that was less than the maximum predicted drawdown for each of the monitoring wells (BH88-5-I, MW1-12, and MW3-16) and therefore remained above the established trigger levels.

4.3.1 TMCP Groundwater Monitoring

In 2021, datalogger checks were completed at trigger well locations on a bimonthly frequency [per Condition 4.2(f) in the PTTW No. 5826-ALCINN] at the required locations in March and May. During the trigger level monitoring event on May 27, 2021 it was determined that the measured water levels in BH88-5-I, MW1-12, MW3-16, and SW1B had dropped below their respective early-warning threshold levels in approximately mid-April to early-May 2021; additional discussion on site-wide surface water monitoring is provided in Section 4.4. The required action in accordance with the TMCP (Section 2.1 for groundwater locations and Section 3.1 for the surface water location) was to increase the frequency to weekly manual water level measurements and datalogger downloads, review monitoring data weekly (to ensure water levels have not dropped below trigger levels) and continue weekly monitoring events until the water levels increase to above the EWTL for a period of one month at which time normal monitoring frequency can resume. Therefore, weekly monitoring events and data reviews were initiated on June 4, 2021.

In a proactive approach, Dufferin and GHD added monitoring locations MW2-12, MP1S, and MP2S to the weekly monitoring events starting on June 4, 2021. MW2-12 was added to the weekly monitoring events because it monitors groundwater coming from the north that would be unaffected by water takings at the Source Pond. MP1S and MP2S were added to monitor the upward groundwater gradient between the Source Pond and SW1B pond. In addition, during the June 4 monitoring event an additional staff gauge (SG2B) was installed within the open water portion of the SW1B pond for the purpose of verifying the surface water levels at SW1B (located within the dry wetland fringe) were representative of the open water surface water levels.

In addition, from the beginning of the 2021 aggregate washing season, Dufferin proactively conserved water by temporarily reducing the water takings to match the dry climatic conditions. The water takings as of June 22, 2021 compared with historical water takings from 2017 to 2020 had been reduced by as much as 80 percent.

Following performance of weekly manual measurements and datalogger downloads at all trigger level locations on Friday June 18, 2021, as required by Item 1 of Section 3.2, it was discovered that the surface water level at location SW1B had crossed the trigger level on approximately June 13, 2021 while the groundwater monitoring well locations MW1-12 and MW3-16 remained above the historical lows. In accordance with Item 6 of Section 3.2 of the TMCP, MECP was notified on June 22, 2021 via email of the current surface water levels at the Paris Pit.

On June 25, 2021, the Surface Water Impact Assessment Report (SWIAR) was completed and provided to MECP, in accordance with Item 4 of Section 3.2 of the TMCP. The SWIAR was completed in response to SW1B water levels identified below the surface water trigger level on approximately June 13, 2021. The impact assessment showed that the low water level in the Site existing natural ponds and wetland were due to dry climatic conditions and not water takings by Dufferin. As shown on Figure 4.6, the existing main pond bathymetry was compared for an average year (May 2018), dry year (May 2015), and an extremely dry year (May 2021) to show the relative changes in depth to water. This shows the variability from year-to-year based on climatic conditions.

A follow-up call with MECP (groundwater and surface water divisions), Dufferin, and GHD was held on July 7, 2021 to discuss the SWIAR. It was agreed that weekly monitoring events and data reviews would continue. In addition, based on the conclusions provided in the SWIAR and as discussed with MECP, SW1B would continue to be monitored but no response actions to further limit the water taking was necessary to be enacted based on the results.

Weekly trigger level monitoring continued from June until the end of October 2021.

4.3.1.1 Wetland Assessment

In support of the TMCP, Goodban Ecological Consulting Inc. (GEC) assisted GHD in the preparation of the SWIAR for the Paris Pit. Appendix E of the SWIAR provide the full 2021 wetland assessment prepared by GEC.

The following is a summary of key ecological features and functions associated with Wetlands and conclusions, with respect to the low water levels experienced to date in 2021, consistent with Section 5.6 of the SWIAR:

- For the purpose of the wetland assessment, the existing natural ponds are comprised of two wetlands. Wetland U1 is equivalent to the larger SW1B pond and monitored at station SW1B, and Wetland U2 is equivalent to the smaller pond and monitored at station SW1A.
- Wetland U1 is approximately 4.0 ha in size, approximately 500 m long and 40 m to 120 m wide. In an average year, water depths in the deepest parts of the wetland may exceed 1.8 m. Wetland vegetation communities include shallow emergent marshes and open water areas with mats of Fragrant Water-lily and Bullhead Lily.
- Wetland U1 does not function as fish habitat (direct or indirect) because no fish were captured during the extensive fish surveys completed in 2012 and 2013, and there is a lack of connectivity to other watercourses/waterbodies supporting a fishery. The absence of fish suggests that Wetland U1 periodically dries out or periodically experiences very low water levels, such that the feature cannot support a fish population.
- Amphibians documented using Wetland U1 include American Bullfrog, American Toad, Gray Treefrog, Green Frog, Northern Leopard Frog, Spring Peeper, Western Chorus Frog, and Red-spotted Newt. American Bullfrog tadpoles and Green Frog tadpoles require 2 years to mature and metamorphose into juvenile frogs. During very dry years, the cohorts of American Bullfrog and Green Frog tadpoles may not survive.
- Midland Painted Turtle was regularly observed in Wetland U1. Snapping Turtle was observed in Wetland U2 and likely also uses Wetland U1. The presence of Midland Painted Turtle and Snapping Turtle indicates that Wetland U1 usually contains standing water. If Wetland U1 were to dry out for a short period later in the summer, the turtles would aestivate in the organic wetland bottom.
- Marsh birds recorded from Wetland U1 during the bird breeding season, at least in some years, include Common Gallinule, Least Bittern, Pied-billed Grebe and Virginia Rail. Least Bittern has only been recorded in Wetland U1 occasionally and the water level in Wetland U1 in 2021 made the emergent marsh habitat unsuitable for nesting by Least Bittern and some other species due to the absence of water in the swards of cattails and Softstem Bulrush. The habitat is more suitable for marsh birds in average or wet years.
- 2021 has been a very dry year, as shown by the climatic data. Other particularly dry years were 1971, 1998, 2007, and 2015. This indicates that the low water level in Wetland U1 observed so far in 2021 has occurred periodically in the past.
- Other wetlands in the local watershed such as Bannister Lake and Wrigley's Lake, located 8.5 km north of Wetland U1 at the Paris Pit, also exhibited very low water levels in June 2021.

- GHD’s evaluation of all the available information does not indicate any negative effect on Wetland U1 water levels as a result of water takings from the Source Water Pond. The low water levels observed in Wetland U1 in 2021 are caused by the lack of precipitation and lack of regional groundwater recharge from the north. The lack of northerly groundwater recharge from the north is a climatic phenomenon and is not due to water taking from the Source Water Pond.

4.4 Surface Water and Piezometer Level Elevations

Further to the TMCP discussion in Section 4.3.1, Surface water elevations are measured at locations SW1A (small pond), SW1B (main pond at edge), and SG2B (open water portion of main pond) as well as two piezometers; MP1S and MP2S. MP1D was decommissioned in 2017, as noted in the 2017 annual monitoring report. Currently two piezometers are being monitored as "shallow" (MP2S) and "deep" (MP1S) to monitor the hydraulic connection.

Surface water locations are shown on Figure 1.3 and surface water elevations measured in 2021 are provided in Table 4.1.

Surface water elevation hydrographs are presented in Appendix D for locations MP1S/MP2S (Figure D.6), SW1A (Figure D.14), SW1B, and SG2B (Figure D.15). The surface water elevation in the SW1B pond is generally about 1 m higher than the elevation in the small downgradient (SW1A) pond to the southeast.

The surface water elevations in 2021 were below the historical ranges for SW1A and SW1B.

As presented in Section 4.3.1, the SW1B Pond, was monitored closely as part of the TMCP (Condition 4.7 of the PTTW). As shown on Figure 4.5d, the water elevations were on the lower end of historical observations and went below the historical range for the majority of 2021. Note, however that the surface water trigger level was developed with only limited historical surface water data and is therefore considered conservative, as presented in Section 5.5 of the SWIAR.

Water levels at SW1B went below the early warning threshold level on approximately April 1 until approximately October 15 and went below the (lower) trigger level on approximately June 13 until approximately July 2, 2021. The SWIAR was submitted on June 25, 2021 and numerous discussions with MECP as detailed in Section 4.3.1. Weekly monitoring events were completed from June until the end of October to complete an ongoing evaluation of surface water levels in SW1B.

In accordance with PTTW Condition 4.4, groundwater and surface water elevations were compared to the simulated water level changes (drawdown) outlined in Section 6.1.2 of the PTTW Application and Supporting Hydrologic and Hydrogeologic Study (CRA, 2013).

For surface water in the on-Site pond at SW1B, the EWTL is very conservative and is based on the historical seasonal (monthly) low surface water level data plus 10 percent (of the monthly) range based on analysis of the historical monitoring data, as defined in the TMCP.

Water takings were proactively reduced by Dufferin in 2021 to minimize potential for impacts to surface water and groundwater resources. The low water levels in SW1B were due entirely to the dry climatic conditions experienced in 2020 and early 2021. In addition, lower than normal regional groundwater levels resulted in limited recharge to surface water in the existing natural ponds from regional groundwater flow from the north.

Therefore, although the 2021 surface water level monitoring showed elevations below the predicted drawdown at SW1B (i.e., levels below established trigger levels), the surface water elevations at SW1B are attributable to climatic conditions and not Site PTTW takings.

Vertical Hydraulic Gradient

In accordance with Condition 4.3 of the PTTW, calculation of the vertical hydraulic gradients at the multi-level piezometers is required.

Figure D.6 (in Appendix D.2) shows the hydrograph of the "shallow" piezometer location MP2S and the "deep" piezometer location MP1S. The piezometer screen lengths are approximately 0.75 m.

The water level data and hydrographs for 2021 shows an upward vertical hydraulic gradient occurs between the shallow (MP2S) and deep (MP1S) piezometers.

The following is an example vertical hydraulic gradient calculation from the May 27, 2021 monitoring data, measured during the lower-than-normal water level and reduced precipitation conditions:

$$\text{Vertical Hydraulic Gradient} = \frac{\text{Difference in water level elevation}}{\text{Vertical distance between midpoints of well screen elevation}}$$

$$\text{Vertical Hydraulic Gradient} = \frac{(243.99 - 243.95)}{(242.25 - 243.10)}$$

$$\text{Vertical Hydraulic Gradient} = \frac{(0.04)}{(-0.85)}$$

$$\text{Vertical Hydraulic Gradient} = 0.05 \text{ upward}$$

The upward vertical hydraulic gradient in the piezometer locations confirms groundwater discharge to the SW1B (main pond) feature. As shown on Figure D.6, the upward gradient has been evident since 2017 monitoring was established and was further maintained in 2021.

5. Water Taking

In 2021 the Site operated under Amended PTTW No. 5826-ALCNNN dated April 27, 2017 (until August 12, 2021) and PTTW No. 7481-C4BQTA dated August 13, 2021. The PTTWs are provided in Appendix A.

Amended PTTW No. 5826-ALCNNN dated April 27, 2017

The maximum pumping rate allowed for the Source Pond under this PTTW was 14,000 L/min to a maximum of 10,080,000 L/day for a maximum of 12 hours.

s per day. As specified in Condition 3.4(a) of the PTTW, the allowed rate of taking from the Source Pond was reduced to a maximum of 1,400 L/min three months after operational commencement of the wash plant. As specified in Condition 3.4(b) of the PTTW, the allowed rate of taking from the Source Pond may revert to that in Table A (i.e., 14,000 L/min) for a period not to exceed 30 consecutive days for the purpose of refilling of the settling and recirculation ponds after the removal of accumulated sediment from the ponds and shall not be permitted to occur more than one 30-day period annually.

Amended PTTW No. 7482-C4BQTA dated August 13, 2021

The Amended PTTW No. 7481-C4BQTA that was issued on August 13, 2021 included the following modifications:

- Reduced the maximum rate of water takings for the 30-day period to 10,000 L/min
- Eliminated the word “consecutive” in regard to water taking at the higher rate
- Increased the number of days allowed to pump at 1,400 L/min to 200 days
- Allow for taking beyond 230 days provided the maximum annual taking is not exceeded

The maximum pumping rate allowed for the Source Pond under this PTTW is 10,000 L/min to a maximum of 7,200,000 L/day for a maximum of 12 hours per day. As specified in Condition 3.4, the “Taking Specific Purpose” includes aggregate washing, dust suppression, and watering vegetation. As specified in Condition 3.5, the allowed rate of taking from the Source Pond may only be at the rate in Table A (i.e., 10,000 L/min) for a total of 30 days per annum for the purpose of refilling the settling and recirculation ponds after removal of accumulated sediment from these ponds or repairing the liner in the recirculation pond with the remaining 200 days at a rate of no more than 1,400 L/min for 12 hours per day. As specified in Condition 3.5(i) and Condition 3.5(ii), water taken during a 12-hour

period between a Sunday and the following Monday (or in the case of a long weekend, a holiday Monday and Tuesday) will be measured and shall be recorded as being taken on the Sunday (or holiday Monday). As specified in Condition 3.6, water takings will only occur between February 15 and December 31 of each year. As specified in Condition 3.7, if water takings from the Source Pond are at a lower than maximum permitted rates, the saved water can be pumped in other days exceeding the total number of 230 days, provided water takings occur between February 15 and December 31 inclusive and the rate of taking shall not exceed 1,400 L/min, 1,008,000 L/day, and the cumulative volume pumped in all days from February 15 to December 31 shall not exceed 417,600,000 litres annually.

Water takings are measured by a flow meter. The cumulative pump operating hours are recorded with an hour meter. These data were recorded daily by Dufferin personnel during the operational season. There are no water takings outside of the operating season.

The rate of taking is determined by dividing the total flow in a period by the total number of pumping hours in that same period.

5.1 Water Taking Data

The water takings and rates were recorded daily for 2021 and are provided in Appendix F.

The aggregate washing operation balances the amount of water taking with the need for top up water in the system and the water levels in the two trigger level monitoring wells (MW3-16 and MW1-12). Operations manage water and monitor and take water only on an as-needed basis. In 2021, due to lower-than-normal levels, the Site operated with reduced pumping (rate and duration). In 2021, Dufferin did not pump groundwater in March and water takings in April and May were also reduced compared to 2018, 2019, and 2020 water taking rates.

As described in Section 4, due to the lower-than-normal water levels and reduced precipitation in early 2021 the 30-day increased pumping rate that usually occurs in late-March to fill the recirculation pond did not occur until Fall 2021 in an effort to conserve water and maintain already low groundwater and surface water levels. Between September and December 2021, increased pumping rates were used for 18 days to top up the recirculation cell.

The maximum water taking rate occurred on November 25, 2021 with a rate of 5,971 L/min. The maximum daily water taking also occurred on November 25, 2021 with an amount of 4,012,524 L/day. There were no exceedances of the higher water taking rates (14,000 L/min or 10,000 L/min) in 2021. There were no exceedances of the lower water taking rate (1,400 L/min) during the applicable period in 2021.

Water takings occurred between April 8 and December 15 in 2021 for a total of 165 days and a cumulative total of 162,810,054 litres. There were no exceedances of the PTTW maximum permitted rates or limits in 2021.

6. Analytical Results

6.1 Water Quality Monitoring

Groundwater and surface water quality monitoring is required as part of the ARA Licence and ECA. The 2021 monitoring program is summarized in Table 1.2.

Water quality sampling was performed on three occasions in 2021 to determine the groundwater and surface water quality at the Site. Prior to collecting any groundwater samples, the groundwater monitoring wells were purged and field parameters (pH, conductivity, turbidity, oxidation-reduction potential, dissolved oxygen, and temperature readings) were measured and recorded to ensure that representative groundwater samples were collected. Field parameters were also recorded at the surface water sample locations during the sampling activities. Groundwater samples were field-filtered for dissolved metals. The groundwater and surface water samples were collected in laboratory-supplied analyte-specific sample containers, preserved according to laboratory requirements, and sent in a

cooler on ice under complete chain-of-custody forms where they were received and analyzed by ALS Laboratories, located in Waterloo, Ontario.

The 2021 analytical results are provided in Tables 6.1 to 6.6, and the historical water quality analytical data are provided in Appendix G.

6.1.1 Groundwater Quality

Groundwater analytical results for 2021 are summarized in Tables 6.1 to 6.3.

Groundwater samples were collected from 15 monitoring well locations around the Site during the May, August, and December sampling events, as summarized in Table 1.2.

The groundwater samples collected from the 15 monitoring wells were analyzed for general chemistry and dissolved metals. Seven of the monitoring wells were also analyzed for pesticides (including organochlorine pesticides and herbicides), as specified in Condition 4.3 and 4.4 of the ECA.

Additional groundwater samples were collected on December 9, 2021 from MW1-12 and MW3-16 and analyzed for escherichia coli and total coliform bacteria. The samples were collected for additional Site characterization purposes and results are presented in Table 6.1.

Furthermore, a laboratory error prevented the analyses of dissolved metals samples collected on December 9, 2021 at BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW5-16, and MW6-16. However, total metals analyses were available and are presented instead of dissolved metals for these locations. Sample turbidities and/or Total Suspended Solids for each of the locations were relatively low during sampling which indicates that total metals would be generally representative of the dissolved metal fraction. All total metal results are within the historical dissolved metal concentration ranges for each location. Total metal results from December 9, 2021 for these monitoring well locations are provided in Table 6.2.

The groundwater analytical results were compared to the Ontario Drinking Water Quality Standards, Objectives and Guidelines (ODWQS; MECP June 2003, revised June 2006). The monitoring well groundwater quality is compared to the ODWQS for illustrative purposes only since the ODWQS pertain to municipal water supply and are not directly applicable to groundwater quality.

Consistent with the ECA requirements, some analyses were run to relatively low laboratory detection limits, well below those typically used for drinking water supply systems. No pesticides, atrazine, or metabolites were detected in any of the groundwater samples collected from monitoring wells during any of the monitoring events.

Parameter concentrations for the 2021 sampling events were generally comparable to historical results and met the ODWQS, with the following exceptions:

- Hardness concentrations were above the ODWQS of 100 mg/L in all groundwater samples from monitoring wells during all 2021 monitoring events. Hardness concentrations have historically always been above the ODWQS in all groundwater samples in all monitoring well locations. In 2021 concentrations ranged from 279 to 540 mg/L and are within the historical detected range of concentrations between 164 and 579 mg/L. Hardness is a natural occurrence in this region and is characteristic of the local groundwater being influenced by carbonate-bearing overburden and the underlying carbonate bedrock. The ODWQS for hardness is an operational guideline for municipal water supply and is not considered a health concern.
- Nitrate concentrations were slightly above the ODWQS of 10 mg/L in BH88-5-I, BH88-5-II, MW2-12 and MW5-16 with concentrations ranging from 10.6 mg/L (MW5-16 in May 2021) to 13.3 mg/L (MW2-12 in December 2021). Nitrate concentrations have historically been above the ODWQS in each of the groundwater samples at these monitoring locations. The nitrate concentrations are comparable to historical results in the area (both on-Site and off-Site) and generally are the result of upgradient agricultural land use. Nitrate has also been a long-term issue for the County of Brant Gilbert/Telfer water supply wells.
- Total dissolved solids (TDS) concentrations were above the ODWQS of 500 mg/L in BH88-5A-I for the May, August, and December events with concentrations of 687, 693, and 655 mg/L, respectively. TDS concentrations

in BH88-5A-I have historically been above the ODWQS consistently with a range of concentrations from 385 to 728 mg/L. The elevated concentrations of TDS reflect the increased calcium and sulphate concentrations within the bedrock aquifer at this location and are considered to be a natural occurrence. The ODWQS standard reflects an aesthetic objective related to taste and is not considered a health concern.

- Dissolved aluminum was above the ODWQS of 0.1 mg/L in BH88-4-AII during the May and August 2021 events with concentrations of 0.446 and 0.439 mg/L, respectively. Dissolved aluminum was historically detected above the ODWQS at this location in May and August 2017 with concentrations of 0.601 and 0.353 mg/L, respectively and in August 2020 with a concentration of 1.21 mg/L. Dissolved aluminum is found naturally in groundwater as a result of weathering in bedrock. There are no specific causes evident for this higher detected value; conditions will continue to be monitored.
- Dissolved iron was above the ODWQS of 0.3 mg/L in BH88-5A-I and in BH88-6-I with concentrations ranging from 0.358 mg/L (BH88-5-AI in August 2021) to 1.38 mg/L (BH88-6-I in December 2021). Each of these monitoring well locations has had historical detections above the ODWQS. Dissolved iron is naturally occurring and is considered an aesthetic objective and is not a health concern.
- Dissolved manganese was slightly above the ODWQS of 0.05 mg/L in BH88-6-I during the August event with a concentration of 0.0518 mg/L. Dissolved manganese concentrations in BH88-6-I have historically been above the ODWQS and range from 0.0129 to 0.69 mg/L. Dissolved manganese is naturally occurring and is considered an aesthetic objective and is not a health concern.
- Total coliform bacteria was above the ODWQS of non-detectable colony forming units per 100 millilitres (cfu/100 mL) in the MW3-16 sample collected on December 9 with a value of 3 cfu/100 mL. This sample was collected for additional Site characterization purposes and is not a source of drinking water.

All historical groundwater quality analytical data is provided in Appendix G.

6.1.2 Surface Water Quality

Surface water analytical results for 2021 are summarized in Tables 6.4 to 6.6.

Surface water samples were collected from the main pond (SW1B) at the Site during the May, August, and December monitoring events. A surface water sample was also collected on December 9, 2021 from the Source Pond and analyzed for general chemistry, total metals, and pesticides (including organochlorine pesticides and herbicides). The sample was collected for additional Site characterization purposes and results are presented in Tables 6.4 to 6.6.

The SW1B (main pond) surface water analytical results were compared to the Provincial Water Quality Objectives (PWQO; MECP July 1994, revised February 1999), which are generally applicable to surface water results. The comparison is for illustrative purposes as many factors influence the water quality of the pond.

SW1B

The SW1B samples were analyzed for field parameters, general chemistry, total metals, oil & grease, and pesticides (including organochlorine pesticides and herbicides), as specified in Condition 4.5 of the ECA.

No pesticides, atrazine, or atrazine metabolites, or glyphosate were detected in any of the main pond (SW1B) water samples.

Parameter concentrations in SW1B for the 2021 sampling events were generally comparable to historical results and met the PWQOs, with the following exceptions:

- Aluminum was above the PWQO of 0.075 mg/L in August with a concentration of 0.172 mg/L. Aluminum concentrations have historically been above the PWQO on occasion ranging between 0.105 to 3.2 mg/L. Since the objective for aluminum is a clay-free sample and the submitted samples were not filtered, this could account for the elevated aluminum levels. Additionally, aluminum is one of the most common elements on the earth's crust.
- Phosphorus was above the PWQO of 0.01 mg/L in August with a concentration of 0.072 mg/L. Phosphorus concentrations have historically been above the PWQO on occasion ranging between 0.035 to 0.85 mg/L.

6.1.3 Recirculation Pond Water Quality

Samples of wash water were collected in March and November 2021 from the recirculation cell, as required by the ECA Condition 4.9 and 4.10, and as discussed with MECP. A duplicate sample was collected during each of the sampling events as part of the QA/QC measures. The water samples were collected from the recirculation cell adjacent to the pump using a telescoping sample rod.

Sample results are reported in Tables 6.4, 6.5, and 6.6 and compared to the PWQO; however, the recirculation cell water is not directly comparable to the PWQO's as the recirculation cell is part of the approved sewage works while the PWQOs apply to "natural water".

The recirculation pond samples were analyzed for general chemistry, metals and pesticides (including glyphosate, atrazine, atrazine desethyl and AMPA), as specified in Condition 4.10 of the ECA.

No pesticides, atrazine, or atrazine metabolites, or glyphosate were detected in any of the recirculation pond water samples.

6.2 Sediment Sampling

Sediment sampling was completed in accordance with the Sediment Sampling Plan submitted and subsequently approved by the MECP. The Sediment Sampling Plan is provided in Attachment H. Sediment sampling results are provided in Table 6.7 and in Appendix G.2.

No parameters were detected above the established reporting limits. Therefore, in accordance with the Sediment Sampling Plan, no results are deemed to be above reference concentrations as provided in the Alberta Tier 1 Soil and Groundwater Guidelines or Nova Scotia Environmental Quality Standards for Contaminated Sites, as updated from time to time.

It was concluded that the wash pond sediment is suitable for rehabilitation use based on the analysis completed in accordance with the Sediment Sampling Plan.

The 2021 results were consistent with the 2018, 2019, and 2020 results. MECP reviewed the results and approved the sediment to be used for on-Site rehabilitation use in 2018, 2019, and 2020. The 2021 results and findings were submitted to MECP in January 2022.

7. Response to Public Inquiries

No complaints were received by Dufferin in relation to the PTTW, ECA, or other water-related matters. Dufferin and GHD are not aware of any public inquiries reported to the MECP during the 2021 calendar year. There are currently no outstanding public inquiries or complaints.

8. Conclusions

The monitoring program at the Paris Pit was completed to satisfy the monitoring requirements of the Site ARA Licence, PTTW and ECA. Based on the results of the 2021 monitoring program the following conclusions are drawn:

- The water taking and aggregate washing operations have not caused any water (surface water or groundwater) quantity interference issues.
- Low water levels observed at SW1B in 2021 were caused by the lack of precipitation and lack of regional groundwater recharge from the north.

- No appreciable impacts to the surface or groundwater quality at the Paris Pit or nearby areas is indicated to have occurred as a result of aggregate washing operations.
- No pesticides, glyphosate, atrazine, or atrazine metabolites were detected in surface water or groundwater.
- All sediment sample results indicate that the wash pond sediment is suitable for on-Site rehabilitation use.
- No complaints were received by Dufferin in relation to the PTTW, ECA, or other water-related matters. Dufferin and GHD are not aware of any public inquiries reported to the MECP during the 2021 calendar year. There are currently no outstanding public inquiries or complaints.

9. Recommendations

The following recommendations are provided:

- The monitoring program, as presented herein, should be continued to satisfy the requirements of the ARA Licence, PTTW and ECA.

10. References

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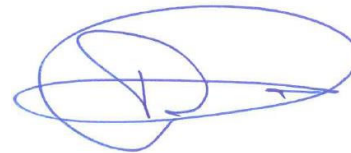
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Ministry of the Environment, Conservation and Parks, July 1994, revised February 1999. Policies and Guidelines for Provincial Water Quality Objectives.

All of Which is Respectfully Submitted,



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Richard.Chatfield@ghd.com

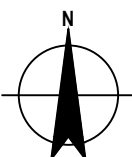
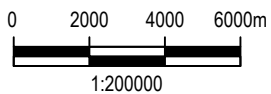
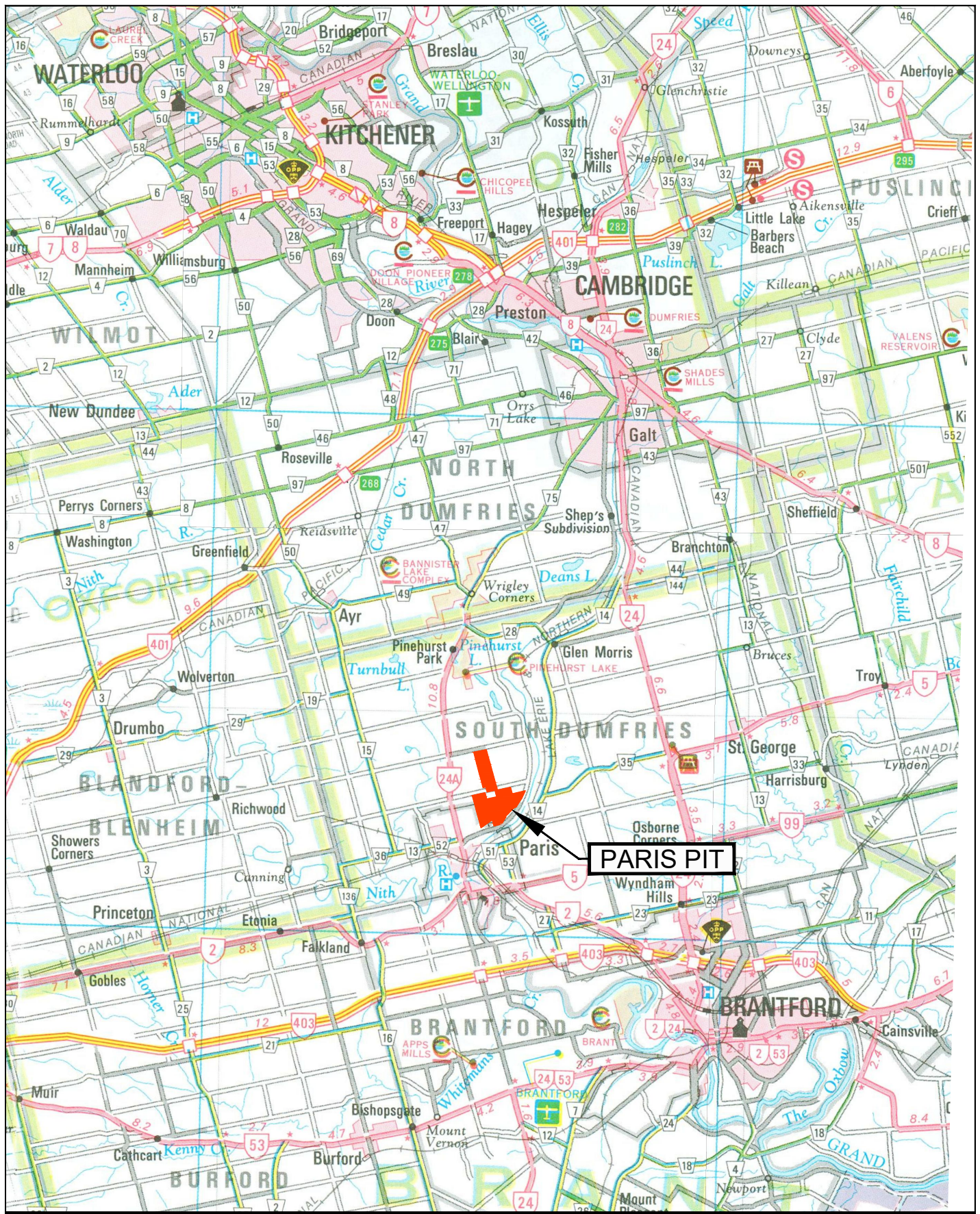


Dan Puddephatt, P. Geo (Limited)
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J. Richard Murphy, M.A.Sc., P. Eng.
Richard.Murphy@ghd.com

Figures

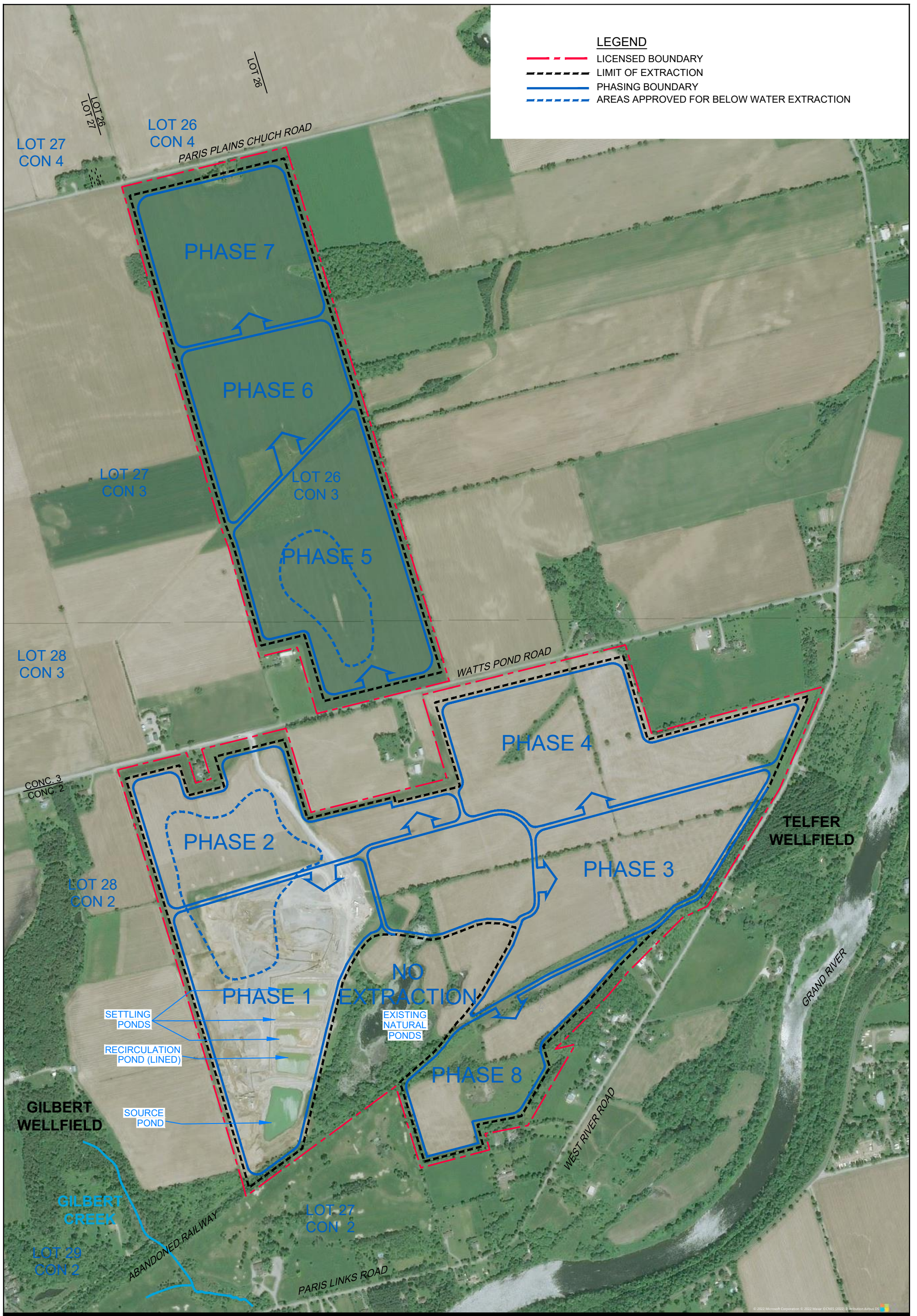


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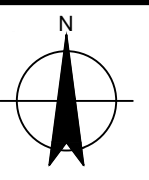
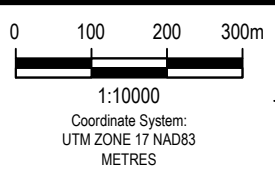
SITE LOCATION

FIGURE 1.1



LEGEND

- LICENSED BOUNDARY
- LIMIT OF EXTRACTION
- PHASING BOUNDARY
- AREAS APPROVED FOR BELOW WATER EXTRACTION

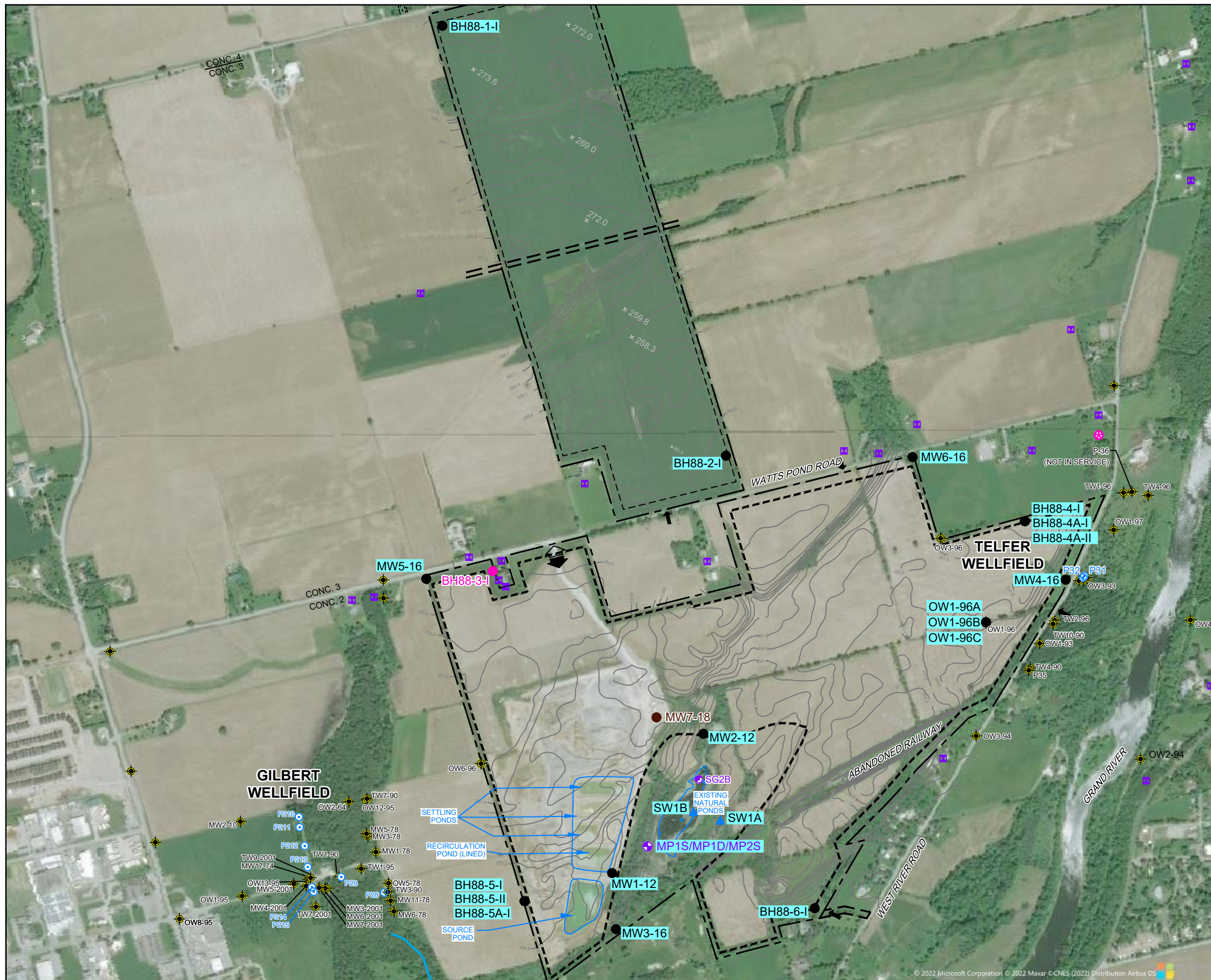


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PARIS PIT AND SURROUNDING LANDS

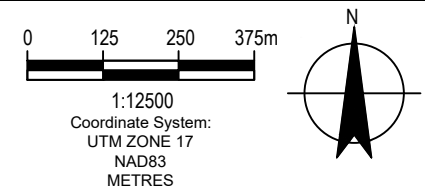
Project No. 78410
 Date March 2022

FIGURE 1.2



- LEGEND**
- 253.0 — CONTOUR ELEVATION
 - LICENSED BOUNDARY
 - LIMIT OF EXTRACTION
 - EASEMENT
 - ↔ SITE ENTRANCE/EXIT
 - ↔ EXISTING FIELD ENTRANCE
 - * 250.7 SPOT ELEVATION
 - MW1-12 MONITORING WELL INCLUDED IN THE GROUNDWATER MONITORING NETWORK
 - ▲ SW1A SURFACE WATER LOCATION INCLUDED IN THE SURFACE WATER MONITORING NETWORK
 - ⊕ MP1S/1D PIEZOMETER (NESTED AS SHALLOW AND DEEP) INCLUDED IN THE MONITORING NETWORK
 - BH88-3-I MONITORING WELL WAS DESTROYED
 - MW7-18 MONITORING WELL INSTALLED IN 2018
 - SG2B STAFF GAUGE

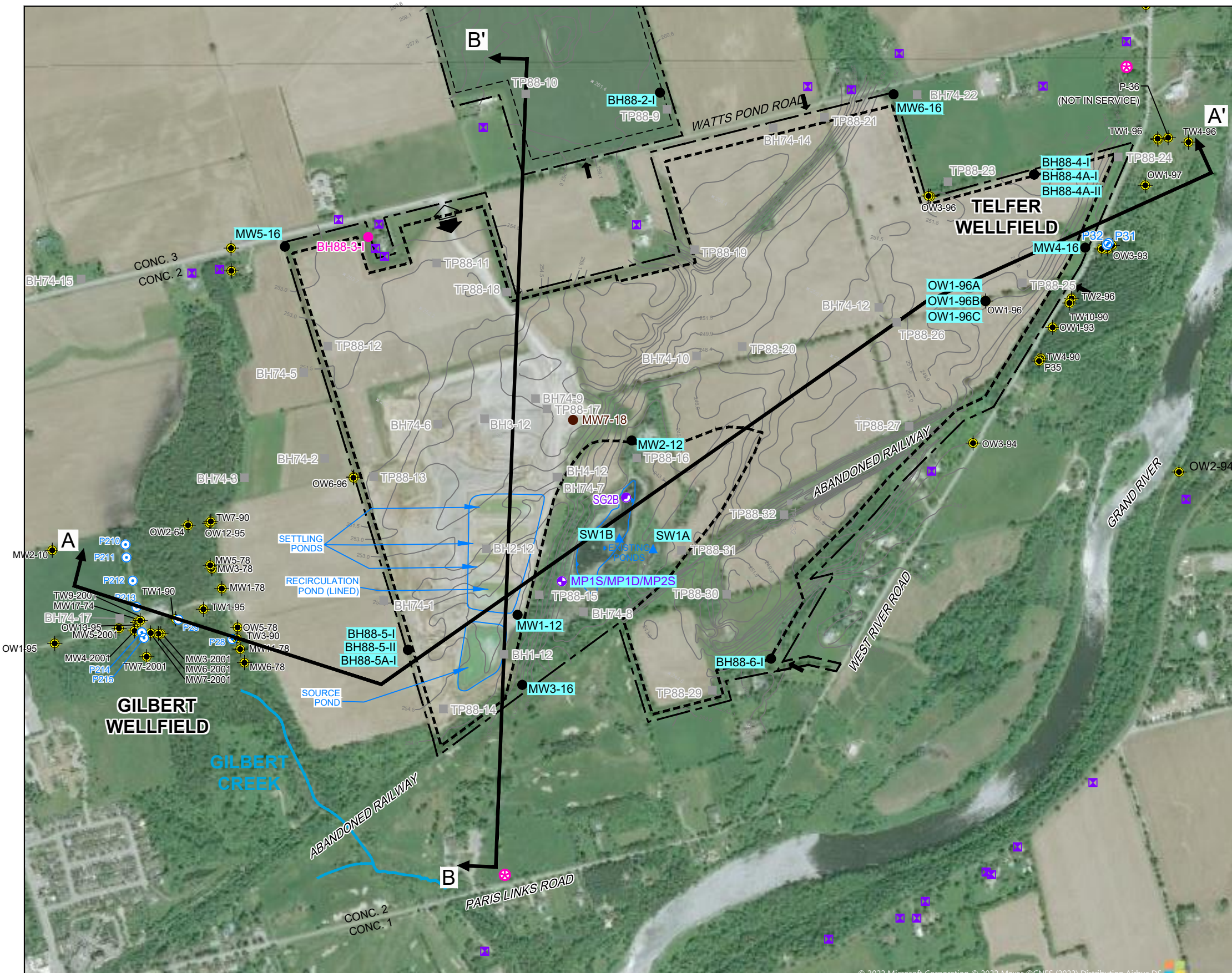
- WATER WELL RECORD (WWR) PRIMARY USE**
- ⊕ DOMESTIC WATER SUPPLY WELL (APPROXIMATE LOCATION)
 - ⊕ MUNICIPAL MONITORING WELL
 - ⊕ PUBLIC WATER SUPPLY WELL
 - ⊕ IRRIGATION WELL (APPROXIMATE LOCATION)
 - ⊕ LIVESTOCK WELL (APPROXIMATE LOCATION)



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SITE MAP AND MONITORING LOCATIONS

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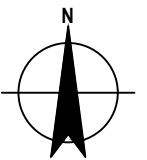
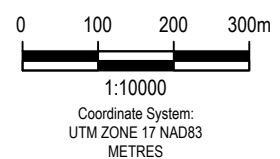
FIGURE 1.3



- LEGEND**
- 253.0 — CONTOUR ELEVATION
 - LICENSED BOUNDARY
 - - - LIMIT OF EXTRACTION
 - - - EASEMENT
 - ↔ SITE ENTRANCE/EXIT
 - ↔ EXISTING FIELD ENTRANCE
 - ▲ SPOT ELEVATION
 - MW1-12 MONITORING WELL INCLUDED IN THE GROUNDWATER MONITORING NETWORK
 - BH1-12 BOREHOLE (CRA, JULY 2012)
 - TP88-11 TEST PIT (JAGGER HIMES LTD., 1988) (APPROXIMATE LOCATION)
 - BH74-10 BOREHOLE (FARVOLDEN, 1974) (APPROXIMATE LOCATION)
 - ▲ SW1A SURFACE WATER LOCATION INCLUDED IN THE SURFACE WATER MONITORING NETWORK
 - MP1S/1D PIEZOMETER (NESTED AS SHALLOW AND DEEP) INCLUDED IN THE MONITORING NETWORK
 - BH88-3-1 MONITORING WELL WAS DESTROYED
 - MW7-18 MONITORING WELL INSTALLED IN 2018
 - SG2B STAFF GAUGE
 - ↔ GEOLOGIC CROSS-SECTION LOCATION

- WATER WELL RECORD (WWR) PRIMARY USE**
- DOMESTIC WATER SUPPLY WELL (APPROXIMATE LOCATION)
 - MUNICIPAL MONITORING WELL
 - PUBLIC WATER SUPPLY WELL
 - IRRIGATION WELL (APPROXIMATE LOCATION)
 - LIVESTOCK WELL (APPROXIMATE LOCATION)

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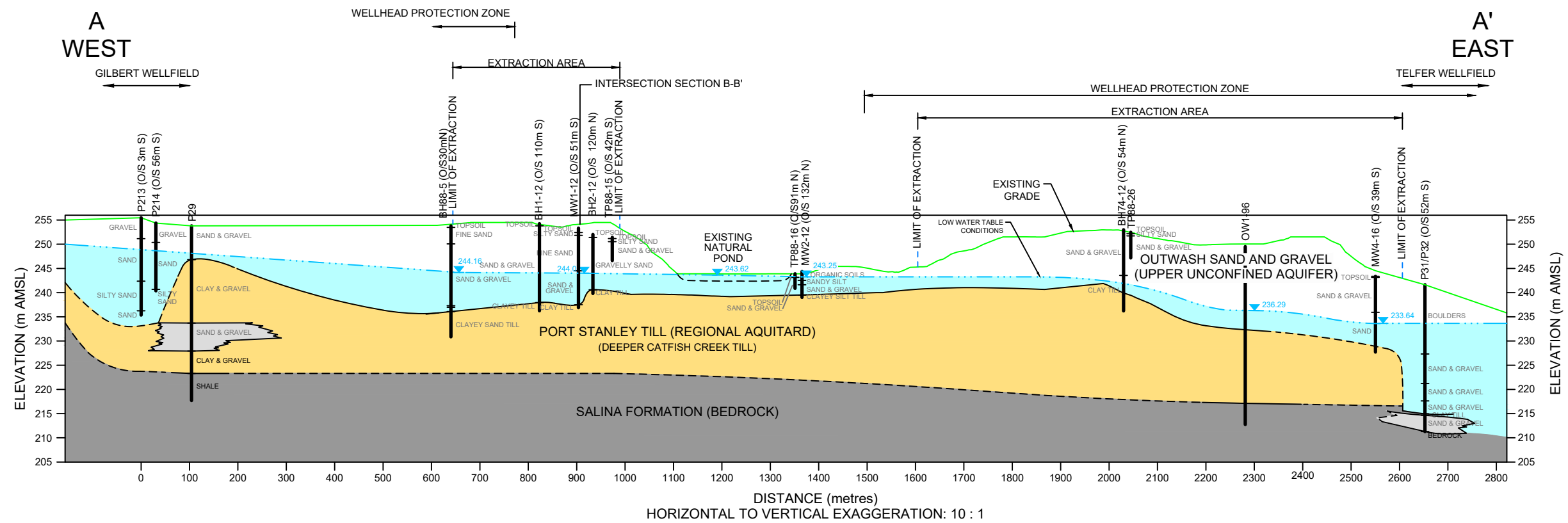


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CROSS SECTION LOCATIONS

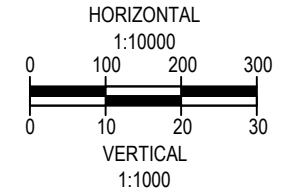
FIGURE 2.1



NOTE:
 REPRODUCED AND MODIFIED FROM COUNTY OF BRANT
 MUNICIPAL GROUNDWATER STUDY, LOTOWATER,
 JUNE 8, 2005 (FIGURE 5.4.2)

LEGEND

- MONITORING WELL / SOIL BORING / TEST PIT ID
- GROUND SURFACE
- STRATIGRAPHIC CONTACT
- GROUNDWATER ELEVATION (MAY 27, 2021)
- INTERPRETED GROUNDWATER TABLE

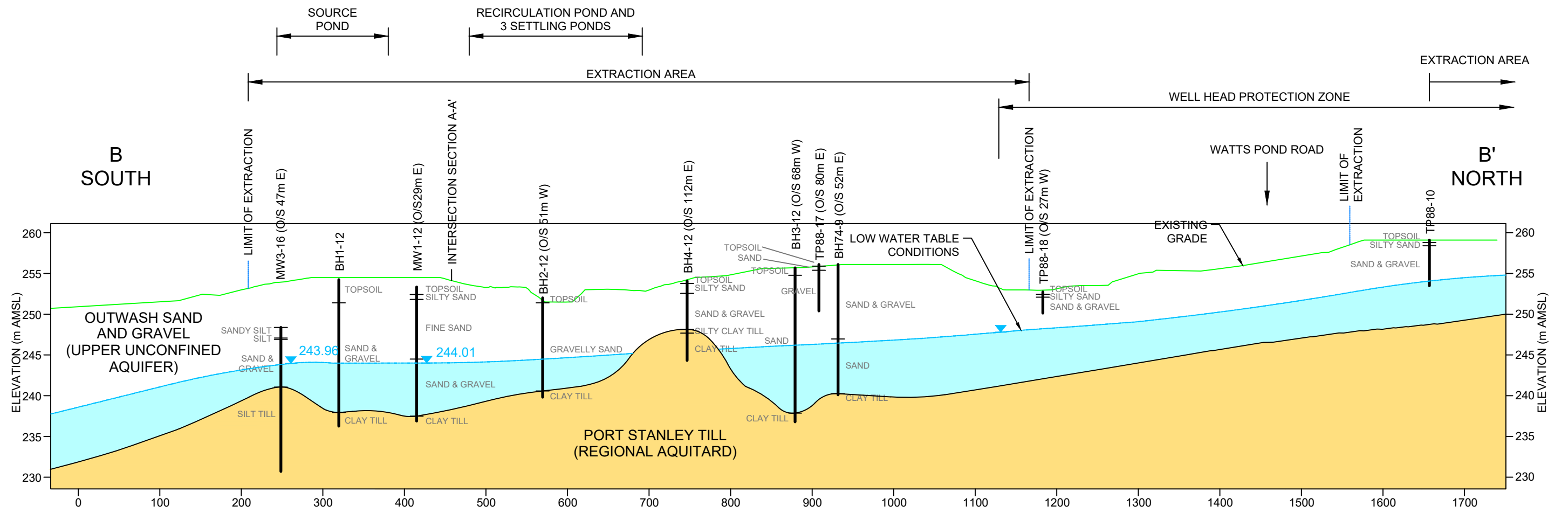


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CROSS SECTION A-A'

FIGURE 2.2

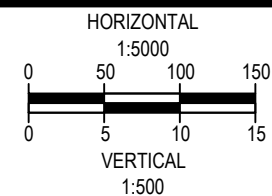


NOTE:
 REPRODUCED AND MODIFIED FROM COUNTY OF BRANT
 MUNICIPAL GROUNDWATER STUDY, LOTOWATER,
 JUNE 8, 2005 (FIGURE 5.4.2)

HORIZONTAL TO VERTICAL EXAGGERATION: 10 : 1

LEGEND

- MW1-12 — MONITORING WELL / SOIL BORING / TEST PIT ID
- GROUND SURFACE
- STRATIGRAPHIC CONTACT
- GROUNDWATER ELEVATION (MAY 27, 2021)
- INTERPRETED GROUNDWATER TABLE

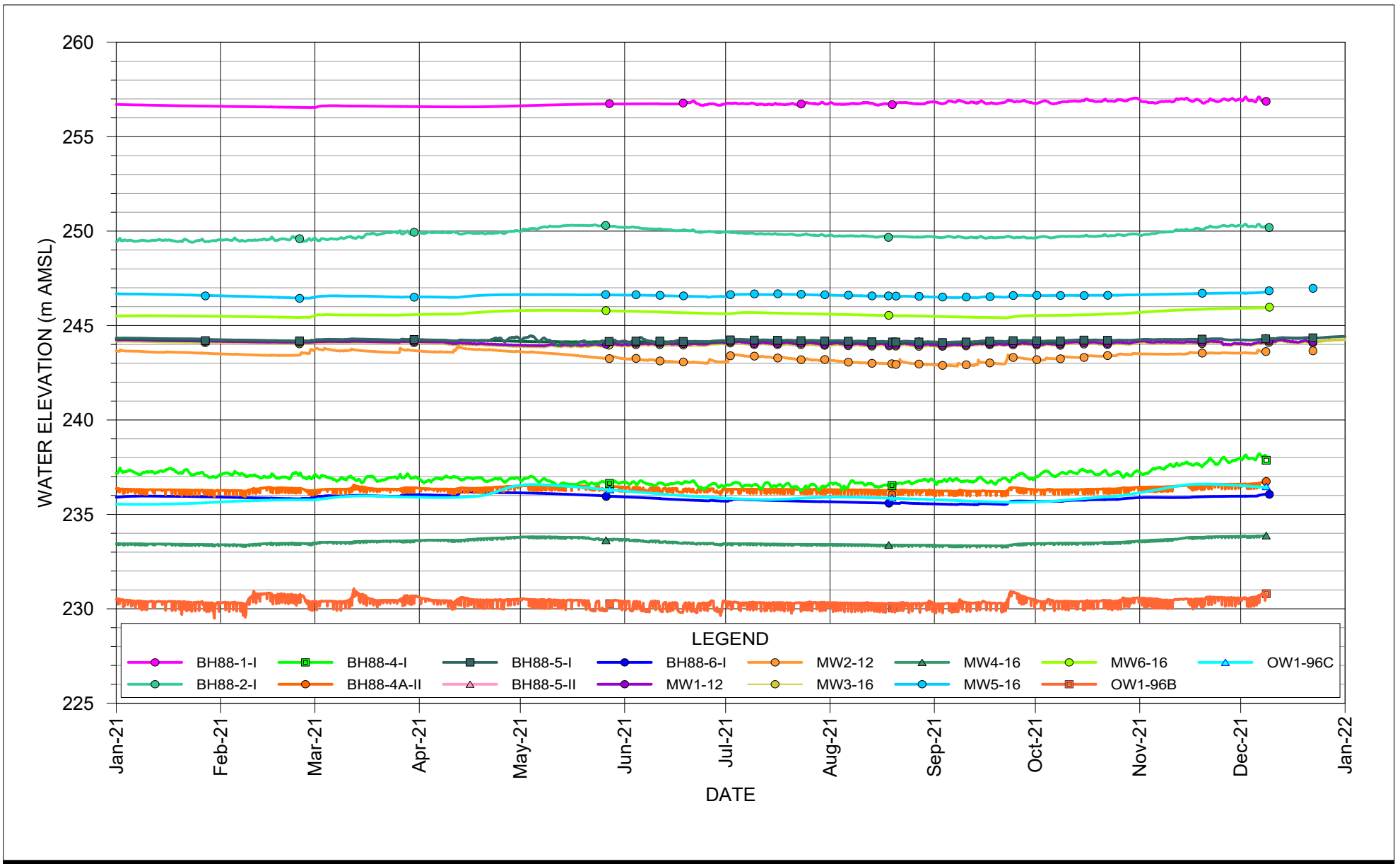


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CROSS SECTION B-B'

FIGURE 2.3

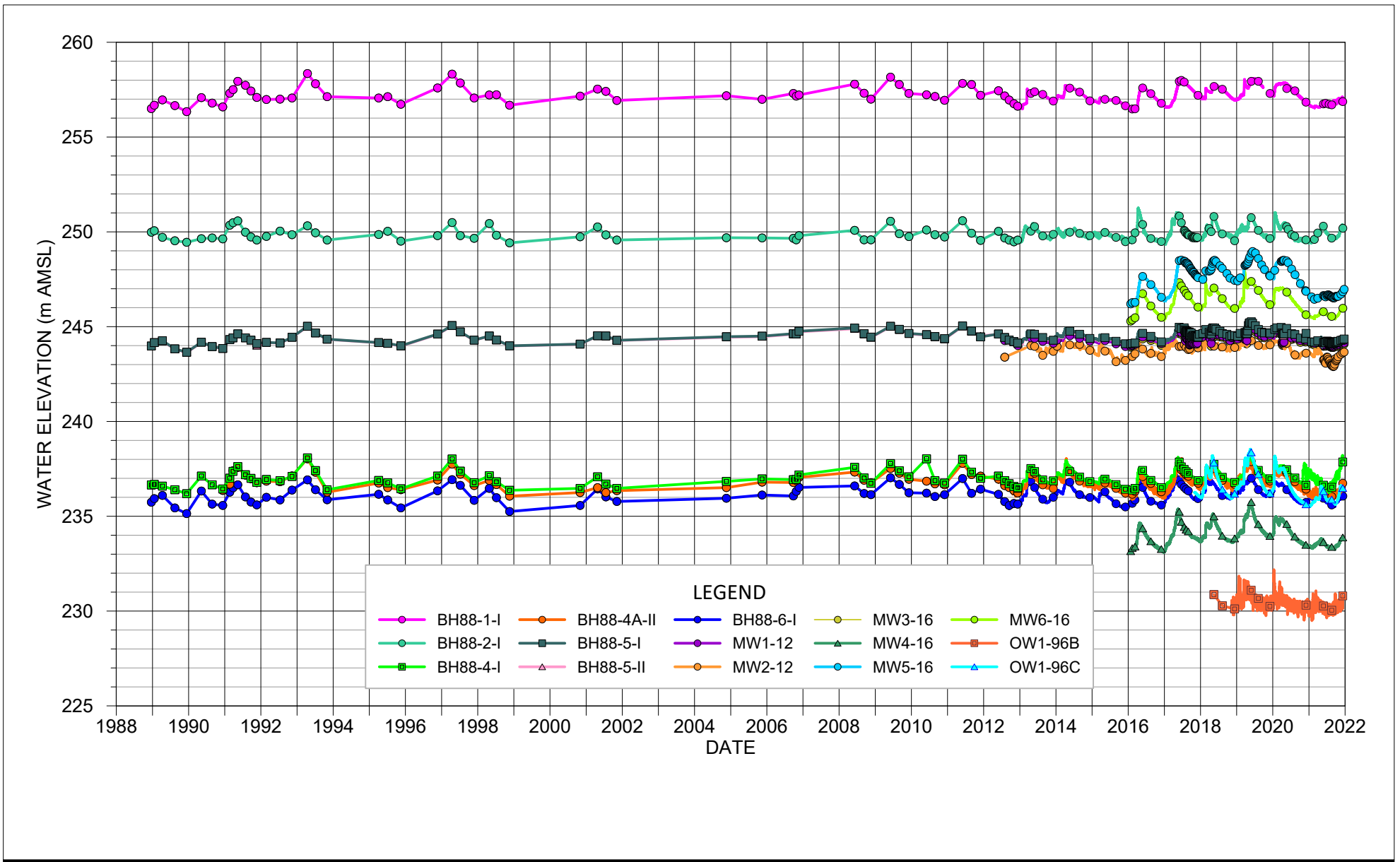


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 Date February 09, 2022

GROUNDWATER HYDROGRAPH
 OVERBURDEN - 2021

FIGURE 4.1a

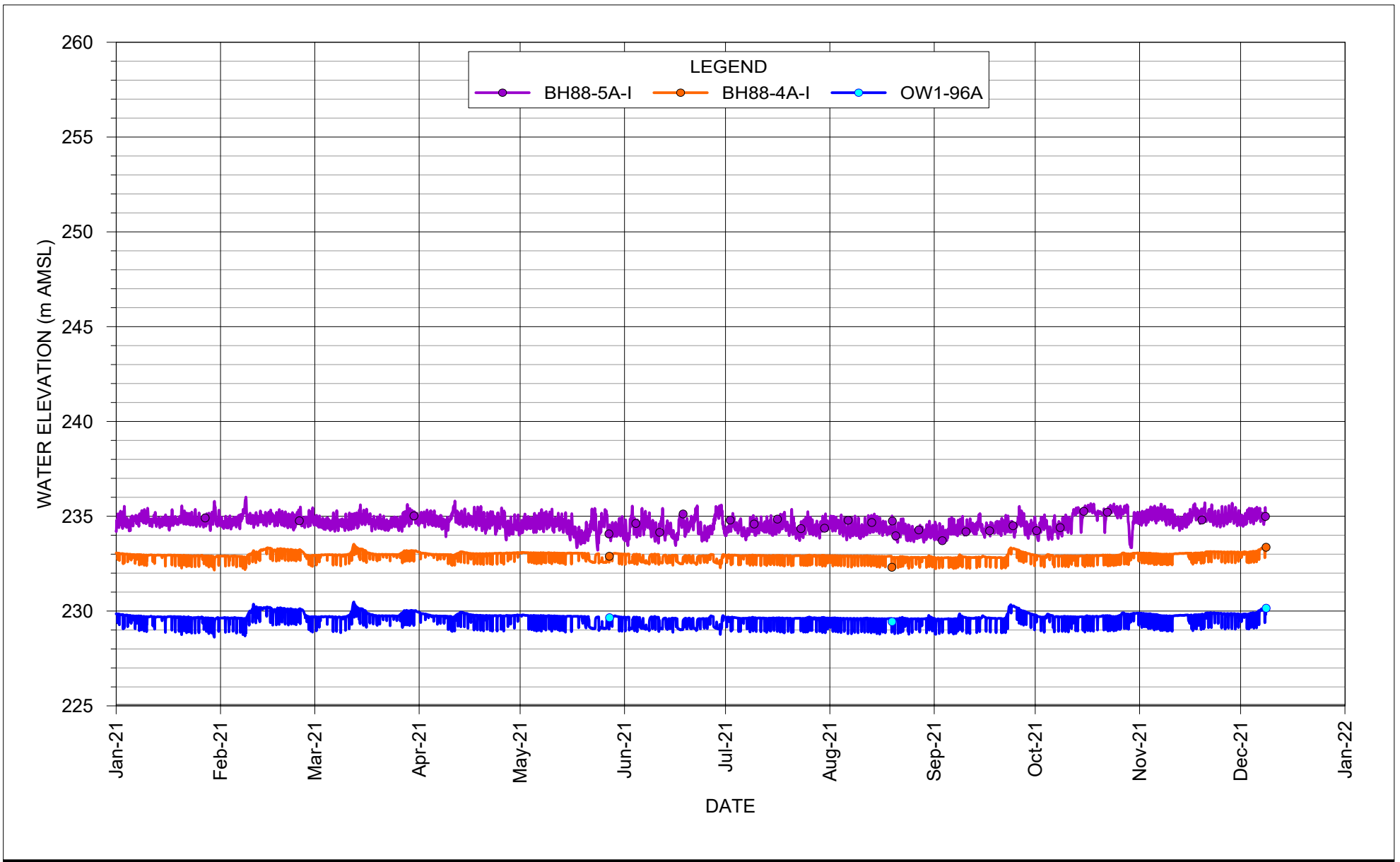


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**GROUNDWATER HYDROGRAPH
 OVERBURDEN - HISTORICAL**

FIGURE 4.1b

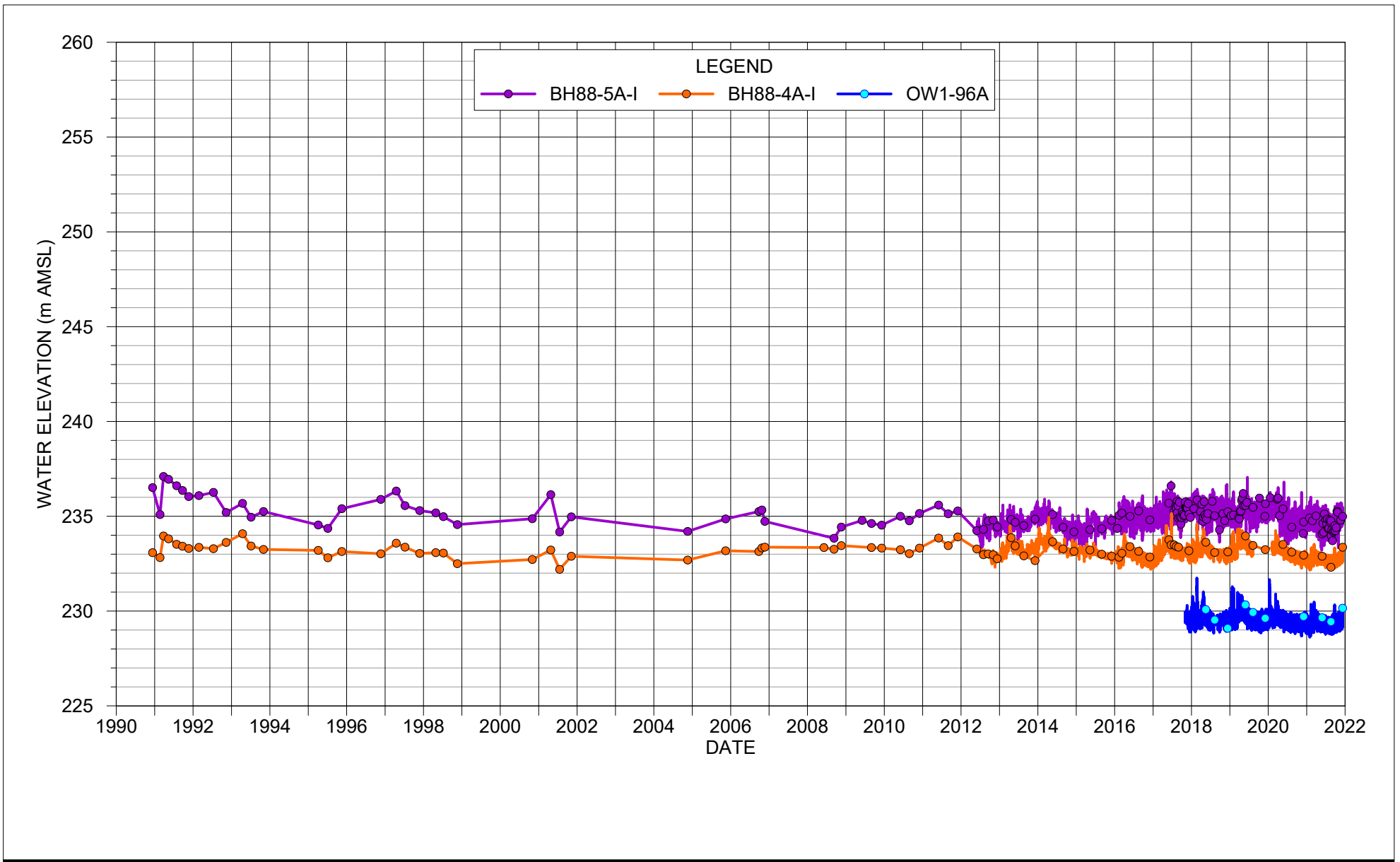


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GROUNDWATER HYDROGRAPH
 BEDROCK - 2021

FIGURE 4.2a

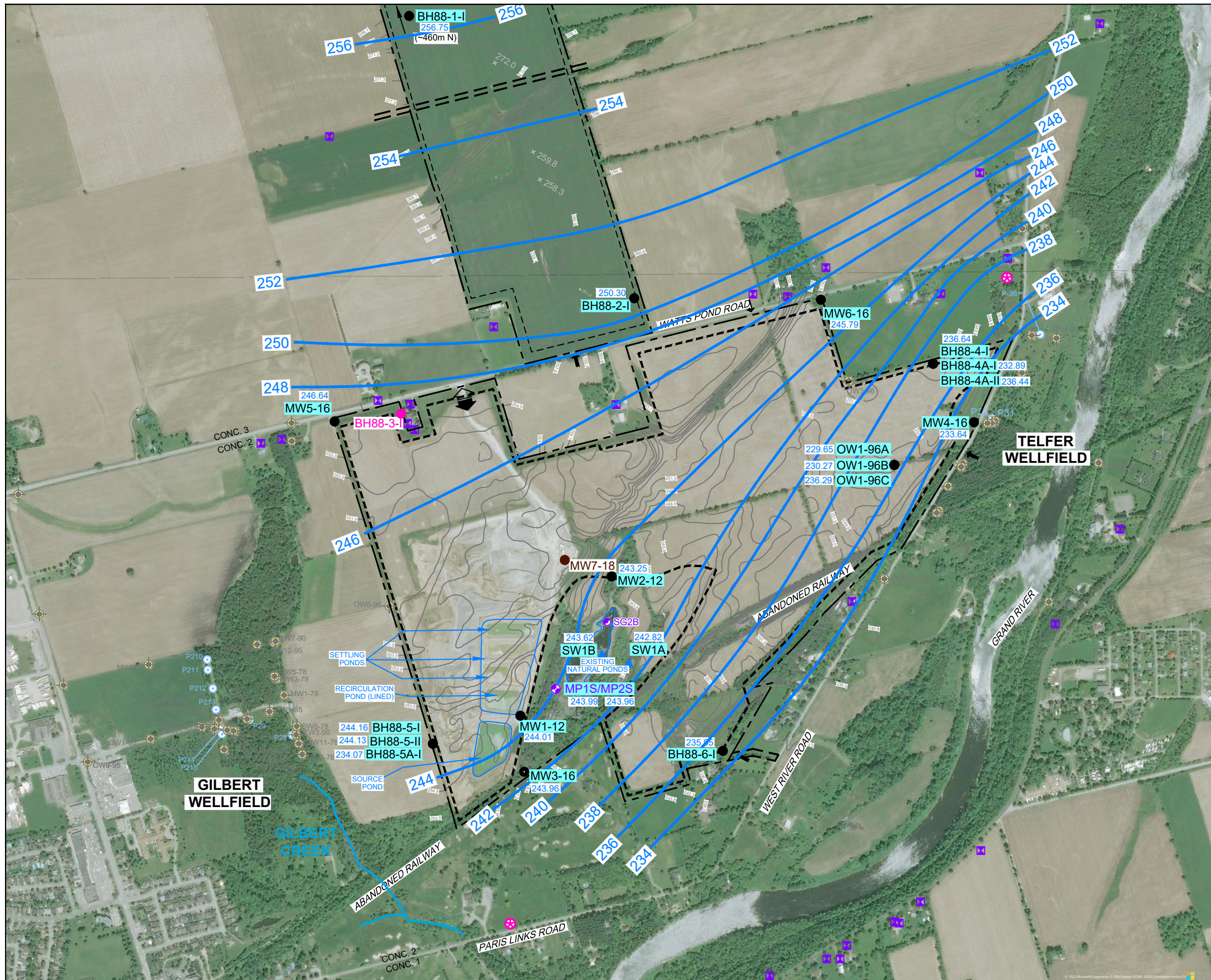


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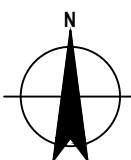
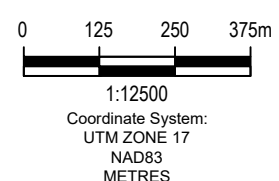
GROUNDWATER HYDROGRAPH
 BEDROCK - HISTORICAL

FIGURE 4.2b



- LEGEND**
- 253.0 — CONTOUR ELEVATION
 - - - LICENSED BOUNDARY
 - - - LIMIT OF EXTRACTION
 - - - EASEMENT
 - ◀▶ SITE ENTRANCE/EXIT
 - ➔ EXISTING FIELD ENTRANCE
 - * 250.7 SPOT ELEVATION
 - MW1-12 MONITORING WELL INCLUDED IN THE GROUNDWATER MONITORING NETWORK
 - ▲ SW1A SURFACE WATER LOCATION INCLUDED IN THE SURFACE WATER MONITORING NETWORK
 - ⊕ MP1S PIEZOMETER (NESTED AS SHALLOW AND DEEP) INCLUDED IN THE MONITORING NETWORK
 - ⊙ BH88-3-I MONITORING WELL WAS DESTROYED
 - MW7-18 MONITORING WELL INSTALLED IN 2018
 - ⊙ SG2B STAFF GAUGE
 - 233.64 GROUNDWATER ELEVATION (MAY 27, 2021)
 - 235 — GROUNDWATER CONTOUR

- WATER WELL RECORD (WWR) PRIMARY USE**
- ⊕ DOMESTIC WATER SUPPLY WELL (APPROXIMATE LOCATION)
 - ⊙ MUNICIPAL MONITORING WELL
 - ⊙ PUBLIC WATER SUPPLY WELL
 - ⊙ IRRIGATION WELL (APPROXIMATE LOCATION)
 - ⊙ LIVESTOCK WELL (APPROXIMATE LOCATION)

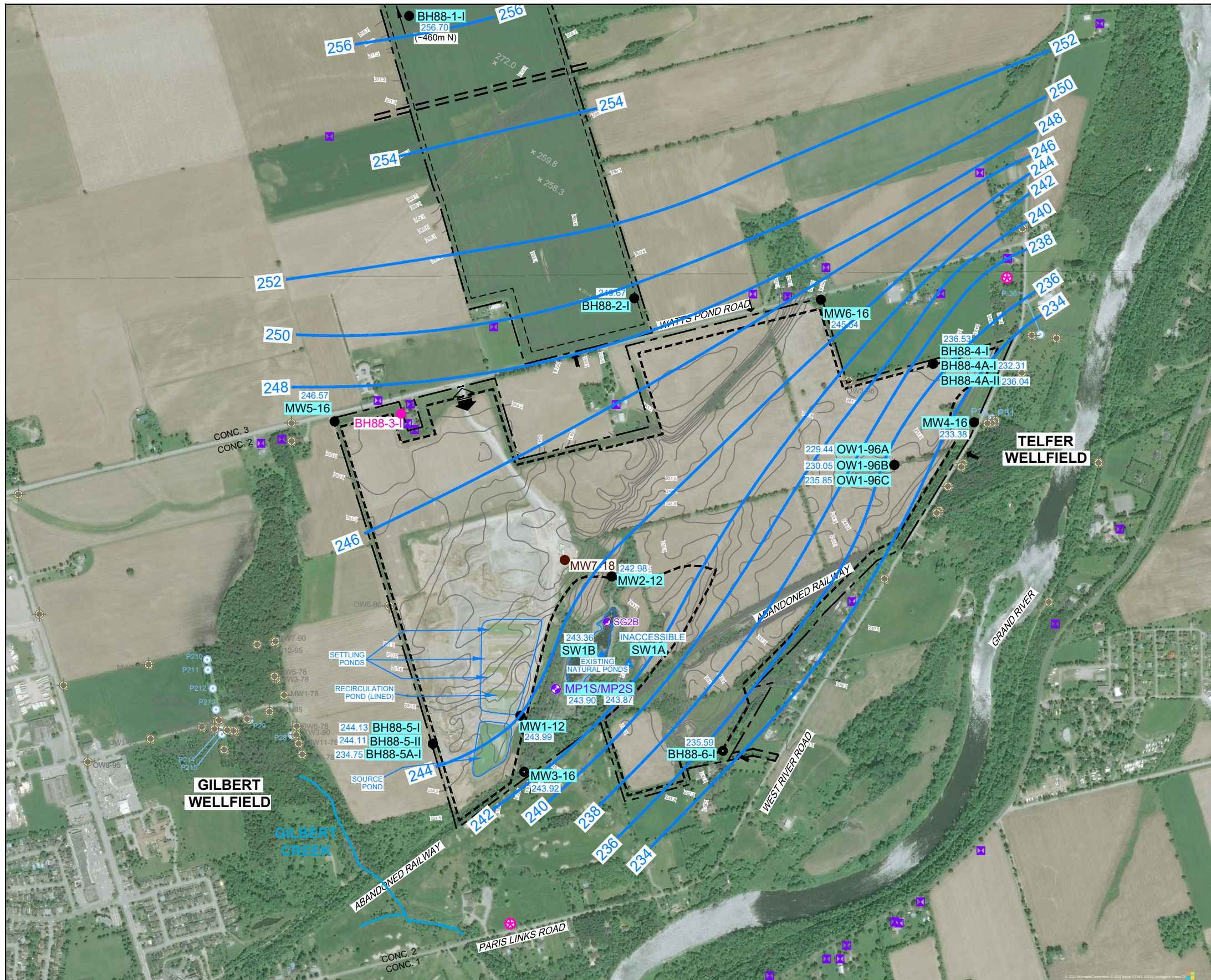


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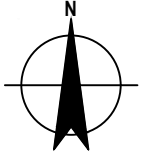
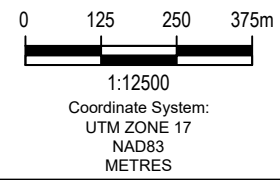
GROUNDWATER CONTOURS
 MAY 27, 2021

FIGURE 4.3



- LEGEND**
- 253.0 — CONTOUR ELEVATION
 - - - LICENSED BOUNDARY
 - - - LIMIT OF EXTRACTION
 - - - EASEMENT
 - ↔ SITE ENTRANCE/EXIT
 - EXISTING FIELD ENTRANCE
 - * 253.7 SPOT ELEVATION
 - MW1-12 MONITORING WELL INCLUDED IN THE GROUNDWATER MONITORING NETWORK
 - ▲ SW1A SURFACE WATER LOCATION INCLUDED IN THE SURFACE WATER MONITORING NETWORK
 - ⊕ MP1S PIEZOMETER (NESTED AS SHALLOW AND DEEP) INCLUDED IN THE MONITORING NETWORK
 - BH88-3-I MONITORING WELL WAS DESTROYED
 - MW7-18 MONITORING WELL INSTALLED IN 2018
 - ⊕ SG2B STAFF GAUGE
 - 233.38 GROUNDWATER ELEVATION (AUGUST 18, 2021)
 - 235 — GROUNDWATER CONTOUR

- WATER WELL RECORD (WWR) PRIMARY USE**
- ⊕ DOMESTIC WATER SUPPLY WELL (APPROXIMATE LOCATION)
 - ⊕ MUNICIPAL MONITORING WELL
 - ⊕ PUBLIC WATER SUPPLY WELL
 - ⊕ IRRIGATION WELL (APPROXIMATE LOCATION)
 - ⊕ LIVESTOCK WELL (APPROXIMATE LOCATION)

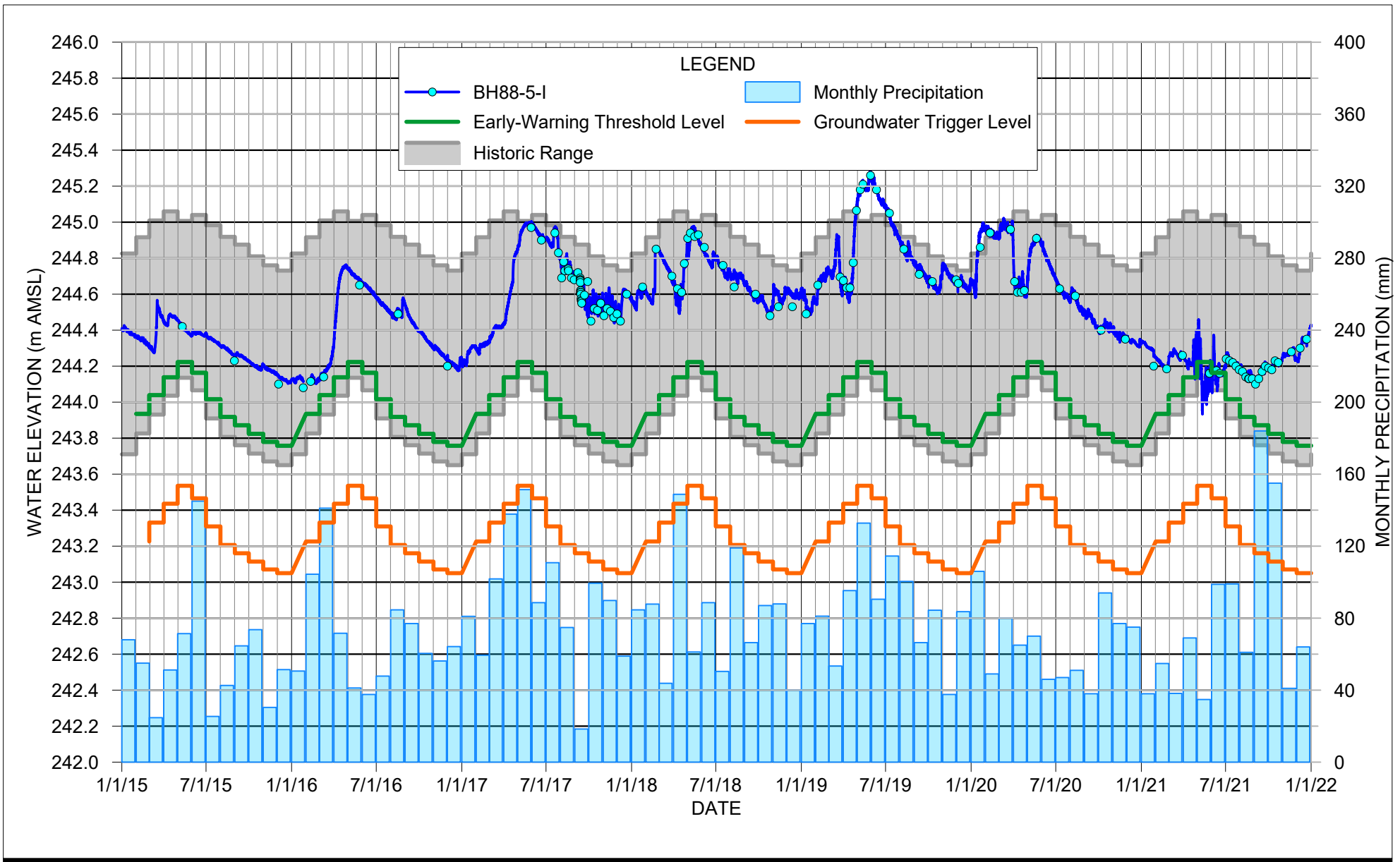


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GROUNDWATER CONTOURS
AUGUST 18, 2021

FIGURE 4.4

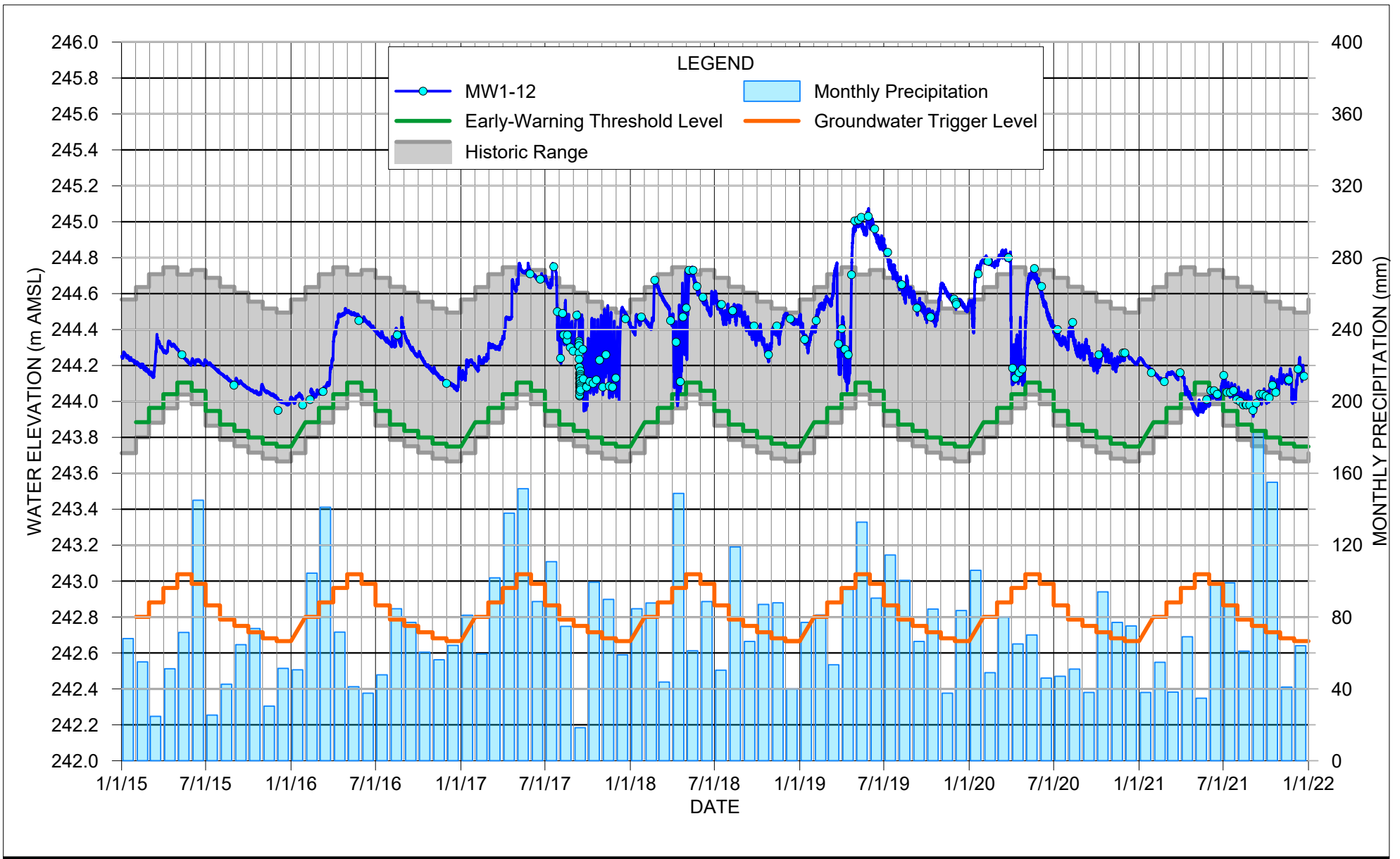


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TRIGGER MECHANISM SUMMARY
 BH88-5-I

FIGURE 4.5a

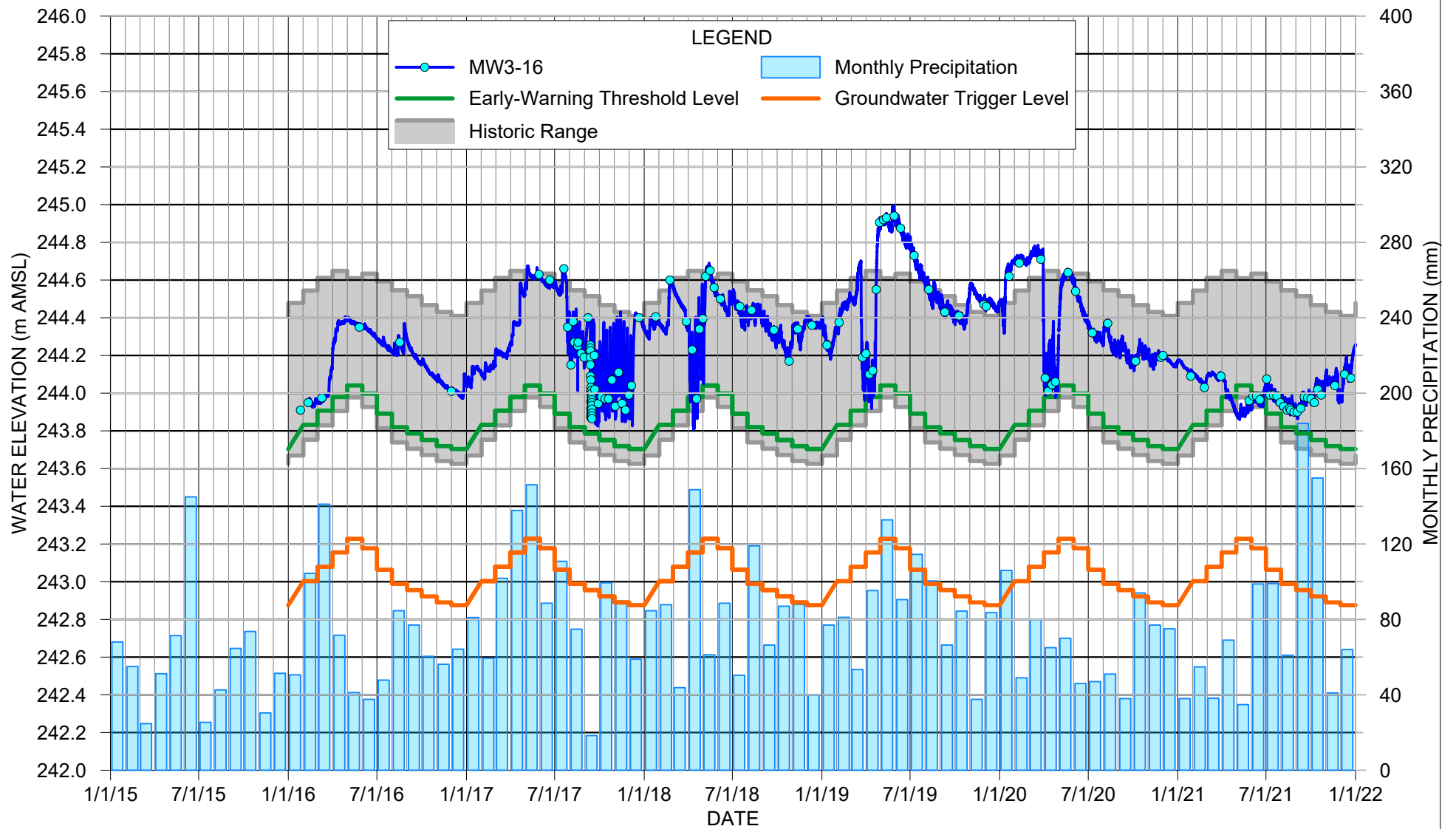


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TRIGGER MECHANISM SUMMARY
 MW1-12

FIGURE 4.5b



Note: MW3-16 installed in January 2016

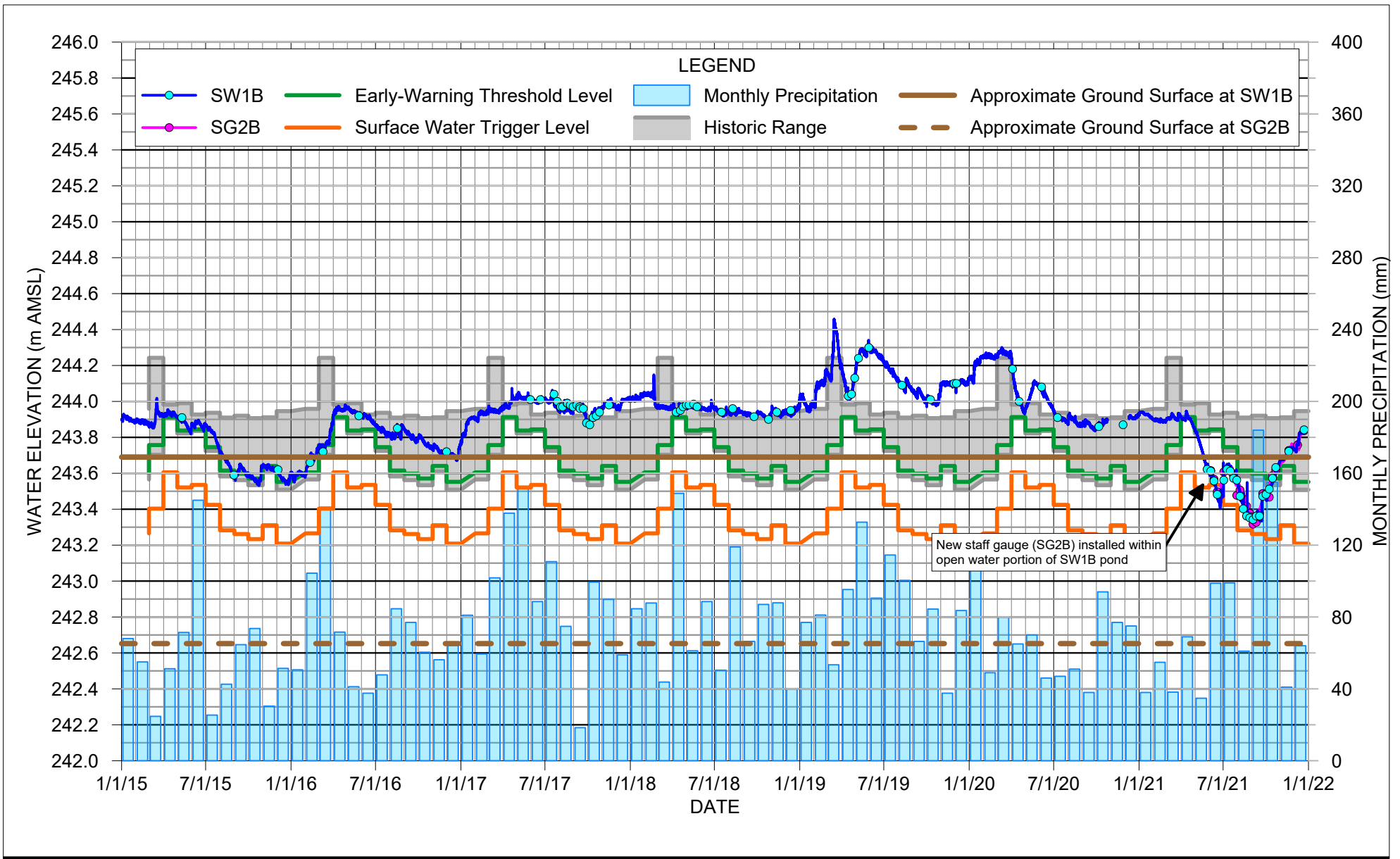


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TRIGGER MECHANISM SUMMARY
 MW3-16

FIGURE 4.5c



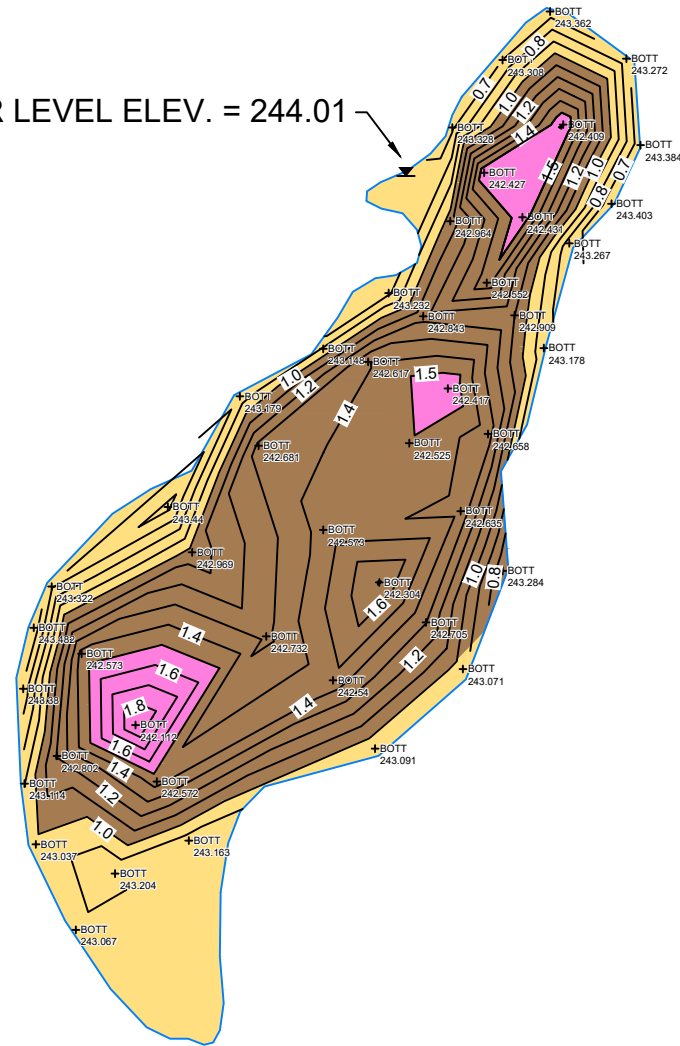
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TRIGGER MECHANISM SUMMARY
 SW1B

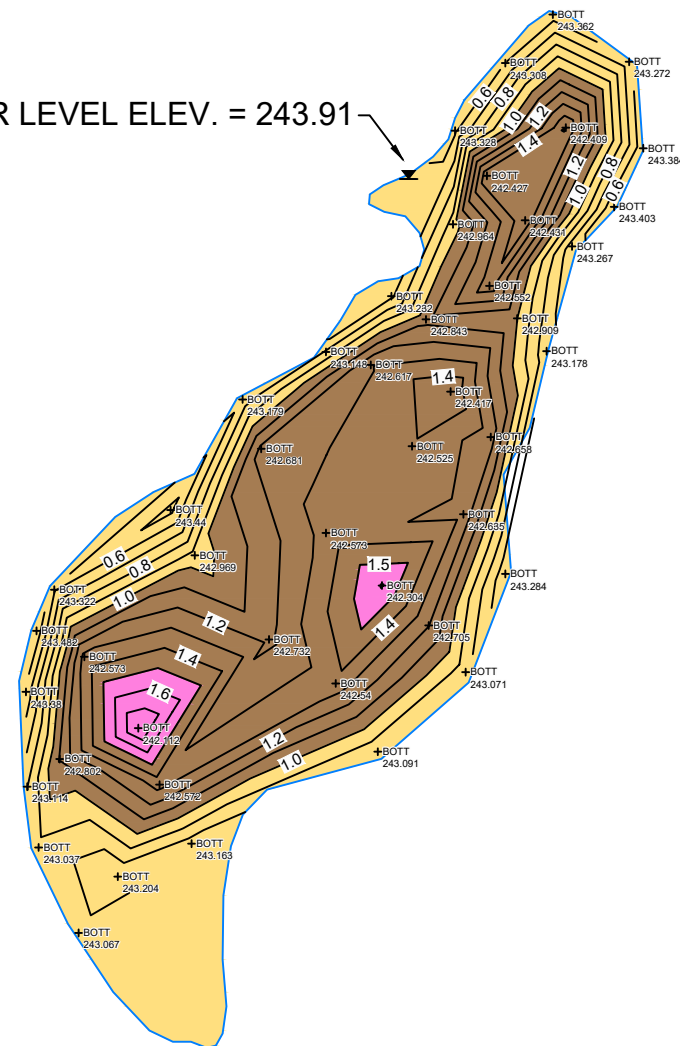
FIGURE 4.5d

WATER LEVEL ELEV. = 244.01



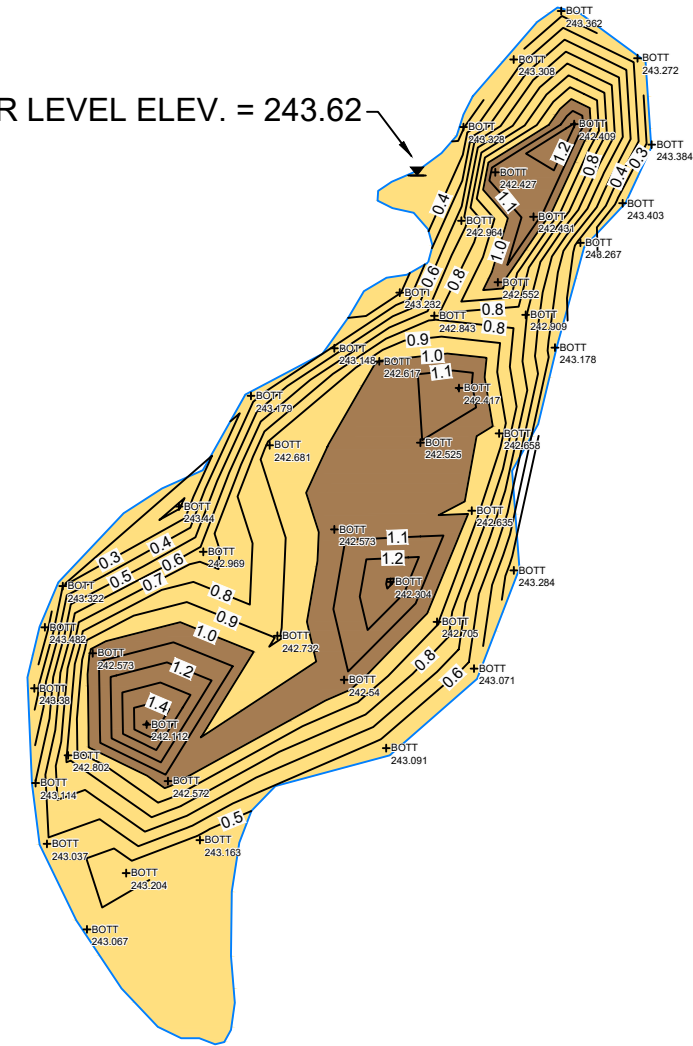
MAY 7, 2018 (AVERAGE)

WATER LEVEL ELEV. = 243.91



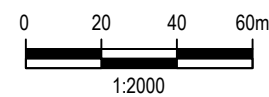
MAY 11, 2015 (DRY)

WATER LEVEL ELEV. = 243.62



MAY 27, 2021
(EXTREMELY DRY CONDITIONS)

- LEGEND**
- 0.8 — DEPTH OF WATER
 - WATER DEPTH 0-1m
 - WATER DEPTH 1.0 - 1.5m
 - WATER DEPTH GREATER THAN 1.5m



DUFFERIN AGGREGATES PARIS PIT
COUNTY OF BRANT, ONTARIO
2021 COMBINED ANNUAL MONITORING REPORT

Project No. 78410
Date March 2022

EXISTING NATURAL POND BATHYMETRY

FIGURE 4.6

Tables

Table 1.1
Monitoring Well Completion Details
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Monitoring Location	Easting	Northing	Completion Date	Ground Surface Elevation (m AMSL)	Top of Riser Reference Elevation (m AMSL)	Borehole Completion Depth (m bgs)	Borehole Completion Elevation (m AMSL)	Screened Interval (m bgs)			Screened Interval (m AMSL)			Screened Lithology
								Top	-	Bottom	Top	-	Bottom	
BH88-1-I	550356.0	4787344.2	12/6/1988	271.28	272.16	24.10	247.18	18.30	-	19.82	252.98	-	251.46	Fine Sandy Silt
BH88-2-I	551201.9	4786061.5	12/5/1988	261.38	262.78	21.90	239.48	9.70	-	11.22	251.68	-	250.16	Sand & Gravel
BH88-3-I ⁽¹⁾	550506.4	4785718.6	11/28/1988	254.45	254.76	15.90	238.55	10.80	-	11.60	243.65	-	242.85	Sand & Gravel
BH88-4-I	552093.9	4785866.3	12/1/1988	250.39	251.76	21.30	229.09	16.78	-	18.30	233.61	-	232.09	Sand
BH88-4A-I	552093.9	4785866.3	10/31/1990	250.39	251.47	35.60	214.79	33.80	-	35.20	216.59	-	215.19	Gravel & Bedrock
BH88-4A-II	552093.9	4785866.3	10/31/1990	250.39	251.50	28.00	222.39	25.10	-	26.60	225.29	-	223.79	Sand & Gravel
BH88-5-I	550602.2	4784729.1	11/23/1988	253.78	255.15	22.90	230.88	16.50	-	17.00	237.28	-	236.78	Sand & Gravel
BH88-5-II	550602.6	4784727.6	11/23/1988	253.78	254.77	14.81	238.97	10.10	-	10.90	243.68	-	242.88	Sand & Gravel
BH88-5A-I	550601.3	4784732.5	10/30/1990	253.78	255.08	33.20	220.58	30.50	-	32.00	223.28	-	221.78	Till & Bedrock
BH88-6-I	551466.6	4784711.6	11/30/1988	239.84	240.91	16.20	223.64	6.90	-	7.90	232.94	-	231.94	Sand & Gravel
MW1-12	550862.3	4784816.3	7/20/2012	253.34	254.25	16.46	236.88	12.80	-	15.85	240.54	-	237.49	Sand
MW2-12	551134.7	4785232.0	7/23/2012	244.36	245.31	5.33	239.03	2.74	-	4.27	241.62	-	240.09	Sand & Gravel
MW3-16	550873.7	4784649.2	1/14/2016	248.38	249.43	17.68	230.70	6.10	-	9.14	242.28	-	239.24	Sand & Gravel
MW4-16	552215.7	4785691.7	1/18/2016	243.37	244.39	17.68	225.69	11.58	-	14.63	231.79	-	228.74	Sand
MW5-16	550307.8	4785694.2	1/19/2016	252.70	253.69	12.19	240.51	9.14	-	12.19	243.56	-	240.51	Sand
MW6-16	551758.8	4786057.5	1/15/2016	250.47	251.42	11.43	239.04	8.23	-	11.28	242.24	-	239.19	Sand
MW7-18	550994.8	4785280.9	4/24/2018	256.56	255.85	13.72	242.84	8.99	-	13.56	247.57	-	243.00	Sand & Gravel
MP1S	550967.9	4784896.1	5/26/2016	244.32	245.93	2.45	241.87	1.69	-	2.45	242.63	-	241.87	Sand & Gravel
MP1D	550967.4	4784896.2	5/26/2016	244.40	245.41	4.21	240.19	3.45	-	4.21	240.95	-	240.19	Sand & Gravel
MP2S	550967.4	4784896.2	11/9/2017	244.25	245.20	1.53	242.72	0.78	-	1.53	243.47	-	242.72	Sand & Gravel
OW1-96A	551977.9	4785564.5	1996	249.22	249.73	36.80	212.42	33.6	-	36.6	215.62	-	212.62	Bedrock
OW1-96B	551977.9	4785564.5	1996	249.23	249.72	25.26	223.97	23.6	-	25.1	225.63	-	224.13	Overburden (Int)
OW1-96C	551977.9	4785564.5	1996	249.24	249.70	16.43	232.81	14.6	-	16.1	234.64	-	233.14	Overburden (Upp)

Notes:

- (1) Monitoring well has been destroyed
NA Location not surveyed
m AMSL Metres above mean sea level
m bgs Metres below ground surface

Table 1.2
2021 Monitoring Program
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Monitoring Locations	ARA ⁽¹⁾	PTTW ⁽²⁾	ECA ⁽³⁾	Pressure Transducer	Monthly Hydraulic Monitoring	Three Times Per Year Hydraulic Monitoring ⁽⁴⁾	Groundwater Sampling ⁽⁴⁾						Surface Water Sampling ⁽⁴⁾					
							General Chemistry	Dissolved Metals	Total Metals ⁽⁵⁾	Organochlorine Pesticides	Pesticides	Herbicides	Field Parameters	General Chemistry ⁽⁷⁾	Dissolved Metals ⁽⁶⁾	Total Metals	Pesticides	Herbicides
BH88-1-I	X			X		X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
BH88-2-I	X		X	X		X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾						
BH88-4-I	X			X		X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
BH88-4A-I	X			X		X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
BH88-4A-II	X			X		X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
BH88-5-I	X	X		X	X ⁽²⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
BH88-5-II	X			X		X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
BH88-5A-I	X			X		X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
BH88-6-I	X		X	X		X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾						
MW1-12	X	X	X	X	X ⁽²⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾						
MW2-12	X			X		X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾	X ⁽¹⁾									
MW3-16		X	X	X	X ⁽²⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾						
MW4-16			X	X		X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾						
MW5-16 ⁽⁸⁾	X		X	X		X ⁽¹⁾⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾						
MW6-16			X	X		X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾	X ⁽³⁾						
OW1-96A ⁽⁹⁾		X		X ⁽¹¹⁾		X ⁽⁹⁾												
OW1-96B ⁽⁹⁾		X		X ⁽¹¹⁾		X ⁽⁹⁾												
OW1-96C ⁽⁹⁾		X		X ⁽¹¹⁾		X ⁽⁹⁾												
MP1S		X		X	X ⁽²⁾													
MP1D ⁽¹⁰⁾		X		X	X ⁽²⁾													
MP2S		X		X	X ⁽²⁾													
SW1A	X			X		X ⁽¹⁾												
SW1B	X	X	X	X	X ⁽²⁾	X ⁽¹⁾⁽³⁾							X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽¹⁾⁽³⁾	X ⁽³⁾	X ⁽³⁾
SG2B				X ⁽¹²⁾	X ⁽¹²⁾	X ⁽¹²⁾												

Notes:

- (1) Aggregate Resource Act license.
- (2) Permit to Take Water.
- (3) Environmental Compliance Approval.
- (4) Groundwater and surface water monitoring/sampling will be completed in May, August and December every year.
- (5) Total silicon.
- (6) Dissolved silicon and clay-free aluminum sample.
- (7) General Chemistry for surface water samples includes oil and grease.
- (8) Monitoring well MW5-16 replaces monitoring well BH88-3 which has been destroyed under the ARA requirements.
- (9) Included as part of the Monitoring Program at the request of the MECP and County of Brant.
- (10) MP2S was installed on November 9, 2017 to replace MP1D.
- (11) Transducer installed on November 2, 2017 at the request of the MECP and County of Brant.
- (12) SG2B installed on June 4, 2021.

Table 4.1
2021 Hydraulic Monitoring Data
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	BH88-1-I		BH88-2-I		BH88-3-I		BH88-4-I		BH88-4A-I		BH88-4A-II		BH88-5-I	
	Reference Elevation (m AMSL)	272.16	Reference Elevation (m AMSL)	262.78	Reference Elevation (m AMSL)	254.76	Reference Elevation (m AMSL)	251.76	Reference Elevation (m AMSL)	251.47	Reference Elevation (m AMSL)	251.50	Reference Elevation (m AMSL)	255.15
	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)
27-Jan-21	NA ⁽²⁾	NA ⁽²⁾	13.42	249.36	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.95	244.20
24-Feb-21	NA ⁽²⁾	NA ⁽²⁾	13.18	249.60	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.97	244.19
30-Mar-21	NA ⁽²⁾	NA ⁽²⁾	12.84	249.94	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.89	244.26
27-May-21	15.41	256.75	12.48	250.30	NA ⁽¹⁾	NA ⁽¹⁾	15.12	236.64	18.58	232.89	15.06	236.44	10.99	244.16
4-Jun-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.98	244.18
11-Jun-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.98	244.18
18-Jun-21	15.38	256.78	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.99	244.16
2-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.91	244.24
9-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.92	244.23
16-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.93	244.22
23-Jul-21	15.43	256.73	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.95	244.20
30-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.97	244.18
6-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.98	244.17
13-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	11.01	244.14
18-Aug-21	15.46	256.70	13.11	249.67	NA ⁽¹⁾	NA ⁽¹⁾	15.23	236.53	19.16	232.31	15.46	236.04	11.02	244.13
20-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	11.02	244.13
27-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	11.02	244.13
3-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	11.05	244.10
10-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	11.02	244.13
17-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.98	244.17
24-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.95	244.20
1-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.96	244.19
8-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.97	244.18
15-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.92	244.23
22-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.93	244.22
19-Nov-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.87	244.28
8-Dec-21	15.29	256.87	12.59	250.19	NA ⁽¹⁾	NA ⁽¹⁾	14.90	236.86	18.11	233.36	14.76	236.74	10.85	244.30

Notes:

- (1) Not measured. Monitoring well was destroyed.
(2) Hydraulic monitoring event not required as part of ARA Licence, PTTW or ECA.
(3) SW1A is the small pond.
(4) SW1B is the main pond.
(5) Installed on June 4, 2021.
m btor Metres below top of riser pipe.
m AMSL Metres above mean sea level.
NA Not available.
NI Monitoring well not installed.

Table 4.1
2021 Hydraulic Monitoring Data
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	BH88-5-II		BH88-5A-I		BH88-6-I		MW1-12		MW2-12		MW3-16		MW4-16	
	Reference Elevation (m AMSL)	254.77	Reference Elevation (m AMSL)	255.08	Reference Elevation (m AMSL)	240.91	Reference Elevation (m AMSL)	254.25	Reference Elevation (m AMSL)	245.31	Reference Elevation (m AMSL)	249.43	Reference Elevation (m AMSL)	244.39
	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)
27-Jan-21	10.61	244.16	20.17	234.91	NA ⁽²⁾	NA ⁽²⁾	10.09	244.16	NA ⁽²⁾	NA ⁽²⁾	5.34	244.09	NA ⁽²⁾	NA ⁽²⁾
24-Feb-21	10.61	244.16	20.32	234.76	NA ⁽²⁾	NA ⁽²⁾	10.14	244.11	NA ⁽²⁾	NA ⁽²⁾	5.40	244.03	NA ⁽²⁾	NA ⁽²⁾
30-Mar-21	10.54	244.23	20.06	235.02	NA ⁽²⁾	NA ⁽²⁾	10.09	244.16	NA ⁽²⁾	NA ⁽²⁾	5.34	244.09	NA ⁽²⁾	NA ⁽²⁾
27-May-21	10.64	244.13	21.01	234.07	4.96	235.95	10.24	244.01	2.06	243.25	5.47	243.96	10.76	233.63
4-Jun-21	10.62	244.15	20.46	234.62	NA ⁽²⁾	NA ⁽²⁾	10.19	244.06	2.05	243.26	5.45	243.99	NA ⁽²⁾	NA ⁽²⁾
11-Jun-21	10.63	244.15	20.93	234.15	NA ⁽²⁾	NA ⁽²⁾	10.19	244.06	2.19	243.13	5.45	243.99	NA ⁽²⁾	NA ⁽²⁾
18-Jun-21	10.64	244.13	19.96	235.12	NA ⁽²⁾	NA ⁽²⁾	10.21	244.04	2.24	243.07	5.47	243.97	NA ⁽²⁾	NA ⁽²⁾
2-Jul-21	10.55	244.22	20.28	234.80	NA ⁽²⁾	NA ⁽²⁾	10.11	244.15	1.91	243.40	5.36	244.08	NA ⁽²⁾	NA ⁽²⁾
9-Jul-21	10.58	244.19	20.49	234.59	NA ⁽²⁾	NA ⁽²⁾	10.20	244.05	1.93	243.38	5.44	243.99	NA ⁽²⁾	NA ⁽²⁾
16-Jul-21	10.58	244.19	20.23	234.85	NA ⁽²⁾	NA ⁽²⁾	10.20	244.05	2.03	243.28	5.44	243.99	NA ⁽²⁾	NA ⁽²⁾
23-Jul-21	10.60	244.18	20.73	234.35	NA ⁽²⁾	NA ⁽²⁾	10.19	244.06	2.12	243.19	5.45	243.99	NA ⁽²⁾	NA ⁽²⁾
30-Jul-21	10.61	244.16	20.71	234.37	NA ⁽²⁾	NA ⁽²⁾	10.24	244.01	2.11	243.20	5.48	243.95	NA ⁽²⁾	NA ⁽²⁾
6-Aug-21	10.63	244.14	20.29	234.79	NA ⁽²⁾	NA ⁽²⁾	10.25	244.00	2.25	243.06	5.50	243.93	NA ⁽²⁾	NA ⁽²⁾
13-Aug-21	10.66	244.11	20.41	234.67	NA ⁽²⁾	NA ⁽²⁾	10.27	243.98	2.31	243.00	5.52	243.91	NA ⁽²⁾	NA ⁽²⁾
18-Aug-21	10.67	244.11	20.33	234.75	5.32	235.59	10.27	243.99	2.34	242.98	5.51	243.92	11.01	233.38
20-Aug-21	10.68	244.09	21.11	233.97	NA ⁽²⁾	NA ⁽²⁾	10.27	243.98	2.37	242.94	5.52	243.91	NA ⁽²⁾	NA ⁽²⁾
27-Aug-21	10.57	244.20	20.80	234.28	NA ⁽²⁾	NA ⁽²⁾	10.27	243.98	2.35	242.96	5.53	243.90	NA ⁽²⁾	NA ⁽²⁾
3-Sep-21	10.69	244.08	21.37	233.71	NA ⁽²⁾	NA ⁽²⁾	10.30	243.95	2.42	242.89	5.53	243.90	NA ⁽²⁾	NA ⁽²⁾
10-Sep-21	10.67	244.10	20.90	234.18	NA ⁽²⁾	NA ⁽²⁾	10.26	243.99	2.39	242.92	5.51	243.92	NA ⁽²⁾	NA ⁽²⁾
17-Sep-21	10.62	244.15	20.85	234.23	NA ⁽²⁾	NA ⁽²⁾	10.21	244.04	2.29	243.02	5.45	243.98	NA ⁽²⁾	NA ⁽²⁾
24-Sep-21	10.59	244.18	20.58	234.50	NA ⁽²⁾	NA ⁽²⁾	10.21	244.04	2.00	243.31	5.46	243.98	NA ⁽²⁾	NA ⁽²⁾
1-Oct-21	10.60	244.17	20.84	234.24	NA ⁽²⁾	NA ⁽²⁾	10.22	244.03	2.12	243.19	5.46	243.97	NA ⁽²⁾	NA ⁽²⁾
8-Oct-21	10.62	244.15	20.68	234.40	NA ⁽²⁾	NA ⁽²⁾	10.23	244.02	2.07	243.24	5.48	243.95	NA ⁽²⁾	NA ⁽²⁾
15-Oct-21	10.57	244.20	19.82	235.26	NA ⁽²⁾	NA ⁽²⁾	10.16	244.09	2.00	243.31	5.41	244.02	NA ⁽²⁾	NA ⁽²⁾
22-Oct-21	10.58	244.19	19.87	235.21	NA ⁽²⁾	NA ⁽²⁾	10.20	244.05	1.90	243.41	5.44	243.99	NA ⁽²⁾	NA ⁽²⁾
19-Nov-21	10.51	244.26	20.28	234.80	NA ⁽²⁾	NA ⁽²⁾	10.13	244.12	1.77	243.54	5.39	244.04	NA ⁽²⁾	NA ⁽²⁾
8-Dec-21	10.41	244.36	20.09	234.99	4.85	236.06	10.07	244.18	1.69	243.62	5.33	244.10	10.51	233.88

Notes:

- (1) Not measured. Monitoring well was destroyed.
(2) Hydraulic monitoring event not required as part of ARA Licence, PTTW or ECA.
(3) SW1A is the small pond.
(4) SW1B is the main pond.
(6) Installed on June 4, 2021.
m btor Metres below top of riser pipe.
m AMSL Metres above mean sea level.
NA Not available.
NI Monitoring well not installed.

Table 4.1
2021 Hydraulic Monitoring Data
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	MW5-16		MW6-16		MW7-18		OW1-96A		OW1-96B		OW1-96C		MP1S	
	Reference Elevation (m AMSL)	253.69	Reference Elevation (m AMSL)	251.42	Reference Elevation (m AMSL)	256.56	Reference Elevation (m AMSL)	249.73	Reference Elevation (m AMSL)	249.72	Reference Elevation (m AMSL)	249.70	Reference Elevation (m AMSL)	245.93
	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)	Water Water (btor)	Groundwater Elevation (m AMSL)
27-Jan-21	7.12	246.57	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Feb-21	7.25	246.44	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Mar-21	7.19	246.50	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-May-21	7.05	246.64	5.63	245.79	NA ⁽²⁾	NA ⁽²⁾	20.08	229.65	19.45	230.27	13.41	236.29	1.94	243.99
4-Jun-21	7.06	246.63	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.90	244.03
11-Jun-21	7.09	246.60	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.96	243.98
18-Jun-21	7.12	246.57	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.94	243.99
2-Jul-21	7.06	246.64	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.75	244.18
9-Jul-21	7.02	246.68	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.86	244.07
16-Jul-21	7.01	246.68	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.90	244.03
23-Jul-21	7.04	246.66	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.93	244.00
30-Jul-21	7.06	246.63	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.92	244.01
6-Aug-21	7.08	246.61	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.98	243.95
13-Aug-21	7.12	246.57	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.97	243.96
18-Aug-21	7.12	246.57	5.88	245.54	NA ⁽²⁾	NA ⁽²⁾	20.29	229.44	19.68	230.05	13.85	235.85	NA ⁽²⁾	NA ⁽²⁾
20-Aug-21	7.13	246.56	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	2.03	243.90
27-Aug-21	7.14	246.55	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	2.01	243.92
3-Sep-21	7.18	246.51	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	2.04	243.89
10-Sep-21	7.18	246.51	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.98	243.95
17-Sep-21	7.16	246.53	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.94	243.99
24-Sep-21	7.10	246.59	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.92	244.01
1-Oct-21	7.09	246.60	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.96	243.97
8-Oct-21	7.10	246.59	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.95	243.98
15-Oct-21	7.10	246.59	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.87	244.06
22-Oct-21	7.09	246.60	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.88	244.05
19-Nov-21	6.98	246.71	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.87	244.06
8-Dec-21	6.85	246.84	5.45	245.97	10.50	246.06	19.58	230.15	18.92	230.80	13.25	236.46	1.82	244.11

Notes:

- (1) Not measured. Monitoring well was destroyed.
(2) Hydraulic monitoring event not required as part of ARA Licence, PTTW or ECA.
(3) SW1A is the small pond.
(4) SW1B is the main pond.
(6) Installed on June 4, 2021.
m btor Metres below top of riser pipe.
m AMSL Metres above mean sea level.
NA Not available.
NI Monitoring well not installed.

Table 4.1
2021 Hydraulic Monitoring Data
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	MP2S		SW1A ⁽³⁾		SW1B ⁽⁴⁾		SG2B	
	Reference Elevation (m AMSL)	245.20	Elevation (m AMSL) ⁽⁵⁾⁽⁶⁾	243.61	Elevation (m AMSL) ⁽⁵⁾⁽⁶⁾	244.55	Elevation (m AMSL) ⁽⁵⁾⁽⁶⁾	242.63
	Water (btor)	Groundwater Elevation (m AMSL)	Water Elevation	Elevation	Water Elevation	Elevation	Water Elevation	Elevation
27-Jan-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI
24-Feb-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI
30-Mar-21	NA ⁽²⁾	NA ⁽²⁾	0.55	243.06	0.63	243.92	NI	NI
27-May-21	1.25	243.95	0.79	242.82	0.93	243.62	NI	NI
4-Jun-21	1.20	244.01	NA ⁽²⁾	NA ⁽²⁾	0.94	243.61	-0.99	243.62
11-Jun-21	1.28	243.92	NA ⁽²⁾	NA ⁽²⁾	1.00	243.56	-0.94	243.57
18-Jun-21	1.24	243.96	NA ⁽²⁾	NA ⁽²⁾	1.07	243.48	-0.87	243.50
2-Jul-21	1.08	244.12	NA ⁽²⁾	NA ⁽²⁾	0.99	243.56	-0.98	243.61
9-Jul-21	1.15	244.05	NA ⁽²⁾	NA ⁽²⁾	0.93	243.62	Submerged	Submerged
16-Jul-21	1.18	244.02	NA ⁽²⁾	NA ⁽²⁾	0.94	243.61	Submerged	Submerged
23-Jul-21	1.25	243.96	NA ⁽²⁾	NA ⁽²⁾	0.98	243.57	-0.96	243.59
30-Jul-21	1.21	243.99	NA ⁽²⁾	NA ⁽²⁾	0.99	243.56	-0.85	243.48
6-Aug-21	1.27	243.93	NA ⁽²⁾	NA ⁽²⁾	1.08	243.47	-0.88	243.51
13-Aug-21	1.27	243.93	NA ⁽²⁾	NA ⁽²⁾	1.15	243.40	-0.83	243.46
18-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	-0.78	243.41
20-Aug-21	1.33	243.87	Inaccessible	Inaccessible	1.19	243.36	-0.79	243.42
27-Aug-21	1.31	243.89	NA ⁽²⁾	NA ⁽²⁾	1.20	243.35	-0.75	243.38
3-Sep-21	1.33	243.87	NA ⁽²⁾	NA ⁽²⁾	1.21	243.34	-0.69	243.32
10-Sep-21	1.27	243.93	NA ⁽²⁾	NA ⁽²⁾	1.19	243.36	-0.70	243.33
17-Sep-21	1.23	243.97	NA ⁽²⁾	NA ⁽²⁾	1.19	243.36	-0.75	243.38
24-Sep-21	1.29	243.91	NA ⁽²⁾	NA ⁽²⁾	1.08	243.47	-0.86	243.49
1-Oct-21	1.24	243.96	NA ⁽²⁾	NA ⁽²⁾	1.07	243.48	-0.86	243.49
8-Oct-21	1.25	243.95	NA ⁽²⁾	NA ⁽²⁾	1.04	243.51	-0.84	243.47
15-Oct-21	1.16	244.04	NA ⁽²⁾	NA ⁽²⁾	0.98	243.57	-0.96	243.59
22-Oct-21	1.15	244.05	NA ⁽²⁾	NA ⁽²⁾	0.92	243.63	-0.99	243.62
19-Nov-21	1.15	244.05	NA ⁽²⁾	NA ⁽²⁾	0.83	243.72	-1.10	243.73
8-Dec-21	1.13	244.07	0.73	242.89	0.76	243.79	-1.13	243.76

Notes:

- (1) Not measured. Monitoring well was destroyed.
(2) Hydraulic monitoring event not required as part of ARA Licence, PTTW or ECA.
(3) SW1A is the small pond.
(4) SW1B is the main pond.
(6) Installed on June 4, 2021.
m btor Metres below top of riser pipe.
m AMSL Metres above mean sea level.
NA Not available.
NI Monitoring well not installed.

Table 4.2

**Average Precipitation by Month
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Month	Environment Canada Climate Normals		Difference Between 2021 and Climate Normals (mm)	Percentage Difference in Precipitation (%)
	Precipitation 1981-2010 ⁽¹⁾ (mm)	2021 Precipitation ⁽²⁾ (mm)		
January	64	38	-26	-41%
February	58	55	-3	-5%
March	68	38	-30	-44%
April	79	69	-10	-13%
May	79	35	-44	-56%
June	85	99	14	17%
July	101	99	-2	-2%
August	79	61	-18	-23%
September	82	184	102	125%
October	77	155	78	100%
November	84	41	-43	-51%
December	73	64	-9	-12%
Total	930	938	8	1%

Notes:

mm - Millimetres

(1) Environment Canada Climate Normals for Precipitation from 1981-2010 for Hamilton A Station, Climate ID: 6153194.

(2) Precipitation data obtained from Environment Canada for Hamilton A Station, Climate ID: 6153193.

Hamilton A Station Climate ID: 6153193 for years 2011 to 2021 and Climate ID: 6153194 for years prior to 2011.

Table 6.1

2021 Groundwater Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:			BH88-1-I	BH88-1-I	BH88-1-I	BH88-2-I	BH88-2-I	BH88-2-I	BH88-4-I	BH88-4-I
Sample ID:			GW-78410-052721-018	GW-78410-081921-RC-012	GW-78410-120821-RC-005	GW-78410-052621-005	GW-78410-081821-RC-009	GW-78410-120921-RC-017	GW-78410-052721-015	GW-78410-081921-AB-016
Sample Date:			27-May-2021	19-Aug-2021	8-Dec-2021	26-May-2021	18-Aug-2021	9-Dec-2021	27-May-2021	19-Aug-2021
Parameters	Units	ODWQS								
Field Parameters										
Conductivity, field	µS/cm	-	637	612	675	566	505	608	635	579
Conductivity	µmhos/cm	-	577	632	652	539	583	626	536	609
Dissolved oxygen (DO), field	mg/L	-	6.24	8.47	4.72	8	7.12	9.7	8.57	6.74
Oxidation reduction potential (ORP), field	millivolts	-	164	165	155	260	210	31	173	1
pH, field	s.u.	6.5-8.5	7.81	7.37	7.55	7.43	7.33	7.24	7.65	7.33
pH, lab	s.u.	6.5-8.5	7.94	7.77	7.94	7.93	7.96	8.18	8.07	7.75
Temperature, field	Deg C	-	11.13	13.18	7.56	19.83	18.3	3.45	11.55	14.41
Turbidity, field	NTU	-	8	0	18	6.2	0	0	5.9	5.4
Turbidity	NTU	-	0.34	0.34	0.85	0.89	0.68	1.11	ND (0.10)	0.45
General Chemistry										
Alkalinity, bicarbonate	mg/L	-	211	289	259	231	255	242	172	269
Alkalinity, carbonate	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO ₃)	mg/L	500	211	289	259	231	255	242	172	269
Ammonia-N	mg/L	-	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Un-ionized ammonia	mg/L	-	ND (0.00016)	ND (0.000067)	ND (0.000067)	ND (0.00013)	ND (0.00028)	ND (0.000023)	ND (0.00011)	ND (0.000067)
Anion sum	meq	-	4.94	6.26	5.86	4.95	5.45	5.43	4.52	6.05
Anion/Cation ratio	%	-	17	5	8	10	6	6	21	6
Cation sum	meq	-	6.98	6.98	6.82	6.06	6.18	6.18	6.91	6.79
Chloride	mg/L	250	13.4	13.8	14.2	12.8	15.6	19.4	23.5	21.7
Dissolved organic carbon (DOC)	mg/L	5	ND (1.96)	0.97	ND (1.36)	4.64 J	3.04 J	1.03	ND (1.26)	2.46 J
Escherichia coli	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	100	338	338	330	297	303	303	327	321
Nitrate (as N)	mg/L	10	8.89	8.88	9.55	7.61	6.73	8.35	9.46	9.33
Nitrite (as N)	mg/L	1	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	10	8.89	8.88	9.55	7.61	6.73	8.35	9.46	9.33
Orthophosphate	mg/L	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	0.0034	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	500	21	22.5	23.6	10.7	14.7	12.6	15.7	16.3
Total coliform bacteria	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA
Total dissolved solids (TDS)	mg/L	500	362	374	374	317	343	329	373	371
Total organic carbon (TOC)	mg/L	-	ND (1.97)	1.06	ND (1.93)	2.12 J	ND (1.42) J	0.98	ND (1.73)	1.25 J
Total suspended solids (TSS)	mg/L	-	ND (3.0)	3.5	4.9	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	3.3

Notes:

- (1) Samples analyzed for escherichia coli and total coliform bacteria in December 2021 for additional Site characterization purposes.
- ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.
- cfu/100mL Colony forming units per 100 millilitres.
- NA Not analyzed.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- J+ The result is an estimated quantity, but the result may be biased high.
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- meq Milliequivalents
- NTU Nephelometric turbidity units
- 11.6** Concentration is above the ODWQS

Table 6.1

2021 Groundwater Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:			BH88-4-I	BH88-4-AI	BH88-4-AI	BH88-4-AI	BH88-4-AII	BH88-4-AII	BH88-4-AII	BH88-5-I
Sample ID:			GW-78410-120821-RC-008	GW-78410-052721-016	GW-78410-081921-AB-011	GW-78410-120821-RC-006	GW-78410-052721-017	GW-78410-081921-AB-017	GW-78410-120821-RC-007	GW-78410-052721-011
Sample Date:			8-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021	27-May-2021
Parameters	Units	ODWQS								
Field Parameters										
Conductivity, field	µS/cm	-	664	635	565	656	628	572	654	690
Conductivity	µmhos/cm	-	653	562	613	639	558	604	616	619
Dissolved oxygen (DO), field	mg/L	-	4.8	9.4	9.96	7.1	5.07	2.61	4.31	5.45
Oxidation reduction potential (ORP), field	millivolts	-	184	196	260	171	197	10	175	267
pH, field	s.u.	6.5-8.5	7.57	7.54	6.96	7.57	7.60	7.19	7.60	7.20
pH, lab	s.u.	6.5-8.5	7.96	7.97	7.73	7.99	7.88	7.66	7.74	7.82
Temperature, field	Deg C	-	7.78	11.19	13.57	8.16	11.13	12.86	8.07	9.05
Turbidity, field	NTU	-	31.1	0	0	9.4	741	446	1000 >	0
Turbidity	NTU	-	0.13	0.29	0.28	0.12	118	138	187	0.11
General Chemistry										
Alkalinity, bicarbonate	mg/L	-	245	193	272	243	208	275	255	208
Alkalinity, carbonate	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO ₃)	mg/L	500	245	193	272	243	208	275	255	208
Ammonia-N	mg/L	-	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Un-ionized ammonia	mg/L	-	ND (0.000071)	ND (0.000085)	ND (0.000027)	ND (0.000072)	ND (0.000097)	ND (0.000044)	ND (0.000077)	ND (0.000033)
Anion sum	meq	-	5.76	4.82	6.08	5.73	5.07	6.17	5.92	5.25
Anion/Cation ratio	%	-	6	17	5	7	17	6	4	15
Cation sum	meq	-	6.49	6.85	6.73	6.54	7.12	6.95	6.41	7.13
Chloride	mg/L	250	22.4	21.5	20.7	22.5	22.3	22.2	22.9	21.1
Dissolved organic carbon (DOC)	mg/L	5	ND (1.38)	ND (2.22)	0.84	2.96 J+	ND (1.72)	1.55 J	ND (1.13)	ND (2.21)
Escherichia coli	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	100	309	323	319	310	337	329	303	336
Nitrate (as N)	mg/L	10	9.7	9.08	8.81	9.28	8.67	8.58	9.25	11.4
Nitrite (as N)	mg/L	1	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	10	9.7	9.08	8.81	9.28	8.67	8.58	9.25	11.4
Orthophosphate	mg/L	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	500	18	17.8	18.2	19.9	18.5	19.3	19.9	19.7
Total coliform bacteria	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA
Total dissolved solids (TDS)	mg/L	500	364	367	373	359	396	401	369	386
Total organic carbon (TOC)	mg/L	-	ND (1.34)	ND (1.90)	0.92	ND (2.29) J	2.9 J+	0.97 J	ND (3.8)	ND (2.05)
Total suspended solids (TSS)	mg/L	-	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	678	445	502	ND (3.0)

Notes:

- (1) Samples analyzed for escherichia coli and total coliform bacteria in December 2021 for additional Site characterization purposes.
- ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.
- cfu/100mL Colony forming units per 100 millilitres.
- NA Not analyzed.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- J+ The result is an estimated quantity, but the result may be biased high.
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- meq Milliequivalents
- NTU Nephelometric turbidity units
- 11.6** Concentration is above the ODWQS

Table 6.1

2021 Groundwater Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:	BH88-5-I	BH88-5-I	BH88-5-II	BH88-5-II	BH88-5-II	BH88-5-AI	BH88-5-AI	BH88-5-AI		
Sample ID:	GW-78410-081921-RC-014	GW-78410-120821-RC-002	GW-78410-052721-012	GW-78410-081921-RC-015	GW-78410-120821-RC-001	GW-78410-052721-013	GW-78410-081921-RC-013	GW-78410-120821-RC-003		
Sample Date:	19-Aug-2021	8-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021		
Parameters	Units	ODWQS								
Field Parameters										
Conductivity, field	µS/cm	-	625	687	672	626	683	981	901	995
Conductivity	µmhos/cm	-	649	672	617	651	671	870	926	970
Dissolved oxygen (DO), field	mg/L	-	8.24	7.74	5.93	8.52	7.3	0	2.2	7.6
Oxidation reduction potential (ORP), field	millivolts	-	160	191	248	153	177	2	-59	20
pH, field	s.u.	6.5-8.5	7.41	7.51	7.45	7.43	7.48	7.47	7.25	7.37
pH, lab	s.u.	6.5-8.5	7.72	7.93	7.83	7.78	7.89	7.88	7.57	7.72
Temperature, field	Deg C	-	13.45	8.2	9.56	13.68	8.6	9.71	13.9	7.98
Turbidity, field	NTU	-	0	0	0	0	0	121	450	824
Turbidity	NTU	-	0.19	0.61	0.2	0.18	0.53	44.8	183	339
General Chemistry										
Alkalinity, bicarbonate	mg/L	-	277	250	209	278	251	146	237	229
Alkalinity, carbonate	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO ₃)	mg/L	500	277	250	209	278	251	146	237	229
Ammonia-N	mg/L	-	0.019	ND (0.010)	0.019	ND (0.010)	ND (0.010)	0.055	0.05	0.055
Un-ionized ammonia	mg/L	-	0.000139	ND (0.000063)	0.000118	ND (0.000080)	ND (0.000061)	0.000356	0.000269	0.000247
Anion sum	meq	-	6.36	6.01	5.3	6.38	6.03	8.83	10.3	10.6
Anion/Cation ratio	%	-	6	7	15	6	7	11	2	-1
Cation sum	meq	-	7.12	6.89	7.23	7.19	6.94	11.1	10.6	10.4
Chloride	mg/L	250	21.8	22.5	22	21.8	22.6	23.2	23.2	24.4
Dissolved organic carbon (DOC)	mg/L	5	2.21 J	ND (1.45)	ND (2.67)	1.08	ND (1.09)	ND (2.21)	1.25	ND (0.91)
Escherichia coli	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	100	335	323	340	339	326	540	518	508
Nitrate (as N)	mg/L	10	10.7	11	11.4	10.7	11.1	ND (0.020)	ND (0.020)	ND (0.020)
Nitrite (as N)	mg/L	1	0.016	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.013	ND (0.010)
Nitrite/Nitrate	mg/L	10	10.716	11	11.4	10.7	11.1	ND (0.022)	ND (0.022)	ND (0.022)
Orthophosphate	mg/L	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	500	20.4	21.5	19.7	20.3	21.5	277	276	294
Total coliform bacteria	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA
Total dissolved solids (TDS)	mg/L	500	397	374	394	414	367	687	693	655
Total organic carbon (TOC)	mg/L	-	0.94 J	ND (1.74)	ND (1.92)	0.93	ND (1.69)	ND (2.5)	1.75	ND (3.1)
Total suspended solids (TSS)	mg/L	-	15	ND (3.0)	ND (3.0)	8.8	ND (3.0)	162	388	766

Notes:

- (1) Samples analyzed for escherichia coli and total coliform bacteria in December 2021 for additional Site characterization purposes.
- ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.
- cfu/100mL Colony forming units per 100 millilitres.
- NA Not analyzed.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- J+ The result is an estimated quantity, but the result may be biased high.
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- meq Milliequivalents
- NTU Nephelometric turbidity units
- 11.6** Concentration is above the ODWQS

Table 6.1

2021 Groundwater Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:			BH88-6-I	BH88-6-I	BH88-6-I	MW1-12	MW1-12	MW1-12	MW1-12	MW1-12	MW1-12
Sample ID:			GW-78410-052621-004	GW-78410-081821-AB-001	GW-78410-120921-RC-018	GW-78410-052621-007	GW-78410-052621-008	GW-78410-081821-RC-003	GW-78410-081821-RC-007	GW-78410-120921-RC-015	GW-78410-120921-RC-016
Sample Date:			26-May-2021	18-Aug-2021	9-Dec-2021	26-May-2021	26-May-2021 Duplicate	18-Aug-2021	18-Aug-2021 Duplicate	9-Dec-2021	9-Dec-2021 Duplicate
Parameters	Units	ODWQS									
Field Parameters											
Conductivity, field	µS/cm	-	532	409	618	658	658	626	626	603	603
Conductivity	µmhos/cm	-	517	583	666	589	584	656	659	643	645
Dissolved oxygen (DO), field	mg/L	-	0	0	2.7	7.09	7.09	7.39	7.39	8.21	8.21
Oxidation reduction potential (ORP), field	millivolts	-	306	-293	-270	221	221	194	194	46	46
pH, field	s.u.	6.5-8.5	7.34	7.27	7.19	7.56	7.56	7.37	7.37	6.95	6.95
pH, lab	s.u.	6.5-8.5	8.14	7.83	8.09	8.10	8.03	7.93	7.96	7.66	7.73
Temperature, field	Deg C	-	16.14	21.22	10.32	16.02	16.02	22.99	22.99	9.87	9.87
Turbidity, field	NTU	-	3.1	0	0	1.9	1.9	0	0	0	0
Turbidity	NTU	-	3.82	16	16.6	0.18	0.27	0.11	ND (0.10)	ND (0.10)	ND (0.10)
General Chemistry											
Alkalinity, bicarbonate	mg/L	-	250	298	307	217	214	255	255	221	219
Alkalinity, carbonate	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO ₃)	mg/L	500	250	298	307	217	214	255	255	221	219
Ammonia-N	mg/L	-	ND (0.010)	0.017	ND (0.010)	ND (0.010)	ND (0.010)	0.018 J	0.040 J	ND (0.010)	ND (0.010)
Un-ionized ammonia	mg/L	-	ND (0.000080)	0.000161	ND (0.000031)	ND (0.00013)	ND (0.00013)	0.00024 J	0.00056 J	ND (0.000020)	ND (0.000020)
Anion sum	meq	-	4.81	5.51	5.78	5.45	5.4	6.11	6.11	5.6	5.57
Anion/Cation ratio	%	-	13	7	8	11	11	6	5	4	5
Cation sum	meq	-	6.2	6.37	6.81	6.76	6.79	6.89	6.8	6.05	6.12
Chloride	mg/L	250	20.5	18.8	19.7	29.2	29.3	31.5	31.5	33.6	33.7
Dissolved organic carbon (DOC)	mg/L	5	3.31 J	2.77 J	2.82 J	2.13 J	2.19 J	1.93 J	4.26 J	1.62 J	1.2
Escherichia coli	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness	mg/L	100	296	304	326	313	315	318	315	279	281
Nitrate (as N)	mg/L	10	0.186	0.25	0.882	9.12	9.12	8.47	8.45	7.5	7.54
Nitrite (as N)	mg/L	1	ND (0.010)	ND (0.050)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	10	0.186	0.25	0.882	9.12	9.12	8.47	8.45	7.5	7.54
Orthophosphate	mg/L	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	500	3.51	1.9	2.97	18.2	18.2	19.2	19.2	22.4	22.5
Total coliform bacteria	cfu/100mL	0	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total dissolved solids (TDS)	mg/L	500	329	300	307	407	397	388	393	343	336
Total organic carbon (TOC)	mg/L	-	1.68 J	ND (1.91) J	0.99 J	1.44 J	1.57 J	ND (1.14) J	ND (1.27) J	0.80 J	0.93
Total suspended solids (TSS)	mg/L	-	ND (3.0)	3.7	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)

Notes:

- (1) Samples analyzed for escherichia coli and total coliform bacteria in December 2021 for additional Site characterization purposes.
- ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.
- cfu/100mL Colony forming units per 100 millilitres.
- NA Not analyzed.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- J+ The result is an estimated quantity, but the result may be biased high.
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- meq Milliequivalents
- NTU Nephelometric turbidity units
- 11.6** Concentration is above the ODWQS

Table 6.1

2021 Groundwater Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:			MW1-12 ⁽¹⁾	MW1-12 ⁽¹⁾	MW2-12	MW2-12	MW2-12	MW3-16	MW3-16	MW3-16
Sample ID:			GW-78410-120921-RC-S3	GW-78410-120921-RC-S4	GW-78410-052721-014	GW-78410-081921-RC-018	GW-78410-120821-RC-004	GW-78410-052721-009	GW-78410-081821-AB-010	GW-78410-120921-RC-011
Sample Date:			9-Dec-2021	9-Dec-2021 Duplicate	27-May-2021	19-Aug-2021	8-Dec-2021	27-May-2021	18-Aug-2021	9-Dec-2021
Parameters	Units	ODWQS								
Field Parameters										
Conductivity, field	µS/cm	-	603	603	600	584	688	600	634	668
Conductivity	µmhos/cm	-	NA	NA	453	605	664	599	662	652
Dissolved oxygen (DO), field	mg/L	-	8.21	8.21	7.03	5.64	4.17	5.43	2.5	3.4
Oxidation reduction potential (ORP), field	millivolts	-	46	46	150	49	140	457	3	219
pH, field	s.u.	6.5-8.5	6.95	6.95	7.68	7.20	7.34	7.49	7.26	7.49
pH, lab	s.u.	6.5-8.5	NA	NA	7.96	7.53	7.75	7.85	7.97	8.05
Temperature, field	Deg C	-	9.87	9.87	8.52	13.69	9.72	12.41	14.08	6.02
Turbidity, field	NTU	-	0	0	491	82.6	131	13.2	0	3
Turbidity	NTU	-	NA	NA	70.2	17.3	72.2	0.8	0.14	0.19
General Chemistry										
Alkalinity, bicarbonate	mg/L	-	NA	NA	182	302	283	201	256	225
Alkalinity, carbonate	mg/L	-	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	NA	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO ₃)	mg/L	500	NA	NA	182	302	283	201	256	225
Ammonia-N	mg/L	-	NA	NA	0.025	0.031	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Un-ionized ammonia	mg/L	-	NA	NA	0.000188	0.000146	ND (0.000048)	ND (0.000084)	ND (0.000055)	ND (0.000051)
Anion sum	meq	-	NA	NA	4.19	5.99	6.08	5.14	6.13	5.69
Anion/Cation ratio	%	-	NA	NA	22	6	5	15	4	5
Cation sum	meq	-	NA	NA	6.51	6.73	6.7	7.02	6.69	6.24
Chloride	mg/L	250	NA	NA	12.9	12.9	11.9	29.5	33.2	35.1
Dissolved organic carbon (DOC)	mg/L	5	NA	NA	ND (2.58)	1.55	ND (1.25)	ND (2.67)	1.38	2.15 J
Escherichia coli	cfu/100mL	0	0	0	NA	NA	NA	NA	NA	NA
Hardness	mg/L	100	NA	NA	320	330	329	326	310	287
Nitrate (as N)	mg/L	10	NA	NA	9.73	7.69	13.3	8.63	7.98	7.01
Nitrite (as N)	mg/L	1	NA	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	10	NA	NA	9.73	7.69	13.3	8.63	7.98	7.01
Orthophosphate	mg/L	-	NA	NA	ND (0.0030)	0.0041	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	500	NA	NA	5.61	5	5.72	18.3	18.8	22.4
Total coliform bacteria	cfu/100mL	0	0	0	NA	NA	NA	NA	NA	NA
Total dissolved solids (TDS)	mg/L	500	NA	NA	386	367	400	328	401	354
Total organic carbon (TOC)	mg/L	-	NA	NA	2.7 J+	1.52	ND (2.7)	ND (1.89)	ND (1.00)	1.77 J
Total suspended solids (TSS)	mg/L	-	NA	NA	119	41.6	160	ND (3.0)	ND (3.0)	ND (3.0)

Notes:

- (1) Samples analyzed for escherichia coli and total coliform bacteria in December 2021 for additional Site characterization purposes.
- ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.
- cfu/100mL Colony forming units per 100 millilitres.
- NA Not analyzed.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- J+ The result is an estimated quantity, but the result may be biased high.
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- meq Milliequivalents
- NTU Nephelometric turbidity units
- 11.6** Concentration is above the ODWQS

Table 6.1

2021 Groundwater Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:			MW3-16	MW3-16 ⁽¹⁾	MW4-16	MW4-16	MW4-16	MW5-16	MW5-16	MW5-16
Sample ID:			GW-78410-120921-RC-012	GW-78410-120921-RC-S2	GW-78410-052621-006	GW-78410-081821-RC-008	GW-78410-120821-RC-009	GW-78410-052621-001	GW-78410-052621-002	GW-78410-081821-AB-002
Sample Date:			9-Dec-2021	9-Dec-2021	26-May-2021	18-Aug-2021	8-Dec-2021	26-May-2021	26-May-2021	18-Aug-2021
Parameters	Units	ODWQS	Duplicate						Duplicate	
Field Parameters										
Conductivity, field	µS/cm	-	668	668	592	592	580	546	546	571
Conductivity	µmhos/cm	-	654	NA	565	614	620	608	596	638
Dissolved oxygen (DO), field	mg/L	-	3.4	3.4	2.53	8.04	8.01	5.47	5.47	3.1
Oxidation reduction potential (ORP), field	millivolts	-	219	219	197	194	10	491	491	43
pH, field	s.u.	6.5-8.5	7.49	7.49	7.57	7.40	7.34	7.31	7.31	6.89
pH, lab	s.u.	6.5-8.5	7.66	NA	8.18	7.95	8.02	7.95	8.00	7.92
Temperature, field	Deg C	-	6.02	6.02	18.02	22.29	5.74	19.8	19.8	18.72
Turbidity, field	NTU	-	3	3	27.4	102	194	14.2	14.2	0
Turbidity	NTU	-	0.19	NA	113	70.2	97.7	3.19	3.69	2.69
General Chemistry										
Alkalinity, bicarbonate	mg/L	-	224	NA	255	278	260	230	233	261
Alkalinity, carbonate	mg/L	-	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	ND (1.0)	NA	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO ₃)	mg/L	500	224	NA	255	278	260	230	233	261
Ammonia-N	mg/L	-	ND (0.010)	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.025 J
Un-ionized ammonia	mg/L	-	ND (0.000051)	NA	ND (0.00015)	ND (0.00014)	ND (0.000035)	ND (0.000096)	ND (0.000096)	0.000079 J
Anion sum	meq	-	5.64	NA	5.48	5.9	5.68	5.44	5.5	6
Anion/Cation ratio	%	-	7	NA	7	3	5	10	9	6
Cation sum	meq	-	6.45	NA	6.26	6.3	6.31	6.7	6.63	6.74
Chloride	mg/L	250	35	NA	15.7	16.5	17.4	18.3	18.2	18.4
Dissolved organic carbon (DOC)	mg/L	5	3.02 J	NA	2.62	4.84 J	ND (1.67)	1.8	1.58	1.78
Escherichia coli	cfu/100mL	0	NA	0	NA	NA	NA	NA	NA	NA
Hardness	mg/L	100	297	NA	299	301	301	323	320	324
Nitrate (as N)	mg/L	10	7	NA	7.18	7.32	7.65	10.6	10.8	11.4
Nitrite (as N)	mg/L	1	ND (0.010)	NA	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	10	7	NA	7.18	7.32	7.65	10.6	10.8	11.4
Orthophosphate	mg/L	-	ND (0.0030)	NA	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	500	22.4	NA	13.8	15.3	16	17.1	17.2	17.3
Total coliform bacteria	cfu/100mL	0	NA	3	NA	NA	NA	NA	NA	NA
Total dissolved solids (TDS)	mg/L	500	353	NA	362	387	333	403	398	385
Total organic carbon (TOC)	mg/L	-	2.33 J	NA	3	ND (2.44) J	ND (2.29)	1.73	1.62	ND (1.31)
Total suspended solids (TSS)	mg/L	-	ND (3.0)	NA	167	90.7	220	7.8	6.8	9.3 J

Notes:

- (1) Samples analyzed for escherichia coli and total coliform bacteria in December 2021 for additional Site characterization purposes.
- ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.
- cfu/100mL Colony forming units per 100 millilitres.
- NA Not analyzed.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- J+ The result is an estimated quantity, but the result may be biased high.
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- meq Milliequivalents
- NTU Nephelometric turbidity units
- 11.6** Concentration is above the ODWQS

Table 6.1

2021 Groundwater Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:			MW5-16	MW5-16	MW6-16	MW6-16	MW6-16
Sample ID:			GW-78410-081821-AB-006	GW-78410-120921-RC-013	GW-78410-052621-003	GW-78410-081821-AB-005	GW-78410-120921-RC-014
Sample Date:			18-Aug-2021	9-Dec-2021	26-May-2021	18-Aug-2021	9-Dec-2021
Parameters	Units	ODWQS	Duplicate				
Field Parameters							
Conductivity, field	µS/cm	-	571	664	532	510	661
Conductivity	µmhos/cm	-	642	636	575	624	635
Dissolved oxygen (DO), field	mg/L	-	3.1	4.14	2.35	2.25	4.64
Oxidation reduction potential (ORP), field	millivolts	-	43	233	468	15	238
pH, field	s.u.	6.5-8.5	6.89	7.58	7.41	7.20	7.62
pH, lab	s.u.	6.5-8.5	7.87	7.73	8.19	7.96	7.99
Temperature, field	Deg C	-	18.72	5.24	17.54	18.78	6.25
Turbidity, field	NTU	-	0	5	1.1	0	0.7
Turbidity	NTU	-	2.37	0.77	0.37	0.15	0.18
General Chemistry							
Alkalinity, bicarbonate	mg/L	-	259	238	239	265	247
Alkalinity, carbonate	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO ₃)	mg/L	500	259	238	239	265	247
Ammonia-N	mg/L	-	ND (0.010) J	ND (0.010)	ND (0.010)	0.063	ND (0.010)
Un-ionized ammonia	mg/L	-	ND (0.000034) J	ND (0.000058)	ND (0.00010)	0.000434	ND (0.000069)
Anion sum	meq	-	5.99	5.65	5.47	5.88	5.68
Anion/Cation ratio	%	-	5	5	9	5	5
Cation sum	meq	-	6.58	6.25	6.53	6.5	6.33
Chloride	mg/L	250	18.4	18.8	16.5	16.8	18.3
Dissolved organic carbon (DOC)	mg/L	5	1.46	1.51 J	4.45 J	1.07	1.02
Escherichia coli	cfu/100mL	0	NA	NA	NA	NA	NA
Hardness	mg/L	100	316	299	313	312	303
Nitrate (as N)	mg/L	10	11.6	11.7	8.46	8.5	8.8
Nitrite (as N)	mg/L	1	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrite/Nitrate	mg/L	10	11.6	11.7	8.46	8.5	8.8
Orthophosphate	mg/L	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	500	17.3	17.8	20	20.3	21.9
Total coliform bacteria	cfu/100mL	0	NA	NA	NA	NA	NA
Total dissolved solids (TDS)	mg/L	500	409	366	371	368	342
Total organic carbon (TOC)	mg/L	-	ND (1.33)	0.74 J	1.76 J	ND (1.17)	1.28
Total suspended solids (TSS)	mg/L	-	5.3 J	11	ND (3.0)	ND (3.0)	3.3

Notes:

- (1) Samples analyzed for escherichia coli and total coliform bacteria in December 2021 for additional Site characterization purposes.
- ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.
- cfu/100mL Colony forming units per 100 millilitres.
- NA Not analyzed.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- J+ The result is an estimated quantity, but the result may be biased high.
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- meq Milliequivalents
- NTU Nephelometric turbidity units
- 11.6** Concentration is above the ODWQS

Table 6.2

2021 Groundwater Analytical Data - Metals
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:	BH88-1-I	BH88-1-I	BH88-1-I	BH88-2-I	BH88-2-I	BH88-2-I	BH88-4-I	BH88-4-I	BH88-4-I		
Sample ID:	GW-78410-052721-018	GW-78410-081921-RC-012	GW-78410-120821-RC-005	GW-78410-052621-005	GW-78410-081821-RC-009	GW-78410-120921-RC-017	GW-78410-052721-015	GW-78410-081921-AB-016	GW-78410-120821-RC-008		
Sample Date:	27-May-2021	19-Aug-2021	8-Dec-2021	26-May-2021	18-Aug-2021	9-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021		
Parameters	Units	ODWQS									
Dissolved Metals⁽¹⁾											
Aluminum (dissolved)	mg/L	0.1	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0389	ND (0.0050)	ND (0.0050)	ND (0.0050)
Antimony (dissolved)	mg/L	0.006	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Arsenic (dissolved)	mg/L	0.025	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00013	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Barium (dissolved)	mg/L	1	0.145	0.147	0.143	0.0918	0.0962	0.0875	0.215	0.213	0.21
Beryllium (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (dissolved)	mg/L	5	0.012	0.012	0.011	ND (0.010)	ND (0.010)	ND (0.010)	0.011	0.01	ND (0.010)
Cadmium (dissolved)	mg/L	0.005	0.0000136	0.0000194	0.000012	0.0000236	0.0000172	0.0000278	0.0000075	0.0000087	0.0000057
Calcium (dissolved)	mg/L	-	87.2	87.3	85.3	80.1	80.7	81.2	86.7	85.1	81.4
Chromium (dissolved)	mg/L	0.05	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00052	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (dissolved)	mg/L	1	ND (0.00045)	0.00046	0.0005	0.00214	0.00051	ND (0.0010)	ND (0.00020)	0.00059	0.00043
Iron (dissolved)	mg/L	0.3	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.053	ND (0.010)	ND (0.010)	ND (0.010)
Lead (dissolved)	mg/L	0.01	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	0.000143	ND (0.000050)	ND (0.000050)	ND (0.000050)
Lithium (dissolved)	mg/L	-	0.0031	0.003	0.0026	0.0013	0.0012	ND (0.0010)	0.0027	0.0025	0.0018
Magnesium (dissolved)	mg/L	-	29.3	29.2	28.5	23.6	24.6	24.4	26.9	26.3	25.6
Manganese (dissolved)	mg/L	0.05	0.00063	ND (0.00050)	ND (0.00050)	0.0008	ND (0.00050)	0.00286	ND (0.00050)	ND (0.00050)	ND (0.00050)
Molybdenum (dissolved)	mg/L	-	0.000256	0.000265	0.000244	0.000192	0.000193	0.000208	0.000236	0.000238	0.000216
Nickel (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Phosphorus (dissolved)	mg/L	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium (dissolved)	mg/L	-	1.6	1.58	1.46	0.901	0.902	0.803	1.19	1.16	1.05
Selenium (dissolved)	mg/L	0.05	0.000304	0.000269	0.000246	0.000066	0.000105	0.000065	0.000532	0.000375	0.0004
Silicon (dissolved)	mg/L	-	5.59	5.38	5.25	4.21	4.19	4.06	5.58	5.41	5.31
Silicon	mg/L	-	5.18	5.47	4.96	4.35	4.33	4.06	5.26	5.46	5.2
Silver (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium (dissolved)	mg/L	-	4.05	4.28	4.32	2.15	2.35	2.17	7.89	8.13	6.75
Strontium (dissolved)	mg/L	-	0.177	0.177	0.169	0.0998	0.111	0.0989	0.204	0.201	0.192
Thallium (dissolved)	mg/L	-	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)
Tin (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Titanium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	0.00113	ND (0.00030)	ND (0.00030)	ND (0.00030)
Tungsten (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium (dissolved)	mg/L	0.02	0.000376	0.00036	0.000364	0.000244	0.000286	0.000245	0.000332	0.00031	0.000323
Vanadium (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Zinc (dissolved)	mg/L	5	0.0028	0.0027	0.0029	0.0216	0.007	0.0187	ND (0.0010)	ND (0.0010)	0.0011
Zirconium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)

Notes:

ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.

(1) The laboratory analyzed total metals instead of dissolved metals for samples collected on December 9, 2021 at BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW5-16, and MW6-16. Results provided are total metals.

ND Not detected at the associated reporting limit.

J Estimated concentration.

J+ The result is an estimated quantity, but the result may be biased high.

mg/L Milligram per litre.

0.397 Concentration is above the ODWQS.

Table 6.2

2021 Groundwater Analytical Data - Metals
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:	BH88-4-AI	BH88-4-AI	BH88-4-AI	BH88-4-AII	BH88-4-AII	BH88-4-AII	BH88-5-I	BH88-5-I		
Sample ID:	GW-78410-052721-016	GW-78410-081921-AB-011	GW-78410-120821-RC-006	GW-78410-052721-017	GW-78410-081921-AB-017	GW-78410-120821-RC-007	GW-78410-052721-011	GW-78410-081921-RC-014		
Sample Date:	27-May-2021	19-Aug-2021	8-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021	27-May-2021	19-Aug-2021		
Parameters	Units	ODWQS								
Dissolved Metals⁽¹⁾										
Aluminum (dissolved)	mg/L	0.1	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.446	0.439	ND (0.0050)	ND (0.0050)	ND (0.0050)
Antimony (dissolved)	mg/L	0.006	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Arsenic (dissolved)	mg/L	0.025	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00034	0.00029	0.00013	ND (0.00010)	0.0001
Barium (dissolved)	mg/L	1	0.226	0.226	0.216	0.221	0.225	0.218	0.183	0.185
Beryllium (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (dissolved)	mg/L	5	0.01	ND (0.010)	ND (0.010)	0.01	ND (0.010)	ND (0.010)	0.011	0.011
Cadmium (dissolved)	mg/L	0.005	ND (0.0000050)	ND (0.0000050)	ND (0.0000050)	0.0000139	0.0000145	ND (0.0000050)	0.0000117	0.0000114
Calcium (dissolved)	mg/L	-	84.5	83.8	81.5	89	86.6	79.1	89.1	87.7
Chromium (dissolved)	mg/L	0.05	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00069	0.0006	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00013	0.00012	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (dissolved)	mg/L	1	ND (0.00096)	0.00024	0.0003	ND (0.00091)	0.0006	0.00038	ND (0.00084)	0.00027
Iron (dissolved)	mg/L	0.3	ND (0.010)	ND (0.010)	ND (0.010)	0.23	0.251	ND (0.010)	ND (0.010)	ND (0.010)
Lead (dissolved)	mg/L	0.01	ND (0.000050)	ND (0.000050)	ND (0.000050)	0.000751	0.000742	ND (0.000050)	ND (0.000050)	ND (0.000050)
Lithium (dissolved)	mg/L	-	0.0029	0.0027	0.0023	0.0034	0.0033	0.0024	0.0033	0.0032
Magnesium (dissolved)	mg/L	-	27.1	26.6	26	27.9	27.3	25.7	27.5	28.1
Manganese (dissolved)	mg/L	0.05	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.0146	0.013	ND (0.00050)	ND (0.00050)	ND (0.00050)
Molybdenum (dissolved)	mg/L	-	0.000272	0.000265	0.000431	0.000333	0.000341	0.000401	0.000228	0.000239
Nickel (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Phosphorus (dissolved)	mg/L	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium (dissolved)	mg/L	-	1.22	1.19	1.09	1.26	1.31	1.06	1.55	1.56
Selenium (dissolved)	mg/L	0.05	0.000461	0.000296	0.000365	0.000484	0.000386	0.000417	0.000331	0.000256
Silicon (dissolved)	mg/L	-	5.74	5.61	5.3	6.48	6.73	5.64	5.57	5.36
Silicon	mg/L	-	5.5	5.66	5.39	12.5	10.9	11.6	5.43	5.39
Silver (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium (dissolved)	mg/L	-	8.5	7.62	7.01	8.04	7.81	7.33	8.81	8.95
Strontium (dissolved)	mg/L	-	0.214	0.212	0.202	0.287	0.295	0.266	0.21	0.206
Thallium (dissolved)	mg/L	-	ND (0.000010)	ND (0.000010)	ND (0.000010)	0.000011	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)
Tin (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Titanium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	0.0109	ND (0.0090)	ND (0.00030)	ND (0.00030)	ND (0.00030)
Tungsten (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium (dissolved)	mg/L	0.02	0.000357	0.000349	0.000341	0.000487	0.000458	0.000374	0.000332	0.000316
Vanadium (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00051	ND (0.00050)	ND (0.00050)	ND (0.00050)
Zinc (dissolved)	mg/L	5	0.0012	ND (0.0010)	ND (0.0010)	0.0036	0.0032	0.002	0.0033	0.0031
Zirconium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)

Notes:

ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.

(1) The laboratory analyzed total metals instead of dissolved metals for samples collected on December 9, 2021 at BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW5-16, and MW6-16. Results provided are total metals.

ND Not detected at the associated reporting limit.

J Estimated concentration.

J+ The result is an estimated quantity, but the result may be biased high.

mg/L Milligram per litre.

0.397 Concentration is above the ODWQS.

Table 6.2

2021 Groundwater Analytical Data - Metals
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:	BH88-5-I	BH88-5-II	BH88-5-II	BH88-5-II	BH88-5-AI	BH88-5-AI	BH88-5-AI	BH88-6-I		
Sample ID:	GW-78410-120821-RC-002	GW-78410-052721-012	GW-78410-081921-RC-015	GW-78410-120821-RC-001	GW-78410-052721-013	GW-78410-081921-RC-013	GW-78410-120821-RC-003	GW-78410-052621-004		
Sample Date:	8-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021	27-May-2021	19-Aug-2021	8-Dec-2021	26-May-2021		
Parameters	Units	ODWQS								
Dissolved Metals⁽¹⁾										
Aluminum (dissolved)	mg/L	0.1	ND (0.0050)	0.0058	ND (0.0050)	0.0077	0.0276	0.0227	0.0056	ND (0.0050)
Antimony (dissolved)	mg/L	0.006	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Arsenic (dissolved)	mg/L	0.025	ND (0.00010)	0.00012	0.00012	0.0001	0.00058	0.00054	0.00049	ND (0.00010)
Barium (dissolved)	mg/L	1	0.173	0.186	0.186	0.186	0.0159	0.015	0.014	0.0941
Beryllium (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (dissolved)	mg/L	5	0.01	0.011	0.011	0.01	0.043	0.04	0.037	0.014
Cadmium (dissolved)	mg/L	0.005	0.0000242	0.0000118	0.0000098	0.0000117	ND (0.0000050)	ND (0.0000050)	ND (0.0000050)	0.0000065
Calcium (dissolved)	mg/L	-	84.1	90.5	89.2	84.5	160	153	150	76.4
Chromium (dissolved)	mg/L	0.05	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (dissolved)	mg/L	1	0.00135	ND (0.00301)	0.00037	0.00048	ND (0.00191)	ND (0.00020)	ND (0.00020)	0.00333
Iron (dissolved)	mg/L	0.3	ND (0.010)	ND (0.010)	ND (0.010)	0.013	0.405	0.358	0.378	0.094
Lead (dissolved)	mg/L	0.01	0.000081	0.000111	ND (0.000050)	0.000099	0.000103	0.000067	ND (0.000050)	ND (0.000050)
Lithium (dissolved)	mg/L	-	0.003	0.0033	0.0031	0.0031	0.0104	0.0097	0.0095	0.0011
Magnesium (dissolved)	mg/L	-	27.5	27.7	28.1	27.9	34.2	33.2	32.2	25.5
Manganese (dissolved)	mg/L	0.05	0.00102	0.00058	ND (0.00050)	0.00117	0.0129	0.0116	0.0111	0.0421
Molybdenum (dissolved)	mg/L	-	0.000205	0.000228	0.00021	0.00021	0.00206	0.00192	0.00184	0.00061
Nickel (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Phosphorus (dissolved)	mg/L	-	0.091	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium (dissolved)	mg/L	-	1.7	1.57	1.55	1.5	1.55	1.51	1.35	1.39
Selenium (dissolved)	mg/L	0.05	0.000346	0.000351	0.000303	0.0003	ND (0.000050)	ND (0.000050)	0.000104	0.000068
Silicon (dissolved)	mg/L	-	5.26	5.49	5.36	5.56	6.83	6.53	6.57	3.88
Silicon	mg/L	-	5.06	5.6	5.5	5.28	9.26	12.9	16.2	3.92
Silver (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium (dissolved)	mg/L	-	8.84	8.93	8.92	8.75	5.62	5.42	5.25	5.73
Strontium (dissolved)	mg/L	-	0.201	0.21	0.207	0.197	4.96	4.81	4.74	0.127
Thallium (dissolved)	mg/L	-	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)
Tin (dissolved)	mg/L	-	ND (0.00010)	0.00013	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Titanium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00090)	ND (0.00060)	ND (0.00030)	ND (0.00030)
Tungsten (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium (dissolved)	mg/L	0.02	0.000296	0.000327	0.000321	0.000315	0.000081	0.000071	0.000071	0.000168
Vanadium (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Zinc (dissolved)	mg/L	5	0.0033	0.0049	0.0031	0.0033	0.0014	0.0031	ND (0.0010)	0.0036
Zirconium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)

Notes:

ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.

(1) The laboratory analyzed total metals instead of dissolved metals for samples collected on December 9, 2021 at BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW5-16, and MW6-16. Results provided are total metals.

ND Not detected at the associated reporting limit.

J Estimated concentration.

J+ The result is an estimated quantity, but the result may be biased high.

mg/L Milligram per litre.

0.397 Concentration is above the ODWQS.

Table 6.2

2021 Groundwater Analytical Data - Metals
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:	BH88-6-I	BH88-6-I	MW1-12	MW1-12	MW1-12	MW1-12	MW1-12	MW1-12	MW1-12	MW2-12
Sample ID:	GW-78410-081821-AB-001	GW-78410-120921-RC-018	GW-78410-052621-007	GW-78410-052621-008	GW-78410-081821-RC-003	GW-78410-081821-RC-007	GW-78410-081821-RC-007	GW-78410-120921-RC-015	GW-78410-120921-RC-016	GW-78410-052721-014
Sample Date:	18-Aug-2021	9-Dec-2021	26-May-2021	26-May-2021	18-Aug-2021	18-Aug-2021	18-Aug-2021	9-Dec-2021	9-Dec-2021	27-May-2021
Parameters	Units	ODWQS		Duplicate	Duplicate	Duplicate	Duplicate	Duplicate	Duplicate	
Dissolved Metals⁽¹⁾										
Aluminum (dissolved)	mg/L	0.1	ND (0.0050)	0.0069	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Antimony (dissolved)	mg/L	0.006	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Arsenic (dissolved)	mg/L	0.025	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Barium (dissolved)	mg/L	1	0.1	0.104	0.176	0.179	0.175	0.18	0.174	0.172
Beryllium (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (dissolved)	mg/L	5	0.022	0.020	0.012	0.012	0.015	0.014	0.014	0.014
Cadmium (dissolved)	mg/L	0.005	0.0000071	0.0000085	0.0000063	0.0000073	0.0000114	0.0000079	0.0000066	0.0000070
Calcium (dissolved)	mg/L	-	77.8	84.0	85.4	86.1	87.3	86.4	74.6	75.9
Chromium (dissolved)	mg/L	0.05	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (dissolved)	mg/L	1	0.00298	ND (0.0010)	0.0018	0.00178	0.00154	0.00105	ND (0.0010)	ND (0.0010)
Iron (dissolved)	mg/L	0.3	0.825	1.38	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Lead (dissolved)	mg/L	0.01	ND (0.000050)	ND (0.000050)	0.000058	0.000051	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Lithium (dissolved)	mg/L	-	ND (0.0010)	ND (0.0010)	0.0022	0.0021	0.0027	0.002	0.0016	0.0017
Magnesium (dissolved)	mg/L	-	26.7	28.1	24.4	24.3	24.3	24	22.4	22.3
Manganese (dissolved)	mg/L	0.05	0.0518	0.0286	ND (0.00050)	ND (0.00050)	0.00139	0.00112	ND (0.00050)	ND (0.00050)
Molybdenum (dissolved)	mg/L	-	0.001	0.000834	0.000253	0.000239	0.000236	0.000229	0.000238 J	0.000289 J
Nickel (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Phosphorus (dissolved)	mg/L	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium (dissolved)	mg/L	-	1.44	1.34	2.21	1.34	2.3	2.3	2.09	2.13
Selenium (dissolved)	mg/L	0.05	0.000078	0.000058	0.000321	0.000326	0.000334	0.000349	0.000256	0.000280
Silicon (dissolved)	mg/L	-	3.97	4.24	4.59	4.51	4.91	4.8	4.52	4.49
Silicon	mg/L	-	3.85	4.24	4.56	4.67	4.81	4.81	4.52	4.49
Silver (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium (dissolved)	mg/L	-	5.97	6.13	10.1	10.1	10.8	10.5	9.83	10.1
Strontium (dissolved)	mg/L	-	0.131	0.134	0.165	0.166	0.161	0.165	0.146	0.148
Thallium (dissolved)	mg/L	-	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)
Tin (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Titanium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)
Tungsten (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium (dissolved)	mg/L	0.02	0.000152	0.000167	0.00029	0.000292	0.00028	0.000279	0.000292	0.000294
Vanadium (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Zinc (dissolved)	mg/L	5	0.0032	0.0037	0.0037	0.0038	0.0037	0.003	ND (0.0030)	ND (0.0030)
Zirconium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)

Notes:

ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.

(1) The laboratory analyzed total metals instead of dissolved metals for samples collected on December 9, 2021 at BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW5-16, and MW6-16. Results provided are total metals.

ND Not detected at the associated reporting limit.

J Estimated concentration.

J+ The result is an estimated quantity, but the result may be biased high.

mg/L Milligram per litre.

0.397 Concentration is above the ODWQS.

Table 6.2

2021 Groundwater Analytical Data - Metals
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:	MW2-12	MW2-12	MW3-16	MW3-16	MW3-16	MW3-16	MW4-16	MW4-16	
Sample ID:	GW-78410-081921-RC-018	GW-78410-120821-RC-004	GW-78410-052721-009	GW-78410-081821-AB-010	GW-78410-120921-RC-011	GW-78410-120921-RC-012	GW-78410-052621-006	GW-78410-081821-RC-008	
Sample Date:	19-Aug-2021	8-Dec-2021	27-May-2021	18-Aug-2021	9-Dec-2021	9-Dec-2021 Duplicate	26-May-2021	18-Aug-2021	
Parameters	Units	ODWQS							
Dissolved Metals⁽¹⁾									
Aluminum (dissolved)	mg/L	0.1	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0145 J	0.0133	0.0108
Antimony (dissolved)	mg/L	0.006	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00024	0.0001
Arsenic (dissolved)	mg/L	0.025	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00015
Barium (dissolved)	mg/L	1	0.0652	0.0635	0.174	0.174	0.170	0.168	0.2
Beryllium (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (dissolved)	mg/L	5	0.01	ND (0.010)	0.014	0.013	0.016	0.016	ND (0.010)
Cadmium (dissolved)	mg/L	0.005	0.0000142	0.0000137	0.0000123	0.0000115	0.0000093	0.0000138	0.0000073
Calcium (dissolved)	mg/L	-	91.2	89	89.5	85.3	77.9	81.7	75.2
Chromium (dissolved)	mg/L	0.05	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (dissolved)	mg/L	1	0.00188	0.00029	0.00526 J+	0.00511	ND (0.0010)	ND (0.0010)	0.00048
Iron (dissolved)	mg/L	0.3	ND (0.010)	ND (0.010)	ND (0.010)	0.033	0.014 J	0.095 J	0.016
Lead (dissolved)	mg/L	0.01	ND (0.000050)	ND (0.000050)	0.000139	0.000102	ND (0.00050)	0.000078	0.000081
Lithium (dissolved)	mg/L	-	0.0028	0.0024	0.0025	0.0018	0.0017	0.0017	0.0015
Magnesium (dissolved)	mg/L	-	24.9	25.8	24.9	23.5	22.5	22.6	27.1
Manganese (dissolved)	mg/L	0.05	0.0035	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00077	0.0035
Molybdenum (dissolved)	mg/L	-	0.000133	0.00026	0.000241	0.000227	0.000223	0.000218	0.00027
Nickel (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00166
Phosphorus (dissolved)	mg/L	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium (dissolved)	mg/L	-	0.788	0.728	2.25	2.08	2.00	2.01	1.61
Selenium (dissolved)	mg/L	0.05	0.000165	0.000253	0.000395	0.000342	0.000241	0.000234	0.000135
Silicon (dissolved)	mg/L	-	5.24	5.23	4.68	4.51	4.36	4.48	4.39
Silicon	mg/L	-	7.19	9.18	4.72	4.66	4.36	4.48	8.87
Silver (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium (dissolved)	mg/L	-	2.37	2.72	10.2	10.3	10.5	10.7	5.46
Strontium (dissolved)	mg/L	-	0.156	0.152	0.171	0.162	0.145	0.145	0.125
Thallium (dissolved)	mg/L	-	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	0.000015
Tin (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Titanium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	0.00035	0.00037
Tungsten (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium (dissolved)	mg/L	0.02	0.000256	0.00027	0.000304	0.000281	0.000294	0.000291	0.000281
Vanadium (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Zinc (dissolved)	mg/L	5	0.0033	0.002	0.0061	0.0158	0.0033	0.0056	0.47
Zirconium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)

Notes:

ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.

(1) The laboratory analyzed total metals instead of dissolved metals for samples collected on December 9, 2021 at BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW5-16, and MW6-16. Results provided are total metals.

ND Not detected at the associated reporting limit.

J Estimated concentration.

J+ The result is an estimated quantity, but the result may be biased high.

mg/L Milligram per litre.

0.397 Concentration is above the ODWQS.

Table 6.2

2021 Groundwater Analytical Data - Metals
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:	MW4-16	MW5-16	MW5-16	MW5-16	MW5-16	MW5-16	MW5-16	MW6-16	MW6-16	MW6-16
Sample ID:	GW-78410-120821-RC-009	GW-78410-052621-001	GW-78410-052621-002	GW-78410-081821-AB-002	GW-78410-081821-AB-006	GW-78410-120921-RC-013	GW-78410-052621-003	GW-78410-081821-AB-005	GW-78410-120921-RC-014	
Sample Date:	8-Dec-2021	26-May-2021	26-May-2021	18-Aug-2021	18-Aug-2021	9-Dec-2021	26-May-2021	18-Aug-2021	9-Dec-2021	
Parameters	Units	ODWQS		Duplicate	Duplicate					
Dissolved Metals⁽¹⁾										
Aluminum (dissolved)	mg/L	0.1	0.0094	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0300
Antimony (dissolved)	mg/L	0.006	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Arsenic (dissolved)	mg/L	0.025	0.00012	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00014	0.00014	0.00014
Barium (dissolved)	mg/L	1	0.195	0.138	0.138	0.129	0.134	0.131	0.216	0.219
Beryllium (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (dissolved)	mg/L	5	ND (0.010)	0.011	ND (0.010)	0.011	ND (0.010)	ND (0.010)	0.01	0.011
Cadmium (dissolved)	mg/L	0.005	0.0000066	0.0000093	0.0000073	0.0000066	0.0000084	0.0000094	0.0000059	0.0000058
Calcium (dissolved)	mg/L	-	73.5	89.8	88.7	92	88	81.5	82.1	80.9
Chromium (dissolved)	mg/L	0.05	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (dissolved)	mg/L	1	0.00042	0.00475 J	0.00057 J	0.00089 J	0.00549 J	ND (0.0010)	0.0007	0.00024
Iron (dissolved)	mg/L	0.3	0.017	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.049
Lead (dissolved)	mg/L	0.01	ND (0.000050)	0.000105 J	ND (0.000050) J	ND (0.000050) J	0.000104 J	ND (0.000050)	ND (0.000050)	0.000059
Lithium (dissolved)	mg/L	-	0.0016	0.0026	0.0025	0.0029	0.0021	0.0017	0.0027	0.0024
Magnesium (dissolved)	mg/L	-	28.6	24	23.9	22.9	23.5	23.2	26.2	26.7
Manganese (dissolved)	mg/L	0.05	0.00202	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00160
Molybdenum (dissolved)	mg/L	-	0.000432	0.000252	0.000225	0.000231	0.00025	0.000226	0.000225	0.000233
Nickel (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Phosphorus (dissolved)	mg/L	-	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium (dissolved)	mg/L	-	1.38	1.26	1.25	1.19	1.2	1.09	1.53	1.5
Selenium (dissolved)	mg/L	0.05	0.00034	0.000352	0.000364	0.000402	0.000388	0.000327	0.000277	0.000336
Silicon (dissolved)	mg/L	-	4.74	5.22	5.28	5.34	5.14	4.78	5.3	5.29
Silicon	mg/L	-	8.12	5.4	5.53	5.33	5.46	4.78	5.52	5.41
Silver (dissolved)	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium (dissolved)	mg/L	-	5.9	4.84	4.78	5.22	5.3	5.57	5.38	5.39
Strontium (dissolved)	mg/L	-	0.12	0.177	0.174	0.173	0.172	0.165	0.177	0.173
Thallium (dissolved)	mg/L	-	0.000013	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)
Tin (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Titanium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	0.00153
Tungsten (dissolved)	mg/L	-	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium (dissolved)	mg/L	0.02	0.000333	0.000327	0.000319	0.000298	0.00031	0.000305	0.000348	0.000331
Vanadium (dissolved)	mg/L	-	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Zinc (dissolved)	mg/L	5	0.0233	0.0041 J	0.0015 J	0.0016 J	0.0043 J	0.0013	0.0013	0.0010
Zirconium (dissolved)	mg/L	-	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)

Notes:

ODWQS Ontario Drinking Water Quality Standards, June 2003, revised 2006.

(1) The laboratory analyzed total metals instead of dissolved metals for samples collected on December 9, 2021 at BH88-2-I, BH88-6-I, MW1-12, MW3-16, MW5-16, and MW6-16. Results provided are total metals.

ND Not detected at the associated reporting limit.

J Estimated concentration.

J+ The result is an estimated quantity, but the result may be biased high.

mg/L Milligram per litre.

0.397 Concentration is above the ODWQS.

Table 6.3

**2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:	BH88-2-I	BH88-2-I	BH88-2-I	BH88-6-I	BH88-6-I
Sample ID:	GW-78410-052621-005	GW-78410-081821-RC-009	GW-78410-120921-RC-017	GW-78410-052621-004	GW-78410-081821-AB-001
Sample Date:	26-May-2021	18-Aug-2021	9-Dec-2021	26-May-2021	18-Aug-2021
Parameters	Units	ODWQS			
Pesticides and Herbicides					
2,4,5-T	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	190	ND (0.50)	ND (0.50)	ND (0.50)
Alachlor	µg/L	5	ND (0.10)	ND (0.10)	ND (0.10)
Aldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Ametryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	5	ND (0.20)	ND (0.20)	ND (0.20)
Azinphos-methyl	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)
Bendiocarb	µg/L	40	ND (0.50)	ND (0.50)	ND (0.50)
Benzo(a)pyrene	µg/L	0.01	ND (0.010)	ND (0.010)	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Bromoxynil	µg/L	5	ND (0.50)	ND (0.50)	ND (0.50)
Carbaryl	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)
Carbofuran	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)
Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Chlorpyrifos	µg/L	90	ND (0.10)	ND (0.10)	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Diazinon	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)
Dicamba	µg/L	120	ND (0.50)	ND (0.50)	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)
Diclofop-methyl	µg/L	9	ND (0.10)	ND (0.10)	ND (0.10)
Dieldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Dimethoate	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)
Endosulfan I	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:	BH88-2-I	BH88-2-I	BH88-2-I	BH88-6-I	BH88-6-I
Sample ID:	GW-78410-052621-005	GW-78410-081821-RC-009	GW-78410-120921-RC-017	GW-78410-052621-004	GW-78410-081821-AB-001
Sample Date:	26-May-2021	18-Aug-2021	9-Dec-2021	26-May-2021	18-Aug-2021
Parameters	Units	ODWQS			
Endosulfan II	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Endrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Glyphosate	µg/L	280	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Malathion	µg/L	190	ND (0.10)	ND (0.10)	ND (0.10)
Mecoprop (MCPP)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Metolachlor	µg/L	50	ND (0.10)	ND (0.10)	ND (0.10)
Metribuzin	µg/L	80	ND (1.0)	ND (1.0)	ND (1.0)
Mirex	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Oxychlorane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Phorate	µg/L	2	ND (0.10)	ND (0.10)	ND (0.10)
Prometon	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Prometryn	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)
Propazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Simazine	µg/L	10	ND (0.10)	ND (0.10)	ND (0.10)
Temephos	µg/L	-	ND (1.0)	ND (1.0)	ND (1.0)
Terbufos	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)
Triallate	µg/L	230	ND (0.10)	ND (0.10)	ND (0.10)
Trifluralin	µg/L	45	ND (0.10)	ND (0.10)	ND (0.10)

Notes:

ODWQS Ontario Drinking Water Quality Standards,
June 2003, revised 2006.

ND Not detected at the associated reporting limit.

µg/L Microgram per litre.

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:			BH88-6-I	MW1-12	MW1-12	MW1-12	MW1-12
Sample ID:			GW-78410-120921-RC-018	GW-78410-052621-007	GW-78410-052621-008	GW-78410-081821-RC-003	GW-78410-081821-RC-007
Sample Date:			9-Dec-2021	26-May-2021	26-May-2021 Duplicate	18-Aug-2021	18-Aug-2021 Duplicate
Parameters	Units	ODWQS					
Pesticides and Herbicides							
2,4,5-T	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	190	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Alachlor	µg/L	5	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ametryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	5	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Azinphos-methyl	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bendiocarb	µg/L	40	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzo(a)pyrene	µg/L	0.01	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromoxynil	µg/L	5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbaryl	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbofuran	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chlorpyrifos	µg/L	90	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Diazinon	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dicamba	µg/L	120	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Diclofop-methyl	µg/L	9	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dieldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dimethoate	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Endosulfan I	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:			BH88-6-I	MW1-12	MW1-12	MW1-12	MW1-12
Sample ID:			GW-78410-120921-RC-018	GW-78410-052621-007	GW-78410-052621-008	GW-78410-081821-RC-003	GW-78410-081821-RC-007
Sample Date:			9-Dec-2021	26-May-2021	26-May-2021 Duplicate	18-Aug-2021	18-Aug-2021 Duplicate
Parameters	Units	ODWQS					
Endosulfan II	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Glyphosate	µg/L	280	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Malathion	µg/L	190	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Mecoprop (MCP)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metolachlor	µg/L	50	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metribuzin	µg/L	80	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Mirex	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Oxychlorane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Phorate	µg/L	2	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometon	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometryn	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Propazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Simazine	µg/L	10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Temephos	µg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Terbufos	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Triallate	µg/L	230	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Trifluralin	µg/L	45	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Notes:

ODWQS Ontario Drinking Water Quality Standards,
June 2003, revised 2006.

ND Not detected at the associated reporting limit.

µg/L Microgram per litre.

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:			MW1-12	MW1-12	MW3-16	MW3-16	MW3-16
Sample ID:			GW-78410-120921-RC-015	GW-78410-120921-RC-016	GW-78410-052721-009	GW-78410-081821-AB-010	GW-78410-120921-RC-011
Sample Date:			9-Dec-2021	9-Dec-2021 Duplicate	27-May-2021	18-Aug-2021	9-Dec-2021
Parameters	Units	ODWQS					
Pesticides and Herbicides							
2,4,5-T	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	190	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Alachlor	µg/L	5	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ametryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	5	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Azinphos-methyl	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bendiocarb	µg/L	40	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzo(a)pyrene	µg/L	0.01	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromoxynil	µg/L	5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbaryl	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbofuran	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chlorpyrifos	µg/L	90	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Diazinon	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dicamba	µg/L	120	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Diclofop-methyl	µg/L	9	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dieldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dimethoate	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Endosulfan I	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:			MW1-12	MW1-12	MW3-16	MW3-16	MW3-16
Sample ID:			GW-78410-120921-RC-015	GW-78410-120921-RC-016	GW-78410-052721-009	GW-78410-081821-AB-010	GW-78410-120921-RC-011
Sample Date:			9-Dec-2021	9-Dec-2021 Duplicate	27-May-2021	18-Aug-2021	9-Dec-2021
Parameters	Units	ODWQS					
Endosulfan II	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Glyphosate	µg/L	280	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Malathion	µg/L	190	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Mecoprop (MCP)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metolachlor	µg/L	50	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metribuzin	µg/L	80	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Mirex	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Oxychlorane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Phorate	µg/L	2	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometon	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometryn	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Propazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Simazine	µg/L	10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Temephos	µg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Terbufos	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Triallate	µg/L	230	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Trifluralin	µg/L	45	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Notes:

ODWQS Ontario Drinking Water Quality Standards,
June 2003, revised 2006.

ND Not detected at the associated reporting limit.

µg/L Microgram per litre.

Table 6.3

**2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:	MW3-16	MW4-16	MW4-16	MW4-16	MW5-16	MW5-16
Sample ID:	GW-78410-120921-RC-012	GW-78410-052621-006	GW-78410-081821-RC-008	GW-78410-120821-RC-009	GW-78410-052621-001	GW-78410-052621-002
Sample Date:	9-Dec-2021 Duplicate	26-May-2021	18-Aug-2021	8-Dec-2021	26-May-2021	26-May-2021 Duplicate
Parameters	Units	ODWQS				
Pesticides and Herbicides						
2,4,5-T	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	190	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Alachlor	µg/L	5	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ametryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	5	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Azinphos-methyl	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bendiocarb	µg/L	40	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzo(a)pyrene	µg/L	0.01	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromoxynil	µg/L	5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbaryl	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbofuran	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chlorpyrifos	µg/L	90	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Diazinon	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dicamba	µg/L	120	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Diclofop-methyl	µg/L	9	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dieldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dimethoate	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Endosulfan I	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:	MW3-16	MW4-16	MW4-16	MW4-16	MW5-16	MW5-16
Sample ID:	GW-78410-120921-RC-012	GW-78410-052621-006	GW-78410-081821-RC-008	GW-78410-120821-RC-009	GW-78410-052621-001	GW-78410-052621-002
Sample Date:	9-Dec-2021	26-May-2021	18-Aug-2021	8-Dec-2021	26-May-2021	26-May-2021
Parameters	Units	ODWQS	Duplicate			Duplicate
Endosulfan II	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Glyphosate	µg/L	280	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Malathion	µg/L	190	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Mecoprop (MCP)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metolachlor	µg/L	50	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metribuzin	µg/L	80	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Mirex	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Oxychlorodane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Phorate	µg/L	2	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometon	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometryn	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Propazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Simazine	µg/L	10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Temephos	µg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Terbufos	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Triallate	µg/L	230	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Trifluralin	µg/L	45	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Notes:

ODWQS Ontario Drinking Water Quality Standards,
June 2003, revised 2006.

ND Not detected at the associated reporting limit.

µg/L Microgram per litre.

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:			MW5-16	MW5-16	MW5-16	MW6-16	MW6-16
Sample ID:			GW-78410-081821-AB-002	GW-78410-081821-AB-006	GW-78410-120921-RC-013	GW-78410-052621-003	GW-78410-081821-AB-005
Sample Date:			18-Aug-2021	18-Aug-2021 Duplicate	9-Dec-2021	26-May-2021	18-Aug-2021
Parameters	Units	ODWQS					
Pesticides and Herbicides							
2,4,5-T	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	100	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	190	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Alachlor	µg/L	5	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ametryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	5	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Azinphos-methyl	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bendiocarb	µg/L	40	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzo(a)pyrene	µg/L	0.01	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromoxynil	µg/L	5	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbaryl	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbofuran	µg/L	90	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chlorpyrifos	µg/L	90	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Diazinon	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dicamba	µg/L	120	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Diclofop-methyl	µg/L	9	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dieldrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dimethoate	µg/L	20	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Endosulfan I	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:			MW5-16	MW5-16	MW5-16	MW6-16	MW6-16
Sample ID:			GW-78410-081821-AB-002	GW-78410-081821-AB-006	GW-78410-120921-RC-013	GW-78410-052621-003	GW-78410-081821-AB-005
Sample Date:			18-Aug-2021	18-Aug-2021 Duplicate	9-Dec-2021	26-May-2021	18-Aug-2021
Parameters	Units	ODWQS					
Endosulfan II	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Glyphosate	µg/L	280	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Malathion	µg/L	190	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Mecoprop (MCP)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metolachlor	µg/L	50	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metribuzin	µg/L	80	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Mirex	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Oxychlorane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Phorate	µg/L	2	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometon	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometryn	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Propazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Simazine	µg/L	10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Temephos	µg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Terbufos	µg/L	1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Triallate	µg/L	230	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Trifluralin	µg/L	45	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Notes:

ODWQS Ontario Drinking Water Quality Standards,
June 2003, revised 2006.

ND Not detected at the associated reporting limit.

µg/L Microgram per litre.

Table 6.3

2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location: MW6-16
Sample ID: GW-78410-120921-RC-014
Sample Date: 9-Dec-2021

Parameters	Units	ODWQS	
Pesticides and Herbicides			
2,4,5-T	µg/L	-	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	100	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	100	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)
4,4'-DDT	µg/L	-	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	190	ND (0.50)
Alachlor	µg/L	5	ND (0.10)
Aldrin	µg/L	-	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)
Ametryn	µg/L	-	ND (0.10)
Atrazine	µg/L	-	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	5	ND (0.20)
Azinphos-methyl	µg/L	20	ND (0.10)
Bendiocarb	µg/L	40	ND (0.50)
Benzo(a)pyrene	µg/L	0.01	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)
Bromoxynil	µg/L	5	ND (0.50)
Carbaryl	µg/L	90	ND (0.50)
Carbofuran	µg/L	90	ND (0.50)
Chlordane	µg/L	-	ND (0.10)
Chlorpyrifos	µg/L	90	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)
Diazinon	µg/L	20	ND (0.10)
Dicamba	µg/L	120	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)
Diclofop-methyl	µg/L	9	ND (0.10)
Dieldrin	µg/L	-	ND (0.10)
Dimethoate	µg/L	20	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)
Endosulfan I	µg/L	-	ND (0.10)

Table 6.3

**2021 Groundwater Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location: MW6-16
Sample ID: GW-78410-120921-RC-014
Sample Date: 9-Dec-2021

Parameters	Units	ODWQS	
Endosulfan II	µg/L	-	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)
Endrin	µg/L	-	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)
Ethyl parathion	µg/L	-	ND (0.10)
gamma-BHC (lindane)	µg/L	-	ND (0.10)
Glyphosate	µg/L	280	ND (0.10)
Heptachlor	µg/L	-	ND (0.10)
Heptachlor epoxide	µg/L	-	ND (0.10)
Hexachlorobenzene	µg/L	-	ND (0.10)
Malathion	µg/L	190	ND (0.10)
Mecoprop (MCP)	µg/L	-	ND (0.50)
Methoxychlor	µg/L	-	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)
Metolachlor	µg/L	50	ND (0.10)
Metribuzin	µg/L	80	ND (1.0)
Mirex	µg/L	-	ND (0.10)
Oxychlorane	µg/L	-	ND (0.10)
Phorate	µg/L	2	ND (0.10)
Prometon	µg/L	-	ND (0.10)
Prometryn	µg/L	1	ND (0.10)
Propazine	µg/L	-	ND (0.10)
Simazine	µg/L	10	ND (0.10)
Temephos	µg/L	-	ND (1.0)
Terbufos	µg/L	1	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)
Triallate	µg/L	230	ND (0.10)
Trifluralin	µg/L	45	ND (0.10)

Notes:

ODWQS Ontario Drinking Water Quality Standards,
June 2003, revised 2006.

ND Not detected at the associated reporting limit.

µg/L Microgram per litre.

Table 6.4

2021 Surface Water Analytical Data - General Chemistry
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:	SW1B	SW1B	SW1B	RECIRCULATION POND	RECIRCULATION POND	RECIRCULATION POND	RECIRCULATION POND	SOURCE POND ⁽¹⁾		
Sample ID:	SW-78410-052721-001	SW-78410-081921-RC-001	SW-78410-120821-RC-001	W-078410-033021-RC-01	W-078410-033021-RC-02	W-078410-111921-KT-001	W-078410-111921-KT-002	WS-78410-120921-RC-S1		
Sample Date:	27-May-2021	19-Aug-2021	8-Dec-2021	30-Mar-2021	30-Mar-2021 Duplicate	19-Nov-2021	19-Nov-2021 Duplicate	9-Dec-21		
Parameters	Units	PWQO								
Field Parameters										
Conductivity, field	µS/cm	-	318	413	477	529	529	607	607	541
Conductivity	µmhos/cm	-	318	418	436	426	424	680	680	580
Dissolved oxygen (DO), field	mg/L	-	17.21	0.66	8.12	14.05	14.05	9.13	9.13	10.29
Oxidation reduction potential (ORP), field	millivolts	-	-61	-135	112	146	146	97	97	70
pH, field	s.u.	6.5-8.5	9.4	6.93	8.36	8.32	8.32	8.44	8.44	8.08
pH, lab	s.u.	6.5-8.5	8.79	7.91	8.32	8.19	8.2	8.25	8.24	7.94
Temperature, field	Deg C	-	22.51	23.6	2.33	8.08	8.08	5.07	5.07	4.03
Turbidity, field	NTU	-	244	0	0	15.4	15.4	55.3	55.3	0
Turbidity	NTU	-	2.47	1.72	5.59	2.28	2.79	51.1	47.9	0.23
General Chemistry										
Alkalinity, bicarbonate	mg/L	-	96	173	156	89.2	90.7	151	152	200
Alkalinity, carbonate	mg/L	-	12	ND (1.0)	2	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, hydroxide	mg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, total (as CaCO3)	mg/L	-	108	173	158	89.2	90.7	151	152	200
Ammonia-N	mg/L	-	0.024	0.041	0.046	ND (0.010)	ND (0.010)	0.01	ND (0.010)	0.028
Un-ionized ammonia	mg/L	0.02	0.0159	0.000215	0.00126	ND (0.00038)	ND (0.00038)	0.00039	ND (0.00037)	0.00047
Anion sum	meq	-	2.78	4	4.09	3.81	3.84	6.11	6.13	5.05
Anion/Cation ratio	%	-	8	4	4	3	2	5	5	7
Cation sum	meq	-	3.24	4.36	4.4	4.01	3.99	6.76	6.76	5.82
Chloride	mg/L	-	24.6	33.8	33.6	52.4	52.4	103	103	26.8
Dissolved organic carbon (DOC) (dissolved)	mg/L	-	15	11.5	4.8	3.94	3.86	2.61 J	1.85 J	1.79
Escherichia coli	cfu/100mL	100	NA	NA	NA	NA	NA	NA	NA	0
Hardness	mg/L	-	150	193	205	169	168	275	276	269
Nitrate (as N)	mg/L	-	ND (0.020)	ND (0.020)	1.7	4.76	4.77	3.07	3.08	6.63
Nitrite (as N)	mg/L	-	ND (0.010)	ND (0.010)	0.02	0.054	0.055	ND (0.010)	0.02	0.023
Nitrite/Nitrate	mg/L	-	ND (0.022)	ND (0.022)	1.72	4.814	4.825	3.07	3.1	6.653
Oil and grease	mg/L	0	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	NA
Orthophosphate (dissolved)	mg/L	-	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulfate	mg/L	-	9.78	9.01	18.2	24	24.1	22.5	22.5	25
Total coliform bacteria	cfu/100mL	1000	NA	NA	NA	NA	NA	NA	NA	3
Total dissolved solids (TDS)	mg/L	-	194	258	251	247	241	408	387	236
Total organic carbon (TOC)	mg/L	-	14.2	11.6	6.06	3.77	3.61	3.65	4.25	1.71
Total suspended solids (TSS)	mg/L	-	13.1	21	12	ND (3.0)	ND (3.0)	57.5	44.9	ND (3.0)

Notes:

- PWQO Provincial Water Quality Objectives, July 1994, revised February 1999
- (1) Source Pond samples analyzed in December 2021 for additional Site characterization purposes.
- ND Not detected at the associated reporting limit
- J Estimated concentration
- µS/cm MicroSiemens per centimetre
- µmhos/cm Micromhos per centimetre
- mg/L Milligram per litre
- Deg C Degrees Celsius
- meq Milliequivalents
- NTU Nephelometric turbidity units

9.4 Concentration is above the PWQO.

Table 6.5

2021 Surface Water Analytical Data - Metals
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Sample Location:		SW1B	SW1B	SW1B	RECIRCULATION POND	RECIRCULATION POND	RECIRCULATION POND	RECIRCULATION POND	SOURCE POND ⁽¹⁾	
Sample ID:		SW-78410-052721-001	SW-78410-081921-RC-001	SW-78410-120821-RC-001	W-078410-033021-RC-01	W-078410-033021-RC-02	W-078410-111921-KT-001	W-078410-111921-KT-002	WS-78410-120921-RC-S1	
Sample Date:		27-May-2021	19-Aug-2021	8-Dec-2021	30-Mar-2021	30-Mar-2021 Duplicate	19-Nov-2021	19-Nov-2021 Duplicate	9-Dec-21	
Parameters	Units	PWQO								
Total Metals										
Aluminum	mg/L	0.075	0.0597	0.172	0.0274	0.0188	0.0187	0.225	0.174 J	ND (0.0050)
Antimony	mg/L	0.02	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00016	ND (0.00010)	0.0001	ND (0.00010)	ND (0.00010)
Arsenic	mg/L	0.005	0.00028	0.0002	0.00014	0.00026	0.00024	0.00041	0.00042	0.00011
Barium	mg/L	-	0.063	0.0971	0.0917	0.0234	0.0238	0.0168	0.0163	0.150
Beryllium	mg/L	0.011	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth	mg/L	-	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron	mg/L	0.2	0.019	0.016	0.012	0.032	0.03	0.052	0.052	0.016
Cadmium	mg/L	0.0002	0.0000054	0.0000081	ND (0.0000050)	0.0000051	0.000005	0.0000172	0.0000145	0.0000050
Calcium	mg/L	-	26.3	38.4	45	40.6	40.2	65.7	65.7	66.6
Chromium	mg/L	0.0089	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00058	ND (0.00050)	0.00091
Cobalt	mg/L	0.0009	ND (0.00010)	0.00012	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00016	0.00014	ND (0.00010)
Copper	mg/L	0.005	ND (0.0010)	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.001	0.0018	0.0015	ND (0.0010)
Iron	mg/L	0.3	0.073	0.25	0.049	0.018	0.016	0.249	0.215	ND (0.010)
Lead	mg/L	0.005	0.000346	0.000577	0.000113	0.000079	0.000075	0.000609	0.000515	ND (0.000050)
Lithium	mg/L	-	0.0017	0.0017	0.0011	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)	0.0020
Magnesium	mg/L	-	19.1	22.7	20.5	19.6	19.5	30.4	30.3	24.9
Manganese	mg/L	-	0.0244	0.138	0.00384	0.00386	0.00391	0.0194	0.0155	0.00069
Molybdenum	mg/L	0.04	0.000087	ND (0.000050)	0.000354	0.000941	0.00095	0.0018	0.00183	0.000237
Nickel	mg/L	0.025	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00125 J	ND (0.00050) J	ND (0.00050)
Phosphorus	mg/L	0.01	ND (0.050)	0.072	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium	mg/L	-	1.72	2.46	2.15	2.47	2.42	3.81	3.77	1.60
Selenium	mg/L	0.1	0.000134	0.000074	0.000106	0.000175	0.000185	0.000261	0.000249	0.000204
Silicon	mg/L	-	5.16	9.5	0.93	1.34	1.36	2.29	2.31	3.48
Silver	mg/L	0.0001	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium	mg/L	-	7.19	10.1	9.39	12.9	12.9	20.3	20.4	9.34
Strontium	mg/L	-	0.0781	0.101	0.111	0.135	0.133	0.179	0.178	0.156
Thallium	mg/L	0.0003	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)
Tin	mg/L	-	ND (0.00010)	0.00013	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00029 J	ND (0.00010) J	ND (0.00010)
Titanium	mg/L	-	0.002	0.00504	0.00081	0.0005	ND (0.00040)	0.00565	0.00489	ND (0.00030)
Tungsten	mg/L	0.03	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium	mg/L	0.005	0.00016	0.000031	0.000382	0.000212	0.000206	0.000306	0.000309	0.000285
Vanadium	mg/L	0.006	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00052	ND (0.00050)	ND (0.00050)
Zinc	mg/L	0.02	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	0.0059	0.0036	ND (0.0030)
Zirconium	mg/L	0.004	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)
Dissolved Metals										
Aluminum (dissolved)	mg/L	0.075	0.0099	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0184 J	0.220 J	NA
Calcium (dissolved)	mg/L	-	26.6	39.2	48	36.9	36.4	64.4	64.7	NA
Magnesium (dissolved)	mg/L	-	20.3	23	20.7	18.7	18.8	27.8	27.7	NA
Silicon (dissolved)	mg/L	-	5.21	9.6	0.867	1.23	1.25	1.91	2.46	NA

Notes:

PWQO Provincial Water Quality Objectives, July 1994, revised February 1999.

(1) Source Pond samples analyzed in December 2021 for additional Site characterization purposes.

ND Not detected at the associated reporting limit.

J Estimated concentration.

mg/L Milligram per litre.

0.072 Concentration is above the PWQO.

Table 6.6

2021 Surface Water Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:	SW1B	SW1B	SW1B	RECIRCULATION POND	RECIRCULATION POND	RECIRCULATION POND
Sample ID:	SW-78410-052721-001	SW-78410-081921-RC-001	SW-78410-120821-RC-001	W-078410-033021-RC-01	W-078410-033021-RC-02	W-078410-111921-KT-001
Sample Date:	27-May-2021	19-Aug-2021	8-Dec-2021	30-Mar-2021	30-Mar-2021 Duplicate	19-Nov-2021
Parameters	Units	PWQO				
Pesticides and Herbicides						
2,4,5-T	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	4	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDT	µg/L	0.003	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Alachlor	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aldrin	µg/L	0.001	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ametryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aminomethyl phosphoric acid (AMPA)	µg/L	-	NA	NA	NA	ND (0.50)
Atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	-	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Azinphos-methyl	µg/L	0.005	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bendiocarb	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzo(a)pyrene	µg/L	-	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromoxynil	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbaryl	µg/L	0.2	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbofuran	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chlordane	µg/L	0.06	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chlorpyrifos	µg/L	0.001	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Diazinon	µg/L	0.08	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dicamba	µg/L	200	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Diclofop-methyl	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dieldrin	µg/L	0.001	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dimethoate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Endosulfan I	µg/L	0.003	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Table 6.6

**2021 Surface Water Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:	SW1B	SW1B	SW1B	RECIRCULATION POND	RECIRCULATION POND	RECIRCULATION POND
Sample ID:	SW-78410-052721-001	SW-78410-081921-RC-001	SW-78410-120821-RC-001	W-078410-033021-RC-01	W-078410-033021-RC-02	W-078410-111921-KT-001
Sample Date:	27-May-2021	19-Aug-2021	8-Dec-2021	30-Mar-2021	30-Mar-2021 Duplicate	19-Nov-2021
Parameters	Units	PWQO				
Endosulfan II	µg/L	0.003	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin	µg/L	0.002	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	0.008	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	0.01	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Glyphosate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor	µg/L	0.001	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	0.001	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	0.0065	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Malathion	µg/L	0.1	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Mecoprop (MCP)	µg/L	-	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	0.04	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metolachlor	µg/L	3	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metribuzin	µg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Mirex	µg/L	0.001	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Oxychlorodane	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Phorate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometon	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Propazine	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Simazine	µg/L	10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Temephos	µg/L	-	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Terbufos	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Triallate	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Trifluralin	µg/L	-	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Notes:

- PWQO Provincial Water Quality Objectives, July 1994, revised February 1999.
- (1) Source Pond samples analyzed in December 2021 for additional Site characterization purposes.
- ND Not detected at the associated reporting limit.
- µg/L Microgram per litre.

Table 6.6

**2021 Surface Water Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:	RECIRCULATION POND		SOURCE POND ⁽¹⁾
Sample ID:	W-078410-111921-KT-002		WS-78410-120921-RC-S1
Sample Date:	19-Nov-2021 Duplicate		9-Dec-21
Parameters	Units	PWQO	
Pesticides and Herbicides			
2,4,5-T	µg/L	-	ND (0.50)
2,4,5-TP (Silvex)	µg/L	-	ND (0.50)
2,4'-DDD	µg/L	-	ND (0.10)
2,4'-DDE	µg/L	-	ND (0.10)
2,4'-DDT	µg/L	-	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	4	ND (0.50)
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	-	ND (0.50)
4,4'-DDD	µg/L	-	ND (0.10)
4,4'-DDE	µg/L	-	ND (0.10)
4,4'-DDT	µg/L	0.003	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	-	ND (0.50)
Alachlor	µg/L	-	ND (0.10)
Aldrin	µg/L	0.001	ND (0.10)
alpha-BHC	µg/L	-	ND (0.10)
alpha-Chlordane	µg/L	-	ND (0.10)
Ametryn	µg/L	-	ND (0.10)
Aminomethyl phosphoric acid (AMPA)	µg/L	-	NA
Atrazine	µg/L	-	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	-	ND (0.20)
Azinphos-methyl	µg/L	0.005	ND (0.10)
Bendiocarb	µg/L	-	ND (0.50)
Benzo(a)pyrene	µg/L	-	ND (0.010)
beta-BHC	µg/L	-	ND (0.10)
Bladex (Cyanazine)	µg/L	-	ND (0.10)
Bromoxynil	µg/L	-	ND (0.50)
Carbaryl	µg/L	0.2	ND (0.50)
Carbofuran	µg/L	-	ND (0.50)
Chlordane	µg/L	0.06	ND (0.10)
Chlorpyrifos	µg/L	0.001	ND (0.10)
delta-BHC	µg/L	-	ND (0.10)
Desethyl atrazine	µg/L	-	ND (0.10)
Diazinon	µg/L	0.08	ND (0.10)
Dicamba	µg/L	200	ND (0.50)
Dichlorprop	µg/L	-	ND (0.50)
Diclofop-methyl	µg/L	-	ND (0.10)
Dieldrin	µg/L	0.001	ND (0.10)
Dimethoate	µg/L	-	ND (0.10)
Dinoseb	µg/L	-	ND (0.50)
Endosulfan I	µg/L	0.003	ND (0.10)

Table 6.6

**2021 Surface Water Analytical Data - Pesticides and Herbicides
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:		RECIRCULATION POND		SOURCE POND⁽¹⁾
Sample ID:		W-078410-111921-KT-002		WS-78410-120921-RC-S1
Sample Date:		19-Nov-2021		9-Dec-21
		Duplicate		
Parameters	Units	PWQO		
Endosulfan II	µg/L	0.003	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	-	ND (0.10)	ND (0.10)
Endrin	µg/L	0.002	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	-	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	0.008	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	0.01	ND (0.10)	ND (0.10)
Glyphosate	µg/L	-	ND (0.10)	ND (0.10)
Heptachlor	µg/L	0.001	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	0.001	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	0.0065	ND (0.10)	ND (0.10)
Malathion	µg/L	0.1	ND (0.10)	ND (0.10)
Mecoprop (MCP)	µg/L	-	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	0.04	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	-	ND (0.10)	ND (0.10)
Metolachlor	µg/L	3	ND (0.10)	ND (0.10)
Metribuzin	µg/L	-	ND (1.0)	ND (1.0)
Mirex	µg/L	0.001	ND (0.10)	ND (0.10)
Oxychlorodane	µg/L	-	ND (0.10)	ND (0.10)
Phorate	µg/L	-	ND (0.10)	ND (0.10)
Prometon	µg/L	-	ND (0.10)	ND (0.10)
Prometryn	µg/L	-	ND (0.10)	ND (0.10)
Propazine	µg/L	-	ND (0.10)	ND (0.10)
Simazine	µg/L	10	ND (0.10)	ND (0.10)
Temephos	µg/L	-	ND (1.0)	ND (1.0)
Terbufos	µg/L	-	ND (0.10)	ND (0.10)
Terbutryn	µg/L	-	ND (0.10)	ND (0.10)
Triallate	µg/L	-	ND (0.10)	ND (0.10)
Trifluralin	µg/L	-	ND (0.10)	ND (0.10)

Notes:

PWQO Provincial Water Quality Objectives, July 1994, revised February 1999.

(1) Source Pond samples analyzed in December 2021 for additional Site characterization purposes.

ND Not detected at the associated reporting limit.

µg/L Microgram per litre.

Table 6.7

**2021 Sediment Analytical Data
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:				Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank
Sample ID:				2021 Sample 1	2021 Sample 1	2021 Sample 2	2021 Sample 2	2021 Sample 3
Sample Date:				SE-078410-051921-RC-01	SE-078410-051921-RC-02	SE-078410-061521-KT-01	SE-078410-061521-KT-02	SE-078410-071421-KT-01
				19-May-2021	19-May-2021	15-Jun-2021	15-Jun-2021	14-Jul-2021
Parameters	CASRN	Units	Reporting Limits⁽¹⁾	Duplicate		Duplicate		
Pesticides								
Alachlor	15972-60-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	834-12-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	1912-24-9	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Atrazine and N-Dealkylated Metabolites	ATRANDEAMETABOL	mg/kg	<0.020	<0.071	<0.071	<0.022	<0.022	<0.022
Azinphos-methyl	86-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	63-25-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	1563-66-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	21725-46-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	333-41-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	60-51-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050	<0.0050	<0.0050	<0.050	<0.050	<0.0050
Malathion	121-75-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor	51218-45-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	21087-64-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion	56-38-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	298-02-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	1610-18-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryne	7287-19-6	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	139-40-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	122-34-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Temephos	3383-96-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbufos	13071-79-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	886-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triallate	2303-17-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifluralin	1582-09-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Organochlorine Pesticides								
Aldrin	309-00-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-BHC	319-84-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-BHC	319-85-7	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
delta-BHC	319-86-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
a-chlordane	5103-71-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
g-chlordane	5103-74-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDD	53-19-0	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020

**2021 Sediment Analytical Data
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:				Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank
Sample ID:				2021 Sample 1	2021 Sample 1	2021 Sample 2	2021 Sample 2	2021 Sample 3
Sample Date:				SE-078410-051921-RC-01	SE-078410-051921-RC-02	SE-078410-061521-KT-01	SE-078410-061521-KT-02	SE-078410-071421-KT-01
				19-May-2021	19-May-2021	15-Jun-2021	15-Jun-2021	14-Jul-2021
Parameters	CASRN	Units	Reporting Limits⁽¹⁾	Duplicate		Duplicate		
pp-DDD	72-54-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o,p-DDE	3424-82-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDE	72-55-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDT	789-02-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDT	50-29-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dieldrin	60-57-1	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-Endosulfan	959-98-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-Endosulfan	33213-65-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin	72-20-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin Aldehyde	7421-93-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor	76-44-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	118-74-1	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lindane	58-89-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Methoxychlor	72-43-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Mirex	2385-85-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Oxychlorane	26880-48-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Herbicides								
2,4,5-T	93-76-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4,5-TP	93-72-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4-D	94-75-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
AMPA	1066-51-9	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromoxynil	1689-84-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dicamba	1918-00-9	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dinoseb	88-85-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
MCPA	94-74-6	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Mecoprop	93-65-2	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Picloram	1918-02-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
General Chemistry								
Moisture	TMOIST	%	-	36.4	36.1	20.3	28.1	47.5

Notes:

(1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014).

**2021 Sediment Analytical Data
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Sample Location:				Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank
Sample ID:				2021 Sample 3	2021 Sample 4	2021 Sample 4	2021 Sample 5	2021 Sample 5
Sample Date:				SE-078410-071421-KT-02	SE-78410-082521-KT-01	SE-78410-082521-KT-02	SE-078410-092321-KT-01	SE-078410-092321-KT-02
				14-Jul-2021	25-Aug-2021	25-Aug-2021	23-Sep-2021	23-Sep-2021
Parameters	CASRN	Units	Reporting Limits⁽¹⁾	Duplicate		Duplicate		Duplicate
Pesticides								
Alachlor	15972-60-8	mg/kg	<0.050	<0.050		<0.050		<0.050
Ametryn	834-12-8	mg/kg	<0.050	<0.050		<0.050		<0.050
Atrazine	1912-24-9	mg/kg	<0.010	<0.010		<0.010		<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020	<0.020		<0.020		<0.020
Atrazine and N-Dealkylated Metabolites	ATRANDEAMETABOL	mg/kg	<0.020	<0.022		<0.022		<0.022
Azinphos-methyl	86-50-0	mg/kg	<0.050	<0.050		<0.050		<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050	<0.050		<0.050		<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050	<0.050		<0.050		<0.050
Carbaryl	63-25-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Carbofuran	1563-66-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Cyanazine	21725-46-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Diazinon	333-41-5	mg/kg	<0.050	<0.050		<0.050		<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050	<0.050		<0.050		<0.050
Dimethoate	60-51-5	mg/kg	<0.050	<0.050		<0.050		<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050	<0.0050		<0.0050		<0.0050
Malathion	121-75-5	mg/kg	<0.050	<0.050		<0.050		<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050	<0.050		<0.050		<0.050
Metolachlor	51218-45-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Metribuzin	21087-64-9	mg/kg	<0.050	<0.050		<0.050		<0.050
Parathion	56-38-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Phorate	298-02-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Prometon	1610-18-0	mg/kg	<0.050	<0.050		<0.050		<0.050
Prometryne	7287-19-6	mg/kg	<0.050	<0.050		<0.050		<0.050
Propazine	139-40-2	mg/kg	<0.050	<0.050		<0.050		<0.050
Simazine	122-34-9	mg/kg	<0.050	<0.050		<0.050		<0.050
Temephos	3383-96-8	mg/kg	<0.050	<0.050		<0.050		<0.050
Terbufos	13071-79-9	mg/kg	<0.050	<0.050		<0.050		<0.050
Terbutryn	886-50-0	mg/kg	<0.050	<0.050		<0.050		<0.050
Triallate	2303-17-5	mg/kg	<0.050	<0.050		<0.050		<0.050
Trifluralin	1582-09-8	mg/kg	<0.050	<0.050		<0.050		<0.050
Organochlorine Pesticides								
Aldrin	309-00-2	mg/kg	<0.020	<0.020		<0.020		<0.020
alpha-BHC	319-84-6	mg/kg	<0.020	<0.020		<0.020		<0.020
beta-BHC	319-85-7	mg/kg	<0.020	<0.020		<0.020		<0.020
delta-BHC	319-86-8	mg/kg	<0.020	<0.020		<0.020		<0.020
a-chlordane	5103-71-9	mg/kg	<0.020	<0.020		<0.020		<0.020
g-chlordane	5103-74-2	mg/kg	<0.020	<0.020		<0.020		<0.020
op-DDD	53-19-0	mg/kg	<0.020	<0.020		<0.020		<0.020

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Sample Date:				SE-078410-071421-KT-02	SE-78410-082521-KT-01	SE-78410-082521-KT-02	SE-078410-092321-KT-01	SE-078410-092321-KT-02
				14-Jul-2021	25-Aug-2021	25-Aug-2021	23-Sep-2021	23-Sep-2021
Parameters	CASRN	Units	Reporting Limits⁽¹⁾	Duplicate		Duplicate		Duplicate
pp-DDD	72-54-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o,p-DDE	3424-82-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDE	72-55-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDT	789-02-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDT	50-29-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dieldrin	60-57-1	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-Endosulfan	959-98-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-Endosulfan	33213-65-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin	72-20-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin Aldehyde	7421-93-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor	76-44-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	118-74-1	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lindane	58-89-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Methoxychlor	72-43-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Mirex	2385-85-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Oxychlorane	26880-48-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Herbicides								
2,4,5-T	93-76-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4,5-TP	93-72-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4-D	94-75-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
AMPA	1066-51-9	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromoxynil	1689-84-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dicamba	1918-00-9	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dinoseb	88-85-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
MCPA	94-74-6	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Mecoprop	93-65-2	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Picloram	1918-02-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
General Chemistry								
Moisture	TMOIST	%	-	45.7	37.2	39.4	40.3	42.2

Notes:

(1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014).

Appendices

Appendix A

Amended Permit to Take Water (PTTW)

Appendix A.1

Amended PTTW No. 7481-C4BQTA (August 13, 2021)

AMENDED PERMIT TO TAKE WATER

Ground Water
NUMBER 7481-C4BQTA

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

CRH Canada Group Inc.
Floor 4 - 2300 Steeles Ave W
Concord, Ontario
L4K 5X6

For the water taking from: Source Water Pond located at 716 Watts Pond Road

Located at: Lot 27, Concession 2, Geographic Township of Dumfries
Brant

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 Guelph District Office.
- (e) "Permit" means this Permit to Take Water No. 7481-C4BQTA including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.
- (f) "Permit Holder" means CRH Canada Group 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 January 6, 2021 and signed by Kevin Mitchell, 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 **October 29, 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	Source Water Pond	Pond Dugout	Aggregate Washing	Industrial	10,000	12	7,200,000	230	17 550738 4784696
						Total Taking:	7,200,000		

- 3.3 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.
- 3.4 The “Taking Specific Purpose” identified in Table A, includes the water to be used for dust suppression, watering trees, shrubs and native plants planted within the last 18 months..
- 3.5 Notwithstanding Table A, the rate of taking from the Source Pond shall only be at the rate and daily maximum listed in Table A for a total of 30 days per annum for the purpose of refilling the Settling and Recirculation Ponds after removal of accumulated sediment from these ponds or repairing the liner in the Recirculation Pond. For the remaining 200 days, the water taking shall be at a rate of no more than 1,400 L/min for 12 hours per day.
- i. Water may be taken during a 12 hour period between a Sunday and the following Monday (e.g. Sunday 7:00pm and Monday 7:00am) at the rate of 10,000 L/min. This water taking shall be measured and shall be recorded as being taken on the Sunday. Water may be taken on the Monday at a rate of 1,400 L/min as per Condition 3.4 above.
- ii. In the event of a long holiday weekend, water may be taken during a 12 hour period between the holiday Monday and Tuesday (e.g. holiday Monday 7:00pm and Tuesday 7:00am). This water taking shall be measured and shall be recorded as being taken on the holiday Monday. Water may be taken on the Tuesday at a rate of 1,400 L/min as per Condition 3.4 above.
- 3.6 Water taking under the authorization of this permit shall only occur between February 15 and December 31 of each year during the validity of this Permit.
- 3.7 In the event the Permit Holder pumps water from the Source Pond at lower than the maximum permitted rates, the saved water can be pumped in other days exceeding the total number of 230 days provided the additional days shall be within the permitted window of February 15 to December 31 inclusive, and the rate of taking shall not exceed 1,400 litres per minute and 1,008,000 litres per day. The Cumulative Volume pumped in all days from February 15 to December 31 shall not exceed 417,600,000 litres annually.

4. Monitoring

- 4.1 Under section 9 of O. Reg. 387/04 as amended from time to time, the Permit Holder shall, on each day water is taken under the authorization of this Permit, record the date, the volume of water taken on that date and the rate at which it was taken. The daily volume of water taken shall be measured by a flow meter or calculated in accordance with the method described in the application for this Permit, or as otherwise accepted by the Director.

The Permit Holder shall maintain a separate record of the water taking used for both dust suppression and vegetation watering.

The Permit Holder shall keep all records required by this condition current and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The Permit Holder, unless otherwise required by the Director, shall submit, on or before March 31st in every year, the records required by this condition to the ministry's Water Taking Reporting System. These records shall be included in the Combined Annual Monitoring Report described in Condition 4.4.

- 4.2 a) The Permit Holder shall monitor groundwater levels at the following monitoring wells;
- i) MW1-12 or replacement well in the same general area,
 - ii) MW3-16 or replacement well located between the Source Pond and the south property boundary, and
 - iii) Wells BH88-5 and BH88-5-II or replacement wells in the same general area.
- b) The three (3) groundwater monitoring wells listed in Condition 4.2 a) shall be located at three (3) different distances from the edge of the Source Pond. In addition, these three (3) wells shall be screened within the upper Sand and Gravel Aquifer. These three (3) wells may be used for other monitoring purposes.
- c) The Permit Holder shall ensure that groundwater levels are collected at the three groundwater monitoring wells described in Condition 4.2 a) between February 15 and December 31 of every year for which the Permit is valid. Water levels shall be collected at a minimum of hourly intervals using a datalogger.
- d) The Permit Holder shall ensure that the data loggers described in Condition 4.2 d) operate without interruption. Repairs or replacement of the dataloggers shall be completed within a reasonable period once a malfunction has been identified.
- 4.3 The Permit Holder shall establish the following surface water monitoring program seasonally during non-freezing conditions:
- a) continuous surface water level monitoring at SW1A, SW1B and MP1S and MP2S.

- b) calculation of vertical hydraulic gradient at the multi-level piezometer; and
- c) continuous water level monitoring shall be logged at a minimum of 4 hour intervals.

4.4 The Permit Holder shall ensure that groundwater levels, surface water levels, and any other data collected from any on site monitoring wells are included in a Combined Annual Monitoring Report. Copies of this Combined Annual Monitoring Report shall be submitted to both the Ministry of the Environment, Conservation and Parks, Section 34.1 Director and the County of Brant by March 31st of each year following the issuance of the Permit to Take Water.

The Combined Annual Monitoring Report shall include a comparison of the annual groundwater elevation contours with the simulated water level changes outlined in the OWRA s34 Permit-To-Take-Water Application and Supporting Hydrologic and Hydrogeologic Study, Dufferin Paris Pit, County of Brant, Ontario, prepared by Conestoga-Rovers & Associates, dated March 2013.

4.5 The Permit Holder shall make the report required by Condition 4.4 available to the Community Advisory Panel, and publicly by posting it on the Company's website at the time specified in Condition 4.4.

4.6 All Permit renewals and amendments other than administrative amendments shall be accompanied by a hydrogeological assessment report which presents and discusses the data collected in Conditions 4.1, 4.2 and 4.3. This report shall be signed and stamped by a qualified person.

4.7 The Permit Holder shall continue to implement the Trigger Mechanism and Contingency Plan for both groundwater and surface water. This Plan shall be reviewed and updated with approval by the ministry as necessary at minimum every two years. This review can be completed as part of the Combined Annual Monitoring report referenced in Condition 4.4.

5. Impacts of the Water Taking

5.1 Notification

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

5.2 For Groundwater Takings

If the taking of water is observed to cause any negative impact to other water supplies obtained from any adequate sources that were in use prior to initial issuance of a Permit for this water taking, the Permit Holder shall take such action necessary to make available to those affected, a supply of water equivalent in quantity and quality to their normal takings, or shall compensate

such persons for their reasonable costs of so doing, or shall reduce the rate and amount of taking to prevent or alleviate the observed negative impact. Pending permanent restoration of the affected supplies, the Permit Holder shall provide, to those affected, temporary water supplies adequate to meet their normal requirements, or shall compensate such persons for their reasonable costs of doing so.

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

6. Director May Amend Permit

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

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

1. Condition 1 is included to ensure that the conditions in this Permit are complied with and can be enforced.
2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.
3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

In accordance with Section 100 of the Ontario Water Resources Act, R.S.O. 1990, you may by written notice served upon me, the Environmental Review Tribunal and the 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
Floor 1, 135 St Clair Ave W
Toronto, ON
M4V 1P5*

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

by Telephone at

(416) 212-6349

Toll Free 1(866) 448-2248

by Fax at

(416) 326-5370

Toll Free 1(844) 213-3474

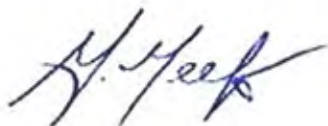
by e-mail at

www.ert.gov.on.ca

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

This Permit cancels and replaces Permit Number 7115-9VVLJW, issued on 2015/10/29.

Dated at Toronto this 13th day of August, 2021.



Gregory Meek
Director, Section 34.1
Ontario Water Resources Act , R.S.O. 1990

Schedule A

This Schedule “A” forms part of Permit To Take Water 7481-C4BQTA, dated August 13, 2021.

1. Application for Amendment to PTTW received by the ministry on January 12, 2021 from CRH Canada Group Inc. Mailing Address: Floor 4 - 2300 Steeles Ave W, Concord, Ontario, Canada, L4K 5X6 for Dufferin Aggregates Paris Pit at Lot 27, Concession 2, 716 Watts Pond Road, geographic township: DUMFRIES, County of Brant, signed by Kevin Mitchell, January 6, 2021. GHD. 2021.
2. Category 3 Permit-To-Take Water Amendment Application Supporting Hydrologic and Hydrogeologic Study, Dufferin Aggregates Paris Pit, signed and stamped by Gary I. Lagos, P. Geo of GHD, January 6, 2021. Dufferin. 2021.
3. Paris Pit Permit to Take Water Amendment Application, Reference No. 8637-BXAR22, letter to Ministry of Environment, Conservation and Parks from Kevin Mitchell of Dufferin Aggregates, May 6, 2021.
4. Trigger Mechanism and Contingency Plan Condition 4.7 – PTTW No. 5826-ALCNNN Dufferin Aggregates Paris Pit, County of Brant, Ontario; for CRH Canada Group Inc. Signed by Michael R. Tomka, P. Eng. and signed and stamped by Gary I. Lagos, P. Geo. of GHD, July 19, 2017, Reference No. 078410.

Appendix A.2

**Amended PTTW No. 5826-ALCNNN
(April 27, 2017)**

AMENDED PERMIT TO TAKE WATER
Ground Water
NUMBER 5826-ALCNNN

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

CRH Canada Group Inc.
Suite 400 - 2300 Steeles Ave W
Concord, Ontario
L4K 5X6

For the water Source Pond
taking from:

Located at: Lot 27, Concession 2, Geographic Township of Dumfries
Brant

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 and Climate Change.
- (d) "District Office" means the Guelph District Office.
- (e) "Permit" means this Permit to Take Water No. 5826-ALCNNN including its Schedules, if any, issued in accordance with Section 34.1 of the OWRA.

- (f) "Permit Holder" means CRH Canada Group 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

- 1.2 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 **October 29, 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	Source Pond	Pond Dugout	Aggregate Washing	Industrial	14,000	12	10,080,000	180	17 550783 4784696
Total Taking:							10,080,000		

- 3.3 The "Taking Specific Purpose" identified in Table A, includes the water to be used for dust suppression.
- 3.4a Notwithstanding Table A, the rate of taking from the Source Pond shall be reduced to a maximum of 1,400 Litres per minute three months after operational commencement of the wash plant.
- 3.4b The rate and amount of water taking from the Source Pond may revert to that in Table A for a period not to exceed thirty (30) consecutive days for the purpose of refilling of the settling and recirculation ponds after the removal of accumulated sediment from these ponds. This shall not be permitted to occur more than one thirty (30) day period annually.
- 3.5 Water taking under the authorization of this Permit shall only occur to a maximum of 180 days between February 15 and December 15 of each year from date of issue to October 29, 2025.
- 3.6 Within 60 days following two full years of operation, the Permit Holder shall submit to the Director a report examining and reporting on whether water taking can be further reduced.

4. Monitoring

- 4.1 Under section 9 of O. Reg. 387/04 as amended from time to time, the Permit Holder shall, on each day water is taken under the authorization of this Permit, record the date, the volume of water taken on that date and the rate at which it was taken. The daily volume of water taken shall be measured by a flow meter or calculated in accordance with the method described in the application for this Permit, or as otherwise accepted by the Director.

The Permit Holder shall maintain a separate record of the water taking used for dust suppression.

The Permit Holder shall keep all records required by this condition current and available at or near the site of the taking and shall produce the records immediately for inspection by a Provincial Officer upon his or her request. The Permit Holder, unless otherwise required by the Director, shall submit, on or before March 31st in every year, the records required by this condition to the ministry's Water Taking Reporting System. These records shall be included in the Combined Annual Monitoring Report described in Condition 4.4.

- 4.2 a) The Permit Holder shall monitor groundwater levels at the following monitoring wells:
- i) MW1-12 or replacement well in the same general area,
 - ii) A well located between the Source Pond and the south property boundary,
 - iii) A well, to be installed prior to the construction of the Source Pond, located west of the Source Pond along the west property boundary. Well H-88-5, may be used as this third well.

The wells listed above shall be installed prior to the construction of the Source Pond.

- b) The three (3) groundwater monitoring wells listed in Condition 4.2 a) shall be located at three (3) different distances from the edge of the Source Pond. In addition, these three (3) wells shall be screened within the upper Sand and Gravel Aquifer. These three (3) wells may be used for other monitoring purposes.
- c) The Permit Holder shall ensure that groundwater levels at the three groundwater monitoring wells are collected during the week prior to and during the construction of the Source Pond, at a minimum of hourly intervals using a datalogger.
- d) The Permit Holder shall notify the County of Brant and the owner of PIN #32039-0053 of the commencement of the Source Pond construction at least two days prior to the start date of the excavation of the Source Pond.
- e) The Permit Holder shall ensure that groundwater levels are collected at the three groundwater monitoring wells described in Condition 4.2 a) between February 15 and December 15 of every year for which the Permit is valid. Water levels shall be collected at a minimum of hourly intervals using a datalogger.
- f) The Permit Holder shall ensure that the data loggers used to collect water level measurements have been serviced and/or checked prior to

their installation in the three groundwater monitoring wells. These data loggers shall be checked at minimum monthly until the end of the second full year of operation. For the remaining years of the Permit, the data loggers shall be checked at a minimum bimonthly during the year of operation. A year of operation is defined as the period from February 15 and December 15 in the same calendar year.

4.3 The Permit Holder shall establish the following surface water monitoring program seasonally during non-freezing conditions:

- a) continuous surface water level monitoring at SW1B (previously referred to as SW1);
- b) continuous water level monitoring in a multi-level piezometer located in the southern portion of the large pond prior to and one year after the construction of the Source Pond;
- c) calculation of vertical hydraulic gradient at the multi-level piezometer; and
- d) continuous water level monitoring shall be logged at 4 hour intervals.

4.4 The Permit Holder shall ensure that groundwater levels, surface water levels, and any other data collected from any on site monitoring wells are included in a Combined Annual Monitoring Report. Copies of this Combined Annual Monitoring Report shall be submitted to both the Ministry of the Environment and Climate Change, Section 34.1 Director and the County of Brant by March 31st of each year following the issuance of the Permit to Take Water.

The Combined Annual Monitoring Report shall include a comparison of the groundwater and surface water levels collected through the year with the simulated water level changes outlines in the OWRA s. 34 Permit-To-Take-Water Application and Supporting Hydrologic and Hydrogeologic Study, Dufferin Paris Pit, County of Brant, Ontario, prepared by Conestoga-Rovers & Associates, dated March 2013.

4.5 The Permit Holder shall make the report required by Condition 4.4 available to the Community Advisory Panel, and publicly by posting it on the Company's website at the time specified in Condition 4.4.

4.6 Following three years of groundwater and surface water monitoring, the Permit Holder may request in writing to the Director, modifications to the monitoring program as described in this Permit. Requested changes may be implemented upon written approval by the Section 34.1 Director.

4.7 Prior to the construction of the Source Pond, the Permit Holder shall submit a Trigger Mechanism and Contingency Plan for both groundwater and surface water to the Ministry of the Environment and Climate Change Section 34.1 Director for review and approval.

4.8 A minimum of thirty (30) days prior to submission, a copy of the Plan required by Condition 4.7 shall be provided to the County of Brant and posted on the Company's website for a period of thirty (30) days to permit the County of Brant and the public the opportunity to provide comments to the Section 34.1 Director of the Ministry of the Environment and Climate Change.

5. Impacts of the Water Taking

5.1 Notification

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

5.2 For Groundwater Takings

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

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

6. Director May Amend Permit

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

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

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

2. Condition 2 is included to clarify the legal interpretation of aspects of this Permit.
3. Conditions 3 through 6 are included to protect the quality of the natural environment so as to safeguard the ecosystem and human health and foster efficient use and conservation of waters. These conditions allow for the beneficial use of waters while ensuring the fair sharing, conservation and sustainable use of the waters of Ontario. The conditions also specify the water takings that are authorized by this Permit and the scope of this Permit.

This Permit cancels and replaces Permit Number 7115-9VVLJW, issued on 2015/10/29.

Dated at Hamilton this 27th day of April, 2017.

A handwritten signature in black ink, appearing to read "B. K. Kubiak". The signature is written in a cursive style with a large initial "B" and a stylized "K".

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

Schedule A

This Schedule "A" forms part of Permit To Take Water 5826-ALCNNN, dated April 27, 2017.

OWRA S34 Permit-To-Take-Water Application and Supporting Hydrologic and Hydrogeologic Study, Dufferin Paris Pit, County of Brant, Ontario; prepared by Conestoga-Rovers & Associates, dated March 2013, #078410, Report Number: 1.

CRA. 2014. 2013/2014 Paris Pit Water Well Survey Dufferin Paris Pit, County of Brant, Ontario; signed and stamped by Gary Lagos, P. Geo.

MMM. 2015. Dufferin Aggregates Paris Pit, County of Brant, Ontario Ecological Investigation Results for Quadrant 2 (Q2) and Assessment of Impacts Related to Water Level Fluctuations during Proposed Washing Operations. Letter addressed to Kevin Mitchell of Holcim (Canada) Inc.

Ministry of the Environment,
Conservation and Parks
West-Central Region
Technical Support Section
Water Resources
12th Floor
119 King St W
Hamilton ON L8P 4Y7
Fax: (905) 521-7820
Tel: (905) 521-7394

Ministère de l'Environnement, de la
Protection de la nature et des Parcs
Direction régionale du Centre-Ouest
12e étage
119 rue King W
Hamilton ON L8P 4Y7
Télécopieur: (905) 521-7820
Tél:(905) 521-7394



March 3, 2020

CRH Canada Group Inc.
Suite 400 - 2300 Steeles Ave W
Concord, Ontario
L4K 5X6

Dear Sir/Madam,

RE: Permit to Take Water:
5826-ALCNNN
For the water taking from:
Source Pond
Located at:
Lot 27, Concession 2, Geographic Township of Dumfries
Brant

NOTICE

Pursuant to S. 100, Ontario Water Resources Act, R.S.O. 1990, c. O.40 as amended, I am issuing notice that, as Director of Section 34.1 of the Ontario Water Resources Act, I am exercising my discretion to amend Condition 3.6 of Permit to Take Water 5826-ALCNNN. All other terms and conditions of Permit to Take Water 5826-ALCNNN shall continue in force.

In a letter dated February 11, 2020 CRH Canada Group Inc. requested an extension to the date of submission of a report required under Condition 3.6. The reason is to ensure that the required report is completed in appropriate detail and thoroughness. There is no environmental impact or water use interference associated with this administrative change. Accordingly, I am amending Permit to Take Water 5826-ALCNNN as follows;

- 3.6 Following two full years of operation, the Permit Holder shall submit to the Director by May 11, 2020 a report evaluating water taking needs and making recommendations regarding future water needs and potential changes to the permitted rates and volumes.
Any potential increases to the permitted rates and volumes set out in this Permit shall be done in accordance with a permit issued under the Ontario Water Resources Act.

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

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

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

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

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

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

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

This notice must be served upon:

<i>The Secretary Environmental Review Tribunal 655 Bay Street, 15th Floor Toronto ON MSG 1E5 Fax: (416) 326-5370 Email: ERTTribunalsecretary@ontario.ca</i>	<i>AND</i>	<i>The Director, Section 34 Ministry of the Environment 12th Floor 119 King St W Hamilton ON L8P 4Y7 Fax: (905)521-7820</i>
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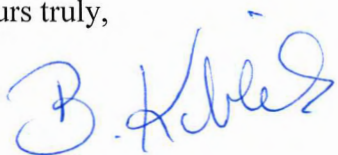
Further information on the Environmental Review Tribunal's requirements for an appeal can be obtained directly from the Tribunal:

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

by fax at (416) 314-4506

by e-mail at

Yours truly,

A handwritten signature in blue ink, appearing to read "B. Koblik". The signature is written in a cursive style with a large initial "B" and a stylized "Koblik".

Belinda Koblik
Director, Section 34.1
Ontario Water Resources Act, R.S.O. 1990
West Central Region

Appendix B

Amended Environmental Compliance Approval (ECA) (April 12, 2017)

AMENDED ENVIRONMENTAL COMPLIANCE APPROVALNUMBER 0302-ALCK5W
Issue Date: April 12, 2017

CRH Canada Group Inc.
2300 Steeles Avenue West, 4th Floor
Concord, Ontario
L4K 5X6

Site Location: Dufferin Aggregates - Paris Pit
Lot 26, 27, 1, 2 & 3, Concession 3,2,WGR,
South Dumfries
County of Brant

You have applied under section 20.2 of Part II.1 of the Environmental Protection Act, R.S.O. 1990, c. E. 19 (Environmental Protection Act) for approval of:

the establishment, use and operation of sewage works for the collection, transmission, treatment and reuse of wash water effluent from an aggregate washing operation, consisting of the following:

- one (1) **settling pond** (comprised of the settling cell(s) and the recirculation cell) constructed above the ground-water table receiving wash water from the Processing Wash Plant and make-up water from the source water pond, and returning settled water back to the Processing Wash Plant.

all other controls, electrical equipment, instrumentation, piping, pumps, valves and appurtenances essential for the proper operation of the aforementioned sewage Works.

all in accordance with the supporting documents listed in Schedule 'A' to this environmental compliance approval.

For the purpose of this environmental compliance approval, the following definitions apply:

"Application" means the application for an environmental compliance approval submitted to the Ministry for approval by or on behalf of the Owner and dated June 03, 2013.

"Approval" means this environmental compliance approval, any schedules attached to it, and the Application;

"Director" means a person appointed by the Minister pursuant to section 5 of the EPA for the purposes of Part II.1 of the EPA;

"District Manager" means the District Manager of the Guelph District Office of the Ministry;

"EPA" means the *Environmental Protection Act* , R.S.O. 1990, c.E.19, as amended;

"Ministry" means the ministry of the government of Ontario responsible for the EPA and OWRA and includes all officials, employees or other persons acting on its behalf;

"Owner" means CRH Canada Group Inc., and includes its successors and assignees;

"OWRA" means the *Ontario Water Resources Act* , R.S.O. 1990, c. O.40, as amended; and

"Works" means the sewage works described in the Approval.

You are hereby notified that this environmental compliance approval is issued to you subject to the terms and conditions outlined below:

TERMS AND CONDITIONS

1. GENERAL CONDITION

- 1.1 The Owner shall ensure that any person authorized to carry out work on or operate any aspect of the Works is notified of this Approval and the terms and conditions herein and shall take all reasonable measures to ensure any such person complies with the same.
- 1.2 Except as otherwise provided by these terms and conditions, the Owner shall design, build, install, operate and maintain the Works in accordance with this Approval.
- 1.3 Where there is a conflict between a provision of this environmental compliance approval and any document submitted by the Owner, the conditions in this environmental compliance approval shall take precedence. Where there is a conflict between one or more of the documents submitted by the Owner, the Application shall take precedence unless it is clear that the purpose of the document was to amend

the Application

- 1.4 Where there is a conflict between the documents listed in the Schedule A, and the application, the application shall take precedence unless it is clear that the purpose of the document was to amend the application.
- 1.5 The terms and conditions of this Approval are severable. If any term and condition of this environmental compliance approval, or the application of any requirement of this environmental compliance approval to any circumstance, is held invalid or unenforceable, the application of such condition to other circumstances and the remainder of this Approval shall not be affected thereby.

2. CHANGE OF OWNER

- 2.1 The Owner shall notify the District Manager and the Director, in writing, of any of the following changes within **thirty (30) days** of the change occurring:
 - (a) change of address of Owner or operating authority;
 - (b) change of Owner or operating authority or both, including address of new Owner or operating authority, or both;
 - (c) change of partners where the Owner or operating authority is or at any time becomes a partnership, and a copy of the most recent declaration filed under the *Business Names Act, R.S.O. 1990, c. B.17* ; and
 - (d) change of name of the corporation where the Owner or operator is or at any time becomes a corporation, and a copy of the “Initial Return” or “Notice of Change” filed under the *Corporations Information Act, R.S.O. 1990, c. C.39* , shall be included in the notification to the District Manager.
- 2.2 In the event of any change in ownership of the Works, the Owner shall notify in writing the succeeding owner of the existence of this Approval, and a copy of such notice shall be forwarded to the District Manager.
- 2.3 The Owner shall ensure that all communications made pursuant to this condition refer to the number at the top of this environmental compliance approval.

3. OPERATIONS MANUAL

- 3.1 The Owner shall prepare an operations manual prior to the construction, use and operation of the Works that includes, but is not limited to, the following information:
 - (a) operating procedures for routine operation of the Works;
 - (b) inspection programs, including frequency of inspection, for the Works and the methods or tests to

be employed to detect when maintenance is necessary;

- (c) repair and maintenance programs, including the frequency of repair and maintenance for the Works;
- (d) contingency plans and procedures for dealing with a potential spill, bypasses or any other abnormal situations, including notifying the District Manager of the situation; and
- (e) procedures for receiving and responding to public complaints.

3.2 The Owner shall review and update the operations manual from time to time and shall retain a copy of the updated manual onsite at the Works. Upon request, the Owner shall make the manual available for inspection and copying by Ministry personnel.

3.3 The Owner shall make all reasonable efforts to promptly develop a seal at the bottom of the settling pond (comprised of the settling cell(s) and the recirculation cell) and to maintain the integrity of the seal when removing excess sediment from the bottom of the settling pond.

4. MONITORING AND RECORDING

4.1 The Owner shall monitor the groundwater through seven (7) groundwater monitoring wells. Existing wells may be used or new wells installed. The groundwater monitoring wells shall meet the following requirements:

- (a) the wells shall be screened within the upper sand and gravel aquifer;
- (b) three (3) groundwater monitoring wells shall be located along the northern boundary of the Paris South Pit, one (1) of these wells may be located at the south boundary of the Paris North Pit;
- (c) three (3) groundwater monitoring wells shall be located along the southern boundary of the Paris South Pit, with one of these monitoring wells located up gradient of the County of Brant's Telfer wells P31 and P32 and another located immediately down gradient of the source water pond; and
- (d) existing groundwater monitoring well MW1-12 or a suitable replacement shall be included in the monitoring.

4.2 Within **three (3) months** of the issuance of this Approval, the owner shall submit to the Director and the District Manager a document for approval indicating the location and screened depth intervals for the seven (7) groundwater wells proposed to be used.

4.3 Groundwater samples shall be collected from the seven (7) wells required by Condition 4.1 above in **May, August and December** of each year and sent for analysis in accordance with the table below:

General Chemistry	Metals (1)
Conductivity, pH, Hardness (as CaCO ₃), Total Suspended Solids (TSS), Total Dissolved Solids, Alkalinity - Bicarbonate (as CaCO ₃), Alkalinity - Carbonate (as CaCO ₃), Alkalinity - Hydroxide (as CaCO ₃), Total - Alkalinity (as CaCO ₃), Unionized Ammonia, Total Ammonia (as N), Nitrate-N, Nitrite-N, Nitrate & Nitrite (as N), Phosphate-P (ortho), Sulphate, Anion Sum, Cation Sum, Cation - Anion Balance, Dissolved Organic Carbon, Total Organic Carbon, Turbidity.	Aluminium, Antimony, Arsenic, Barium, Beryllium, Bismuth, Boron, Cadmium, Calcium, Chromium, Cobalt, Chloride, Copper, Iron, Lead, Lithium, Magnesium, Manganese, Molybdenum, Nickel, Phosphorus, Potassium, Selenium, Silicon (total and dissolved silicon), Silver, Sodium, Strontium, Thallium, Tin, Titanium, Tungsten, Uranium, Vanadium, Zinc, Zirconium.

(1) - Groundwater samples are analyzed for dissolved metals. Surface water samples are analyzed for total metals.

4.4 Groundwater samples shall also be analysed for pesticides, including organochlorine pesticides and herbicides, as listed in Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario, CRA (2014) (see Schedule A), at detection limits equal to or lower than those listed. In the event of any analytical issue (e.g. matrix interference), reasonably achievable laboratory detection limits will apply.

4.5 Surface water samples shall be collected from SW1B (previously referred to as SW1; see OWRA S53 Environmental Compliance Approval (ECA) Application and Supporting Information, Dufferin Paris Pit, County of Brant, CRA, 2013, See Schedule A) and analysed as follows:

- (a) Samples shall be collected three (3) times per year in **May, August and December**; and,
- (b) Samples shall be analysed for: Field Parameters General Chemistry, Metals and Oil and Grease in accordance with the table below:

Field Parameters	General Chemistry, Metals (1) and Oil & Grease
pH, temperature, conductivity, dissolved oxygen, turbidity	Total Suspended Solids, hardness, alkalinity, nutrients (total phosphorous, total ammonia, total nitrate, total nitrite and calculated unionized ammonia), major ions, metals (unfiltered samples except for aluminium which should be from a clay free sample), Oil and Grease.

- (c) Surface water samples shall also be analysed for the suite of pesticides, including organochlorine pesticides and herbicides, listed in Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario, CRA (2014) (see Schedule A). For pesticides, the analytical detection limits shall be equal to or lower than those listed in Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario, CRA (2014). In the event of any analytical issue (e.g. matrix interference), reasonably achievable laboratory detection limits will apply.
- 4.6 Within **three (3) months** of the issuance of this Approval, the Owner shall prepare and submit to the Director for approval a sediment sampling plan for sediment accumulated within the settling cell(s). The purpose of the sediment sampling plan is to determine the distribution and concentration of pesticides within the settling cell(s).
- 4.7 The sediment shall be sampled for: atrazine, atrazine plus atrazine desethyl, glyphosate and aminomethylphosphonic acid (AMPA) and the pesticides listed in Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario, CRA (2014) (see Schedule A). For pesticides, the analytical detection limits shall be equal to or lower than those listed in Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario, CRA (2014). In the event of any analytical issue (e.g. matrix interference), reasonably achievable laboratory detection limits will apply.
- 4.8 The results of the sediment samples shall be compared to the lower of the standards for each of the parameters in Condition 4.7 above to those set out in Alberta Tier 1 Soil Remediation Guideline and Nova Scotia Environmental Quality Standards (as updated or replaced), and shall be provided to the Director and the District Manager, future Ontario or Federal guidelines developed for the parameters set out in Condition 4.7 above shall also be used for comparison. Based on the results of the sediment samples, the Director and Owner shall discuss suitable uses for the sediment for on-site rehabilitation. No sediment shall be used on Site for rehabilitation without complying with all applicable laws in place at the time of reuse.
- 4.9 Water samples shall be collected from the recirculation cell as follows:
- (a) In the first year after operational commencement of the processing wash plant, one (1) sample shall be collected within **one (1) week** of the recirculation cell bottom being sealed and two (2) times thereafter until cessation of aggregate washing for the calendar year. Samples shall be collected at least **thirty (30) days** apart.
- (b) In the second year after operational commencement of the processing wash plant, water samples shall be collected three (3) times during the calendar year between **February 15th** and **December 15th** at approximately equally spaced intervals.
- (c) For each subsequent year, water samples shall be collected two (2) times during the calendar year, between **February 15th** and **December 15th**, with the first sample taken prior to the start of aggregate washing season and the second taken at the end, with the following exception:

- i. if sediment is to be removed from the recirculation cell, the sediment shall be removed prior to the start of the aggregate washing season. A water sample shall be collected **one (1) week** after the bottom of the cell has been sealed and two (2) times thereafter at approximately equally spaced intervals between the first sample date and December 15th.

4.10 The water samples collected from the recirculation cell shall be sent for analysis of general chemistry, including nutrients, metals and pesticides, including Glyphosate, Atrazine, Atrazine Desethyl and Aminomethylphosphonic Acid (AMPA). The sampling methods shall have detection limits at levels identical to or lower than those described in Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario , CRA (2014) (see Schedule 1). In the event of any analytical issues (e.g. matrix interference), reasonably achievable laboratory detection limits will apply.

4.11 After **three (3) years** of continuous data collection, application may be made to the Director to have the monitoring conditions amended.

5. CONTINGENCY AND POLLUTION PREVENTION PLAN

5.1 The Owner shall prepare a Contingency and Pollution Prevention Plan prior to the commencement of operation of the Works that includes, but is not necessarily limited to, the following information:

- (a) the name, job title and address of the Owner, person in charge, management or control of the facility.
- (b) the name, job title and 24-hour telephone number of the person(s) responsible for activating the Contingency Plan.
- (c) a site plan drawn to scale showing the facility, nearby buildings, streets, maintenance access and the Works (including direction(s) of flow in storm events) and any features which need to be taken into account in terms of potential impacts on access and response (including physical obstructions and location of response and clean-up equipment).
- (d) a listing of telephone numbers for: local clean-up company(ies) who may be called upon to assist in responding to spills; local emergency responders including health institution(s); and MOECC Spills Action Centre 1-800-268-6060.
- (e) Materials Safety Data Sheets (MSDS) for each hazardous material which may be transported or stored within the area serviced by the Works.
- (f) the written procedures by which the Contingency and Pollution Prevention Plan is activated and a description of the Trigger Mechanism(s).
- (g) a description of the spill response and pollution prevention training provided to employees assigned to work in the area serviced by the Works, the date(s) on which the training was provided and to whom.

- (h) the date on which the Contingency and Pollution Prevention Plan was prepared and subsequently, amended.
- (i) any other information the District Manager requires from time to time.

5.2 The Contingency and Pollution Prevention Plan shall be kept in a conspicuous place inside the office building. Upon request, the Owner shall make the manual available for inspection and copying by Ministry personnel.

5.3 The Contingency and Pollution Prevention Plan shall be reviewed and amended from time to time, as needed by changes in the operation of the facility.

5.4 A minimum of **thirty (30) days** prior to submission, a copy of the Plan required by Condition 5.1 shall be provided to the County of Brant and posted on the Company's website for a period of thirty (30) days to permit the County of Brant and the public the opportunity to provide comments to the Company.

6. REPORTING

6.1 **One (1) week** prior to the start-up of the operation of the Works, the Owner shall notify the District Manager (in writing) of the pending start-up date.

6.2 In addition to the obligations under Part X of the *Environmental Protection Act*, the Owner shall, within **ten (10) working days** of the occurrence of any reportable spill as defined in Ontario Regulation 675/98, bypass or loss of any product, by-product, intermediate product, oil, solvent, waste material or any other polluting substance into the environment, submit a full written report of the occurrence to the District Manager describing the cause and discovery of the spill or loss, clean-up and recovery measures taken, preventative measures to be taken and schedule of implementation.

6.3 The Owner shall prepare and submit a report to the District Manager on an annual basis within **ninety (90) days** following the end of the period being reported upon. The first such report shall cover the first annual period following the commencement of operation of the Works and subsequent reports shall be submitted to cover successive annual periods following thereafter. The reports shall contain, but shall not be limited to, the following information:

- (a) a summary and interpretation of all monitoring data with a comparison to applicable objectives, guidelines, standards, and modelled predictions;
- (b) an overview of the success and adequacy of the Works;
- (c) a description of any operating problems encountered and corrective actions taken;
- (d) a summary of all maintenance carried out on any major structure, equipment, apparatus, mechanism or thing forming part of the Works; and

(e) any other information the District Manager requires from time to time.

7. SPECIAL CONDITION – PUBLIC ACCESSIBILITY TO REPORT

The Owner shall, make the report required by Condition 6.3 available to the community advisory panel and publicly by posting it on the Company's website at the time specified in Condition 6.3.

SCHEDULE 'A'

This Schedule contains a list of supporting documentation / information received, reviewed and relied upon in the issuance of this Approval.

1. Environmental Compliance Approval Application for Industrial Sewage Works submitted by J. Richard Murphy, P.Eng., of Conestoga-Rovers & Associates Ltd., and signed by Kevin Mitchell, Manager Environment and Properties, of Holcim (Canada) Inc., dated June 03, 2013; and all supporting documentation and information.
2. CRA. 2013. OWRA S53 Environmental Compliance Approval (ECA) Application and Supporting Information, Dufferin Paris Pit, County of Brant, Ontario, signed and stamped by Michael R. Tomka, P. Eng., signed and stamped by Gary Lagos, P. Geo. and signed by J. Richard Murphy, P. Eng. of Conestoga-Rovers & Associates, June 2013, #078410, Report Number: 3.
3. CRA (2014). Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario; signed and stamped by Gary Lagos, P. Geo. and signed by J. Richard Murphy, P. Eng. of Conestoga-Rovers & Associates, July 2014, #078410, Report Number: 5.
4. CRA. 2015. Re: Modifications to Works for Existing ECA Application Dufferin Paris Pit, Paris, Ontario; letter addressed to Mr. Adedoyin Adenowo, Senior Wastewater Engineer, Ministry of Environment and Climate Change from Michael Tomka, P. Eng. of Conestoga-Rovers & Associates, April 16, 2015, Reference No. 078410.
5. AE. 2010. Alberta Tier 1 Soil and Groundwater Remediation Guidelines, Alberta Environment, December 2010, ISBN: 978-0-7785-9015-6 (Printed Edition) ISBN: 978-0-7785-9947-0 (On-line Edition), Retrieved May 6, 2015 from: <http://environment.gov.ab.ca/info/library/7751.pdf>
6. NSE. 2014. Environmental Quality Standards for Contaminated Sites Rationale and Guidance, Nova Scotia Environment, Environmental Quality Standards for Contaminated Sites, April 2014, retrieved May 6, 2015 from: <https://novascotia.ca/nse/contaminatedsites/docs/EQS-Contaminated%20Sites-Rationale-and-Guidance-NSE-2014.pdf>

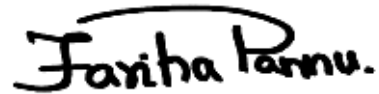
The reasons for the imposition of these terms and conditions are as follows:

1. Condition 1 is imposed to ensure that the Works are built and operated in the manner in which they were described for review and upon which approval was granted. This condition is also included to emphasize the precedence of Conditions in the Approval and the practice that the Approval is based on the most current document, if several conflicting documents are submitted for review.
2. Condition 2 is included to ensure that the Ministry records are kept accurate and current with respect to approved Works and to ensure that subsequent owners of the Works are made aware of the Approval and continue to operate the works in compliance with it.
3. Condition 3 is included to ensure that a comprehensive operations manual governing all significant areas of operation, maintenance and repair is prepared, implemented and kept up-to-date by the Owner and made available to the Ministry. Such a manual is an integral part of the operation of the Works. Its compilation and use should assist the owner in staff training, in proper plant operation and in identifying and planning for contingencies during possible abnormal conditions. The manual will also act as a benchmark for Ministry staff when reviewing the Owner's operation of the Works.
4. Condition 4 is included to enable the Owner to evaluate and demonstrate the performance of the Works, on a continual basis, so that the Works are properly operated and maintained and so that the Works do not cause any impairment to the environment. The Condition is also included for the following purposes:
 - a) To determine the chemistry of groundwater flowing onto and from that part of the Paris Pit property located south of Watts Pond Road. This area is known as the Paris South Pit.
 - b) To determine whether the sedimentation, recirculation and source ponds have an effect on groundwater chemistry.
5. Condition 5 is included to ensure that the Owner will implement the spill contingency plan, such that the environment is protected and deterioration, loss, injury or damage to any person(s) or property is prevented.
6. Condition 6 is included to provide a performance record for future references, to ensure that the Ministry is made aware of problems as they arise, and to provide a compliance record for all the terms and conditions outlined in this Approval, so that the Ministry can work with the Owner in resolving any problems in a timely manner.
7. Condition 7 is included to provide the general public with the report required in Condition 6.3.

**Upon issuance of the environmental compliance approval, I hereby revoke Approval No(s).
1400-9VNPVY issued on October 29, 2015.**

The above noted activity is approved under s.20.3 of Part II.1 of the Environmental Protection Act.

DATED AT TORONTO this 12th day of April, 2017



Fariha Pannu, P.Eng.

Director

appointed for the purposes of Part II.1 of the
Environmental Protection Act

AA/

c: District Manager, MOECC Guelph

J. Richard Murphy, Conestoga-Rovers & Associates Ltd.

Appendix C

Stratigraphic and Instrumentation Logs

TABLE 1 GEOLOGIC LOG - BOREHOLES 1-74...21-74

BOREHOLE NO.	FORMATION INTERVAL IN FEET*	SOIL DESCRIPTION
1-74	0-2	Clay loam, brown
	2-25	SAND, fine-med, rounded, clean; gravel
	25-35	SAND, GRAVEL, tracesilt, moist
	35-50	SAND, GRAVEL, very little return
	50-58	SAND, GRAVEL, wet, good % silt
	-58	Hole ended on boulder, possible till contact
Standpipe installed; screened interval in feet: 55.3-57.8		
2-74	0-20	SAND, fine-med, clean; some gravel and cobble sizes
	20-30	SAND, Gravel, round-subround clean, wet
	30-35	SAND, Gravel, hard "bouncy" drilling, little return
	35	Hole ended
Standpipe installed; screened interval in feet: 29.83 - 32.33		
3-74	0-5	Sand, GRAVEL, loamy appearance
	5-10	SAND, fine-med., clean, round-subround, very light brown
	10-15	SAND, fine-med., grey-brown clean, wet
	15-25	SAND, GRAVEL, clean wet; some pebble sizes

* Note: All depths in
feet below ground

TABLE 1 Con't.

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
	25	Hole ended
	Standpipe installed; screened interval in feet: 18.00 - 20.80	
4-74	0-7	SAND, brown, appearance of fill
	7-10	SAND, grey-brown, moist
	10-15	SAND, fine-med, grey good % silt, some clay
	15-17	SAND, GRAVEL, some cobble sizes
	17-19	SAND, some gravel, dirty
	19-20	TILL, silty, clay-till, pebbles
	20	Hole ended
	Standpipe installed; screened interval in feet: 11.2 - 14.0	
5-74	0-15	GRAVEL, sand, some silt
	15-17	SAND, GRAVEL, good % silt & clay
	17-35	As immed. above, very little return
	35	Hole ended
	Standpipe installed; screened interval in feet: 21.33 - 23.83	
6-74	0-30	SAND, GRAVEL, round-subround, some silt
	30-55	As above, little return, wet at approx. 45'
	55	Hole ended
	Standpipe installed, screened interval in feet: 47.5 - 50.0	

TABLE 1 Con't.

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
7-74	0-6	SAND, GRAVEL, dirty: colluvial origin
	6-15	TILL, clayey silt-till, olive brown, no pebbles
	15-30	TILL, silty, clay till, grey, few pebbles
	30-35	TILL, silty, clay-till, moist
	35-40	TILL, Clay till, olive-grey no pebbles, slight silt, wet return
	40-55	As above, no longer wet
	55	Hole ended
Standpipe installed, screened interval in feet: 50.9 -53.9		
8-74	0-17	SAND, GRAVEL, good % silt
	17-20	GRAVEL, very coarse, cobble sizes
	20	Hole ended on boulder, dry
9-74	0-30	SAND, GRAVEL, med. sized slight silt
	30-52	SAND, med, slight silt; gravel
	52-53	TILL, silty clay-till, grey-brown, some pebbles
	53	Hole ended
Standpipe installed; screened interval in feet: 50.7 - 53.2		

TABLE 1 Con't.

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
10-74	0-15	SAND, fine, dry; gravel some silt
	15-20	Hard drilling, cobble sizes
	20-25	SAND, fine, trace clay; gravel
	25-40	TILL, silty, clay-till, grey-brown, moist, very few pebbles
	40	Hole ended on boulder

Standpipe installed, screened interval in feet: 36.2 - 39.0

11-74	0-5	Sand, loam. some gravel
	5-10	SAND, fine-med, dry, high silt
	10-20	SAND, coarse, clean, few pebbles
	20-40	SAND, GRAVEL, pebble sizes
	40-53	As above, little return
	53-55	Till, silty, clay till, brown, some pebbles
	55	Hole ended

Standpipe installed; screened interval in feet: 37.0 - 40.0

TABLE 1 Con't

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
12-74	0-31	SAND, light brown, dry; GRAVEL, some cobble sizes
	31-55	TILL, clay-till, silty, slight moisture, plastic, brown to grey colour
	55	End Hole
Standpipe not installed; hole stands open 55 feet		
13-74	0-3	Soil zone, oxidized
	3-5	SAND; GRAVEL, some cobble sizes
	5-13	SAND, medium to coarse, some silt
	13-20	GRAVEL, cobblesizes, sand
	20-38	SAND, little return
	38	End Hole
Standpipe installed; screened interval in-feet: 35-38		
14-74	0-10	
	0-20	SAND, GRAVEL, some silt
	20-30	GRAVEL, well rounded, some 20% sand, little silt slow progress
	30-40	GRAVEL, clean, fine-med. very little sand, lt. brown, very little silt (coating gravel)
	40-50	GRAVEL, SAND: clear, little silt
	45-50	SAND: water
	50-58	SAND: clean, lt. brown , wet, gravel, fine silt

TABLE 1 Con't.

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
	58	CLAY CONTACT: compact gray-blue clay Hole Ended

Standpipe installed; screened interval in feet: 46.50-48.58

NOTE: Boreholes 14-74 through 20-74: completion under supervision of Dr. R. N. Farvolden, or Assistant.

15-74	0-10	SAND: brown, loamy, GRAVEL, coarse, round subround
	10-20	SAND, GRAVEL, sand is fine, clean, some silt, gravel is fine-med.
	20-30	GRAVEL, SAND: mostly gravel, coarse, med. some sand, little silt
	30-40	SAND, GRAVEL, Mostly clean fine-med. sand, some coarse gravel
	40-50	SAND, coarse, some gravel, wet, little silt, free water
	50	Hole Ended

Standpipe installed; screened interval in feet: 43.55 -45.55

16-74	0-10	SAND, GRAVEL, sand fine-med., lt. brown, little silt, gravel fine-med., round-subround
	10-20	16'-17' -1'-2' clean sand, very fine gravel-SAND med-med. brown fairly clean some gravel, coarse-med.
	20-30	22'-hit sand and silt, some clay, med. brown, some very fine gravel, wet, clay content increases with depth, gets very wet, goes to gray blue, hard

TABLE 1 Con't.

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
	30	Hole Ended
Standpipe installed; screened interval in feet: 20.70 - 28.70		
17-74	0-10	0-3' Loamy topsoil with some gravel
		3-10' GRAVEL: med-coarse, round-subround little sand and silt
	10-20	SAND, fine, lt. brown, going to coarse with silt, some, fine gravel
	20	Hole Ended
Standpipe installed; screened interval in feet: 20.96 - 22.96		
18-74	0-10	SAND, GRAVEL, 50-60% sand, fine-med., little silt, gravel upto 1", round-subround
	10-20	SAND, GRAVEL, fine sand, lt. brown, quite clean gravel mostly medium, up to 1½" hard drilling
	20-30	21' SAND: fine- med. some silt some fine gravel
	30-40	SAND: coarse, wet. some silt some dispersed gravel
	40	Hole Ended
Standpipe installed; screened interval in feet: 35.92 - 37.92		

TABLE 1 Con't.

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
19-74	0-10	SAND, GRAVEL: fine lt. brown sand, 10% silt some gravel subangular, up to 1½" 1
	10-20	GRAVEL, SAND 5050. gravel is round-subround, mostly ½"-1", sand very fine, close to silt size
	20-30	GRAVEL, SAND, coarse-med. gravel, possibly getting up to 2"; slow a poor return on very coarse material, finer near 30', fine., lt. brown sand, good % silt
	30-40	GRAVEL, SAND: a fairly uniform fine-med. gravel with good % fine sand. Drilling much easier at 33-34'
	40-43	GRAVEL, SILT: possibly interlayered fine gravel with coarse sand, and fine sand silty layers wet
	43	Hole Ended
Standpipe installed; screened interval in feet: 41.39 - 43.39		
20-74	0-10	Sand-med. brown, medium, clean some fine gravel, subangular
	10-20	SAND, GRAVEL: 60-70% sand, medium, little silt, coarse-fine gravel subangular
	20-30	SAND GRAVEL: 60-70% sand, med-course, little silt coarse-fine gravel, round-subround, up to 2"
	30-40	GRAVEL, SAND: coarse-med. gravel, round-subround med-sand, med-brown, little silt (possible change to more sand at 36-38%)
	40-48	GRAVEL, SAND: very coarse

TABLE 1 Con't.

BOREHOLE NO.	FORMATION INTERVAL IN FEET	SOIL DESCRIPTION
		(1-2") gravel? no return auger jamming hole, damp coarse sand from bit when withdrawn
	46	Hole Ended
21-74	0-13	TILL, sand-till, silty boulder and cobble sizes
	13-72	SAND, very fine to fine, slight silt, light brown colour
	72-73	Cobbles, very hard drilling
	73-75.5	SAND, fine isolated streak of brown clay, plastic
	75.5-83.5	GRAVEL, SAND clay binding, silty, grey colour
	83.5	End Hole

Standpipe installed; screened interval in feet: 64-6 6.5

NOTE:

Boreholes 14-74 through 20-74: completion under supervision of Dr. R.N. Farvolden, or Assistant.

TEST PIT LOGS

Test Pit 88-1

(Sample 1 taken 2-3 m)

0.00 – 0.30 m

Dark brown sandy topsoil, moist.

0.30 – 0.75 m

Red-brown silty sand, moist.

0.75 – 6.40 m

Light brown sandy gravel, some cobbles, trace silt and clay, moist

- Occasional medium to coarse sand lenses up to 400 mm thick, variable through test pit
- Elliptically shaped pockets of stone ranging in size from 25-150 mm in diameter, random through pit
- Stone greater than 100 mm in diameter 15-20%
- Change in colour to grey-brown at 3.7 m
- Material becomes generally coarser with depth
- Test pit dry and stable upon completion

Test Pit 88-2

(Sample 2 taken 2.0-3.2 m)

0.00 – 0.35 m

Dark brown sandy topsoil, moist.

0.35 – 1.30 m

Red-brown silty sand to sandy silt, trace clay, moist to wet.

1.30 – 5.70 m

Grey-brown medium to coarse sand and gravel, trace fine sand, trace silt, some cobbles, trace boulders, moist.

- Stone greater than 100 mm in diameter 25%
- Stone greater than 300 mm in diameter 1%
- Interbeds of coarse sand and fine sand random throughout pit
- Test pit dry and sloughing upon completion

Test Pit 88-3

(Sample 3 taken 2.0-3.0 m)

0.00 – 0.20 m

Dark brown sandy topsoil, moist

0.20 – 0.90 m

Red-brown sandy silt to silty sand trace clay, moist.

0.90 – 1.20 m

Grey-brown stony sandy clayey silt till, variable thicknesses, moist.

1.20 – 5.80 m

Grey-brown coarse to medium sand and gravel with some fine sand, trace silt, some cobbles, trace boulders

- Stone greater than 100 mm in diameter 30-40%
- Stone greater than 300 mm in diameter increasing to 5-7% from ±5.0 m
- Test pit dry and sloughing upon completion

Test Pit 88-4

(Sample 4 taken 1.5-2.5 m)

0.00 – 0.25 m

Dark brown sandy topsoil, moist.

0.25 – 0.60 m

Red-brown sandy silt to silty sand, trace clay, moist.

0.60 – 2.10 m

Grey-brown gravelly fine to medium sand, trace cobbles, with trace coarse sand and silt, moist.

- Between 2.1 – 3.2 m interbeds of grey brown sand and stones. Sand lenses up to 300 mm thick and bands of gravel 150 mm thick, moist.

3.20 – 5.80 m

Grey-brown gravelly fine to coarse sand, some cobbles, moist.

- Stone greater than 100 mm in diameter 15-20% with diameter, and increasing with depth.
- Test pit dry and stable upon completion

Test Pit 88-5

(Sample 5 taken 2.5-3.0 m)

0.00 – 0.15 m

Dark brown sandy topsoil, moist.

0.15 – 0.25 m

Red-brown gravelly sand to sandy gravel, moist.

0.25 – 4.50 m

Grey-brown medium to coarse sandy gravel some boulders and cobbles, some fine sand, trace silt, moist.

- Stone greater than 100 mm in diameter 40% increasing to 60% beyond 4.0 m. Stone greater than 300 mm from 1-4 m 2-5% and increasing to 30% beyond 4.0 m.
- Test pit dry and sloughing upon completion

Test Pit 88-6

(Sample 6a taken 4.5 m)

(Sample 6b taken 2-4.0 m)

0.00 – 0.30 m

Dark brown silty sandy topsoil, moist.

0.30 – 0.75 m

Red-brown silty sand, moist.

0.75 – 4.20 m

Grey-brown medium to fine sand, trace coarse sand, trace silt, moist.

- Gravel less than 25 mm in diameter in random layers throughout pit.

4.20 – 5.80 m

Grey-brown sandy gravel with silt and clay, some cobbles and boulders, moist.

- Stone greater than 100 mm in diameter 35%
- Test pit dry and stable upon completion.

Test Pit 88-7

(Sample 7 taken 2.7-3.2 m)

0.00 – 0.25 m

Dark brown sandy topsoil, moist.

0.25 – 1.40 m

Red-brown fine sandy silt to silty fine sand, trace clay, trace stone, moist.

1.40 – 5.60 m

Medium light brown to grey-brown sandy gravel, some cobbles with trace boulders, trace silt and clay, moist.

- Stone greater than 100 mm in diameter 15-20%
- Random pockets of gravel.
- Stone greater than 300 mm in diameter less than 2%
- Test pit dry and stable upon completion.

Test Pit 88-8

(Sample 8 taken from 2.5-3.0 m)

0.00 – 0.30 m

Dark brown sandy topsoil, moist

0.30 – 0.90 m

Red-brown sandy silt to silty sand, moist.

0.90 – 3.10 m

Grey-brown gravelly medium to fine sand with trace cobbles with trace silt and clay, moist.

3.10 – 5.90 m

Grey-brown sandy gravel to gravelly sand, trace cobbles and boulders, moist.

- Stone greater than 100 mm in diameter, 2% size of stone increasing to bottom where stone greater than 300 mm in diameter is 40%.
- Test pit dry and stable upon completion

Test Pit 88-9

(Sample 9 taken 1.2-2.4 m)

0.00 – 0.20 m

Dark-brown sandy topsoil, moist

0.20 – 0.75 m

Red-brown sandy silt to silty sand, trace clay, moist.

0.75 – 5.70 m

Grey-brown gravelly medium sand, some cobbles, trace boulders and fine sand, moist.

- Pockets and lenses of cemented pebbles
- Lens of light brown to grey brown sand from 2.8 – 3.5 m with occasional stone greater than 300 mm in diameter
- Test pit dry and stable upon completion

- Test Pit 88-10 (Sample 10 taken 2.5-3.5 m)**
- 0.00 – 0.30 m Dark brown sandy topsoil, moist.
0.30 – 0.70 m Red-brown silty sand trace clay, moist.
0.70 – 5.60 m Grey-brown sand and gravel, some cobbles, trace silt and clay, moist.
➤ Stone greater than 100 mm in diameter 20%.
➤ Size and frequency of gravel increasing by 10% below 3.5 m.
➤ Test pit dry and stable upon completion
- Test Pit 88-11 (Sample 11 taken 2.0-3.0 m)**
- 0.00 – 0.30 m Dark brown sandy topsoil, moist.
0.30 – 0.70 m Red-brown silty fine sand to sand trace clay, moist.
0.70 – 5.20 m Grey-brown sandy gravel, some boulders and cobbles, trace silt and clay, moist.
➤ Stone greater than 100 mm in diameter 40%
➤ Stone greater than 300 mm in diameter less than 2%
➤ Test pit dry and stable upon completion
- Test Pit 88-12 (Sample 12 taken 2.5-3.0 m)**
- 0.00 – 0.15 m Dark brown sandy topsoil, moist
0.15 – 0.45 m Red-brown silty sand trace clay, moist
0.45 – 5.80 M Grey-brown sandy gravel, trace silt and clay, some boulders and cobbles, moist
➤ Stone greater than 100 mm in diameter 30-40%
➤ Stone greater than 300 mm is less than 2%
➤ Test pit dry and stable upon completion
- Test Pit 88-13 (Sample 13 taken 2.5-3.25 m)**
- 0.00 – 0.25 m Dark brown sandy topsoil, moist.
0.25 – 0.60 m Red-brown silty sand trace clay, moist.
0.60 – 5.20 m Grey-brown fine to medium sand trace silt, moist.
➤ Poorly sorted
5.20 – 5.60 m Light brown gravelly sand, trace cobbles, moist to wet,
➤ Stone greater than 100 mm in diameter less than 10%
➤ Test pit dry and sloughing upon completion

- Test Pit 88-14** (Sample 14 taken 1.5-2.5 m)
- 0.00 – 0.30 m Dark brown sandy topsoil, moist.
0.30 – 0.60 m Red-brown silty sand, trace clay, moist.
0.60 – 0.90 m Grey brown fine to medium sand, trace silt, moist.
0.90 – 5.00 m Grey-brown sand and gravel, trace boulders and cobbles, trace silt and clay, moist
- Stone greater than 100 mm in diameter $\pm 10\%$
 - Stone greater than 300 mm in diameter $\pm 2\%$
 - Gravel proportion and size increasing with depth
 - Test pit dry and unstable upon completion
- Test Pit 88-15** (Sample 15 taken 1.5-2.5 m)
- 0.00 – 0.25 m Dark brown sandy topsoil, moist
0.25 – 0.90 m Red-brown silty sand trace clay, moist.
0.90 – 4.80 m Grey-brown coarse gravel with some sand and fine sand, some cobbles trace boulders, moist.
- Stone size greater than 100 mm in diameter 25%
 - Stone size greater than 300 mm in diameter $\pm 2\%$
 - Stone size and frequency increasing with depth past 2.8 m
 - Test pit dry and sloughing upon completion
- Test Pit 88-16** (No sample taken)
- 0.00 – 0.75 m Dark brown clayey silt to silty clay topsoil, moist to wet.
0.75 – 3.0 m Grey sandy gravel, some cobbles and boulders, saturated
- Stones greater than 100 mm in diameter 30-35%
 - Water seepage through test pit wall 0.8 m from ground surface
 - Wall stability poor, sloughing
 - Water level in pit 1.10 m from ground surface
- Test Pit 88-17** (Sample 16 taken 2-3.0 m)
- 0.00 – 0.20 m Dark brown sandy topsoil, moist.
0.20 – 0.70 m Red-brown silty sand, some gravel, moist.
0.70 – 5.70 m Grey-brown coarse gravel, some cobbles, some medium sand fine sand, trace boulders, moist.
- Stone greater than 100 mm in diameter 15%
 - Stone greater than 300 mm in diameter less than 2%
 - Test pit dry and stable upon completion

- Test Pit 88-14 (Sample 14 taken 1.5-2.5 m)**
- 0.00 – 0.30 m Dark brown sandy topsoil, moist.
0.30 – 0.60 m Red-brown silty sand, trace clay, moist.
0.60 – 0.90 m Grey brown fine to medium sand, trace silt, moist.
0.90 – 5.0 m Grey-brown sand and gravel, trace boulders and cobbles, trace silt and clay, moist
- Stone greater than 100 mm in diameter ±10%
 - Stone greater than 300 mm in diameter ±2%
 - Gravel proportion and size increasing with depth
 - Test pit dry and unstable upon completion
- Test Pit 88-15 (Sample 15 taken 1.5-2.5 m)**
- 0.00 – 0.25 m Dark brown sandy topsoil, moist
0.25 – 0.90 m Red-brown silty sand trace clay, moist.
0.90 m – 4.80 m Grey-brown coarse gravel with some sand and fine sand, some cobbles trace boulders, moist.
- Stone size greater than 100 mm in diameter 25%
 - Stone size greater than 300 mm in diameter ±2%
 - Stone size and frequency increasing with depth past 2.8 m
 - Test pit dry and sloughing upon completion
- Test Pit 88-16 (No sample taken)**
- 0.00 – 0.75 m Dark brown clayey silt to silty clay topsoil, moist to wet.
0.75 – 3.0 m Grey sandy gravel, some cobbles and boulders, saturated
- Stones greater than 100 mm in diameter 30-35%
 - Water seepage through test pit wall 0.8 m from ground surface
 - Wall stability poor, sloughing
 - Water level in pit 1.10 m from ground surface
- Test Pit 88-17 (Sample 16 taken 2-3.0 m)**
- 0.00 – 0.20 m Dark brown sandy topsoil, moist.
0.20 – 0.70 m Red-brown silty sand, some gravel, moist.
0.70 – 5.70 m Grey-brown coarse gravel, some cobbles, some medium sand fine sand, trace boulders, moist.
- Stone greater than 100 mm in diameter 15%
 - Stone greater than 300 mm in diameter less than 2%
 - Test pit dry and stable upon completion

Test Pit 88-18

(Sample 17 taken 1.9-2.9 m)

- 0.00 – 0.30 m Dark brown sandy topsoil, moist.
0.30 – 0.65 m Red-brown silty sand, moist
0.65 – 2.60 m Grey-brown coarse sandy gravel, some fine sand, some cobbles, trace boulders, moist.
- Stone greater than 100 mm in diameter 10%
 - Stone greater than 300 mm less than 2%
 - Layer of fine to medium sand 1.3 – 1.7 m
- 2.60 – 4.00 m Grey-brown sandy gravel to gravelly sand, wet.
4.00 – 5.30 m Grey-brown sandy gravel to gravelly sand, trace cobbles, wet.
- Stone greater than 100 mm in diameter 15%
 - Stone greater than 300 mm in diameter 2%
 - Stone frequency increasing with depth.
 - Test pit dry and stable upon completion

Test Pit 88-19

(Sample 18 taken 2.5-4.0 m)

- 0.00 – 0.20 m Dark brown sandy topsoil, moist.
0.20 – 0.50 m Red-brown sandy silt to silty sand, trace clay, moist.
0.50 – 5.50 m Grey-brown coarse sandy gravel, some cobbles, trace boulders, moist.
- Stone greater than 100 mm in diameter 20%
 - Stone greater than 300 mm in diameter 2%
 - Test pit dry and stable upon completion

Test Pit 88-20

(Sample 19 taken 2.0-3.10 m)

- 0.00 – 0.25 m Dark brown sandy topsoil, moist.
0.25 – 0.35 m Red-brown silty sand, trace clay, moist.
0.35 – 5.10 m Grey-brown sand and gravel, some cobbles and boulders, trace silt and clay, moist.
- Stone greater than 100 mm in diameter 35%
 - Stones greater than 300 mm in diameter 15%
 - Stones greater than 300 mm in diameter 15%
 - Test pit dry and stable upon completion

Test Pit 88-21 (Sample 20 taken 2.10-3.50 m)

- 0.00 – 0.20 m Dark brown sandy topsoil, moist.
0.20 – 0.40 m Red-brown silty sand, trace clay, moist.
0.40 – 5.80 m Grey cobbly sand and gravel, some cobbles, trace boulders, trace silt and clay, moist.
- Stones greater than 100 mm in diameter 30%
 - Stones greater than 300 mm in diameter 2%
 - Frequency of stone and size increasing with depth
 - Test pit dry and stable upon completion

Test Pit 88-22 (Sample 21 taken 2.0-3.0 m)

- 0.00 – 0.20 m Dark brown sandy topsoil, moist.
0.20 – 0.30 m Red-brown fine to medium sandy gravel trace cobbles and boulders, moist to saturated.
- Stones greater than 100 mm in diameter 30%
 - Stones greater than 300 mm in diameter 3-5%
 - Saturated below 3.7 m
 - Test pit flooding upon completion

Test Pit 88-23 (Sample 22 taken 1.5-2.8 m)

- 0.00 – 0.20 m Dark brown sandy topsoil, moist.
0.20 – 0.30 m Red-brown sandy silt trace clay, moist.
0.30 – 5.80 m Grey-brown sand and gravel with some cobbles, trace silt.
- Stones greater than 100 mm in diameter 10%
 - Stones greater than 300 mm in diameter 10%
 - Quantity and size of gravel increasing below 3.0 m
 - Test pit saturated below 5.8 m

Test Pit 88-24 (Sample 23 taken 2.0-3.0 m)

- 0.00 – 0.30 m Dark brown sandy topsoil, moist
0.30 – 0.60 m Red-brown silty sand, trace clay, some gravel, moist.
0.60 – 5.20 m Grey-brown sandy gravel with trace silt and clay, some cobbles and trace boulders, moist.
- Stone greater than 100 mm in diameter 35%
 - Stone greater than 300 mm in diameter less than 10%
 - Stone frequency and size increasing with depth
 - Test pit dry upon completion

Test Pit 88-25 (Sample 24 taken 2.0-3.10 m)

- 0.00 – 0.20 m Dark brown sandy topsoil, moist.
0.20 – 0.30 m Red-brown silty sand, trace clay with stones, moist.
0.30 – 5.30 m Grey-brown gravelly medium sand with trace silt, and clay, some cobbles, trace boulders, moist.
- Stones greater than 100 mm in diameter 25%
 - Stones greater than 300 mm in diameter 3%
 - Stone frequency and size increasing with depth below 3.3 m
 - Test pit dry and stable upon completion

Test Pit 88-26 (Sample 25 taken 1.1-2.3 m)

- 0.00 – 0.30 m Dark brown sandy topsoil, moist.
0.30 – 0.75 m Red-brown silty sand, trace stone near bottom of unit, moist.
0.75 – 5.30 m Grey-brown medium sand and gravel, some cobbles, trace boulders, trace silt and clay.
- Stones greater than 100 mm in diameter 20%
 - Stones greater than 300 mm in diameter 10%
 - Test pit dry and stable upon completion

Test Pit 88-27 (Sample 26 taken 2.1-2.7 m)

- 0.00 – 0.30 m Dark-brown sandy topsoil, moist.
0.30 – 0.45 m Red-brown silty sand, moist, trace clay.
0.45 – 5.20 m Grey-brown medium sand and gravel, trace silt and clay, trace cobbles and boulders
- Elliptical zones up to 2.0 m long of stone which are less than 25 mm in diameter. Random through pit
 - Stones greater than 100 mm in diameter 20%
 - Stone greater than 300 mm in diameter less than 2%
 - Test pit dry and stable upon completion

Test Pit 88-28

(Sample 27 taken 1.5-3.0 m)

0.00 – 0.30 m

Dark-brown sandy topsoil, moist.

0.30 – 1.20 m

Red-brown sandy silt with cobbles, moist.

1.20 – 5.20 m

Grey-brown gravelly medium to coarse sand, trace cobbles and boulders, moist.

- Stone greater than 100 mm in diameter 25% and decreasing to less than 5% below 2.5 m
- Stone greater than 300 mm in diameter less than 2%
- Saturated at 4.30 m, water in the test pit upon completion.

Test Pit 88-29

(Sample 28 taken 1.5-2.0 m)

0.00 – 0.15 m

Dark brown sandy topsoil, moist.

0.15 – 1.10 m

Red-brown gravelly sand to sandy gravel, trace cobbles and boulders, moist.

1.10 – 4.90 m

➤ Stones greater than 300 mm in diameter less than 2%

Grey-brown medium to coarse sand and gravel, some cobbles, trace boulders, trace silt, moist

- Stone greater than 100 mm in diameter is 30% to 2.30 m and decreases to less than 10% near bottom of pit.
- Stone greater than 300 mm in diameter less than 1%
- Pockets of stone with diameters up to 25 mm random through pit
- Test pit dry and stable upon completion

Test Pit 88-30

(Sample 29 taken 1.0-3.0 m)

0.00 – 0.30 m

Dark brown sandy topsoil, moist

0.30 – 0.70 m

Red-brown silty sand to sandy silt with stones, moist.

0.70 – 2.90 m

Grey brown medium sand and coarse gravel, some coarse and fine sand, trace cobbles, trace silt and clay, moist

- Layers of gravel 100 mm thick occurring frequently in pit wall.
- Stone greater than 100 mm in diameter less than 2% increasing in frequency with depth to approximately 10%

2.90 – 4.20 m

Light brown layer of silt, trace fine sand, moist to wet.

4.20 – 4.70 m

Grey-brown gravelly medium to coarse sand, trace cobbles, moist.

4.70 – 5.80 m

Grey-brown medium to coarse sand, moist.

- Test pit dry and stable upon completion

Test Pit 88-31 (No sample taken)

0.00 – 0.30 m Dark brown sandy topsoil, moist to wet.
0.30 – 2.00 m Red-brown clayey silt to silty clay, trace sand, W.T.P.L.
2.00 – 2.10 m Oxidized fine to medium sand, wet to saturated
2.10 – 3.00 m Grey silty fine sand, trace clay, saturated
➤ Test pit containing water 2.10 m from ground surface

Test Pit 88-32 (Sample 30 taken 1.5-2.0 m)

0.00 – 4.90 m Grey-brown medium to coarse sand and gravel, some cobbles, trace fine sand, moist.
➤ Stone greater than 100 mm in diameter 25%
➤ Stone greater than 300 mm in diameter is less than 2%
➤ Stone frequency and size increasing with depth
➤ Band of grey fine to medium sand between 1.0 – 2.0 m
➤ Test pit dry and sloughing upon completion

BOREHOLE NO. 1

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: DECEMBER 6, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: EK

GROUND ELEVATION: 271.28 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS		
				TYPE	N ¹ VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE				SHEAR STRENGTH	
									10	20	30		W _p	W _L
0														
0.3	TOPSOIL											SAMPLED DEPTH:		
2	FINE TO MEDIUM SAND, SOME GRAVEL MEDIUM BROWN, TRACE CLAY, TRACE COBBLES, MOIST - SAMPLES SHOWING ROCK FRAGMENTS 60%			GS								1.5 m TO 3.1 m		
3.0				GS								3.1 m TO 4.6 m		
4	FINE TO MEDIUM SAND SOME COBBLES AND GRAVEL, MEDIUM BROWN, SOME SILT, TRACE CLAY - SAMPLES SHOWING ROCK FRAGMENTS ±75% - AT 6.1 m TRACE FINE SAND AND SILT BECOMING GRAVEL AND MED-COARSE SAND			GS								4.6 m TO 6.1 m		
6				GS								6.1 m TO 7.6 m		
8				GS								7.6 m TO 9.1 m		
9.1				GS								9.1 m TO 10.7 m		
10	FINE SAND AND GRAVEL MEDIUM BROWN, OCCASIONAL COBBLE, SOME SILT, TRACE CLAY, MOIST - SAMPLES SHOWING ROCK FRAGMENTS AT ±50% OR LESS - 10.7 m-12.2 m FINE TO COARSE SAND, SOME GRAVEL, TRACE SILT			GS								10.7 m TO 12.2 m		
12	- 12.2 m GRAVEL CONTENT INCREASING TO BE GRAVEL AND MEDIUM TO COARSE SAND, TRACE FINE SAND AND SILT			GS								12.2 m TO 13.7 m		
14	- 13.7 m FINE TO COARSE SAND, SOME GRAVEL, TRACE SILT			GS								13.7 m TO 15.2 m		
16				GS								15.2 m TO 16.8 m		
18				GS								16.8 m TO 18.3 m		
18.3	FINE SANDY SILT, SILTY FINE SAND MEDIUM BROWN, SATURATED											NATURAL CAVE		
20														

BOREHOLE NO. 1

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: DECEMBER 6, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: EK

GROUND ELEVATION: 271.28 MASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONTOR DETAILS	SAMPLE				CONE PENETRATION			WATER CONTENT %		REMARKS	
				TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	N VALUE			10 20 30		
									10	20	30	10		20
20														
22														
24	24.1													
	BOREHOLE TERMINATED AT 24.1 m													
26														
28														
30														
32														
34														
36														
38														
40														

BOREHOLE NO. 2

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: DECEMBER 5, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: DM/EK

GROUND ELEVATION: 261.38 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION		WATER CONTENT %			REMARKS		
				TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	N VALUE			WATER CONTENT %			
									10	20	30	10		20	30
							SHEAR STRENGTH		Wp Wc						
0															
0.3	TOPSOIL												SAMPLED DEPTH:		
2	MEDIUM TO COARSE SAND AND GRAVEL MEDIUM BROWN, MOIST, OCCASIONAL COBBLES, MORE ABUNDANT NEAR TOP - SAMPLE SHOWING ±75-80% OF BROKEN ROCK FRAGMENTS - BECOMING SATURATED NEAR ±10.0 m				GS								1.5 m TO 3.1 m		
					GS								3.1 m TO 4.6 m		
					GS								4.6 m TO 6.1 m		
					GS								6.1 m TO 7.6 m		
					GS								7.6 m TO 9.1 m		
					GS								9.1 m TO 10.7 m		
11.0	CLAYEY SILT TILL GREY BROWN												GRAVEL BACKFILL		
12															
14															
16															
18															
20															

BOREHOLE NO. 2

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: DECEMBER 5, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: DM/EK

GROUND ELEVATION: 261.38 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION			WATER CONTENT %			REMARKS
				TYPE	% WATER	% RECOVERY	RQD (%)	N VALUE			WATER CONTENT %				
								10	20	30	10	20	30		
20															
22	21.9														
24	BOREHOLE TERMINATED AT 21.9 m IN CLAYEY SAND TILL														
26															
28															
30															
32															
34															
36															
38															
40															

BOREHOLE NO. 3

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: NOVEMBER 28, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: EK/DM

GROUND ELEVATION: 254.45 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION			WATER CONTENT %			REMARKS	
				TYPE	"N" VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE			WATER CONTENT %			
									10	20	30	10	20		30
0															
0.3	TOPSOIL													SAMPLED DEPTH:	
2	MEDIUM TO COARSE SAND AND GRAVEL MEDIUM BROWN, SOME FINE SAND, TRACE SILT, SOME CLAY, OCCASIONAL COBBLES - SAMPLE SHOWING ±85% OF BROKEN FRAGMENTS				CS									1.5 m TO 3.1 m	
4					CS									3.1 m TO 4.8 m	
6					CS									4.6 m TO 8.1 m	
8					CS									6.1 m TO 7.6 m	
10					CS									7.6 m TO 9.1 m - NATURAL CAVE - ZONE PRODUCING ±0.8 L/s	
11.6					CS									9.1 m TO 10.7 m	
12	CLAYEY SAND TILL RED-BROWN				CS									10.7 m TO 12.2 m	
14															
16	BOREHOLE TERMINATED AT 15.9 m IN CLAYEY SAND TILL														
18															
20															

BOREHOLE NO. 4

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: DECEMBER 1, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: DM

GROUND ELEVATION: 250.39 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION			WATER CONTENT %			REMARKS	
				TYPE	N VALUE	% WATER	% RECOVERY	ROD (%)	"N" VALUE			WATER CONTENT %			
									10	20	30	10	20		30
0															
0.3	TOPSOIL													SAMPLED DEPTH:	
2	FINE TO COARSE SAND AND GRAVEL MEDIUM BROWN TRACE SILT, TRACE COBBLES - SAMPLES SHOWING ±85-90% OF FRAGMENTS				GS									1.5 m TO 3.1 m	
4					GS									3.1 m TO 4.6 m	
6					GS									4.6 m TO 6.1 m	
6.1	SANDY GRAVEL MEDIUM BROWN TRACE FINE SAND AND SILT TO SAND AND GRAVEL - SAMPLE SHOWING ±70-75% FRAGMENTS				GS									6.1 m TO 7.6 m	
8					GS									7.6 m TO 9.1 m	
10					GS									9.1 m TO 10.7 m	
12					GS									10.7 m TO 12.2 m	
14					GS									12.2 m TO 13.7 m	
15.2	- BECOMES SATURATED AT 15.2 m				GS									13.7 m TO 15.2 m	
16	FINE SAND MEDIUM BROWN, SOME SILT, TRACE COARSE SAND				GS									15.2 m TO 16.8 m	
18					GS									16.8 m TO 18.3 m	
18.9	FINE SAND, SOME SILT MEDIUM BROWN				GS									18.3 m TO 19.8 m	
19.5	SILTY FINE SAND TO MEDIUM SAND MEDIUM BROWN, TRACE GRAVEL, TRACE CLAY				GS									19.8 m TO 21.3 m	
20															

BOREHOLE NO. 4

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: DECEMBER 1, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: DM

GROUND ELEVATION: 250.39 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE					CONE PENETRATION			WATER CONTENT %			REMARKS
				TYPE	N ^o VALUE	% WATER	% RECOVERY	RQD (%)	"N" VALUE			10 20 50			
									SHEAR STRENGTH			W _p W _L			
20															
21.3															
22	BOREHOLE TERMINATED AT 21.3 m IN CLAYEY SAND TILL														
24															
26															
28															
30															
32															
34															
36															
38															
40															

BOREHOLE NO. 4A

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: OCTOBER 31, 1990

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: FB

GROUND ELEVATION: ± 250.38 mASL

REVIEWER: DEJ

DEPTH (m)	LITHOLOGICAL DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS		SAMPLE				CONE PENETRATION			WATER CONTENT %			REMARKS	
					TYPE	N ^o VALUE	% WATER	% RECOVERY	ROD (%)	N ^o VALUE			WATER CONTENT %			
										10	20	30	10	20		30
0			I	II												
0.3	TOPSOIL															
2	FINE TO COARSE SAND AND GRAVEL MEDIUM BROWN TRACE OF ORGANICS AT BEGINNING, TRACE SILT, ANGULAR GRAVEL AND TRACE TO SOME SILT AT END				GS											
4					GS											
6					GS											
6.9	SANDY GRAVEL MEDIUM BROWN, SOME SILT, ANGULAR GRAVEL				GS											
8					GS											
10					GS											
10.9	FINE TO COARSE SAND AND GRAVEL MEDIUM BROWN, TRACE TO SOME SILT, ANGULAR GRAVEL, BECOMING SOME FINE ANGULAR GRAVEL AND SOME SILT IN MIDDLE, MEDIUM TO COARSE SAND AT END				GS											
12					GS											
14					GS											
14.5	SILTY FINE TO MEDIUM SAND TO FINE-MEDIUM SAND, SOME SILT MEDIUM BROWN, TRACE TO SOME GRAVEL AT BEGINNING - BECOMES SATURATED AT ±15.2 m				GS											
16					GS											
18					GS											
20					GS										NATURAL CAVE	

BOREHOLE NO. 4A

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT
 CLIENT: DUFFERIN AGGREGATES
 BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY
 GROUND ELEVATION: ± 250.39 mASL

PROJECT NO.: 880027.07
 DATE: OCTOBER 31, 1990
 GEOLOGIST: FB
 REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS		
				TYPE	N ^o VALUE	% WATER	% RECOVERY	ROD (%)	N ^o VALUE				WATER CONTENT %	
									10	20	30		W _p	W _L
20														
22	22.1													
	23.8													
24	24		▨											
26	26.7		●									NATURAL CAVE		
28	28.2		▨											
30	31.2											NATURAL CAVE		
32	32.8													
34	34.8		▨											
36	35.6		●									MONITORS ARE IN SAME BOREHOLE		
38														
40														

BOREHOLE NO. 5

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: NOVEMBER 23, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: EK/DM

GROUND ELEVATION: 253.78 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION			WATER CONTENT %			REMARKS	
				TYPE	"N" VALUE	% WATER	% RECOVERY	ROD (#)	"N" VALUE			WATER CONTENT %			
									10	20	30	10	20		30
0															
0.3	TOPSOIL													SAMPLED DEPTH:	
1.5	FINE SAND MEDIUM BROWN, SOME MEDIUM TO COARSE SAND, TRACE GRAVEL AND SILT				GS									1.5 m TO 3.1 m	
3.1					GS									3.1 m TO 4.6 m	
4.6					GS									4.6 m TO 6.1 m	
6.1	MEDIUM TO COARSE SAND AND GRAVEL MEDIUM BROWN, TRACE SILT - SAMPLES SHOWING ±75-80% OF FRAGMENTS - OCCASIONAL COBBLES				GS									6.1 m TO 7.6 m	
7.6					GS									7.6 m TO 9.1 m	
9.1					GS									9.1 m TO 10.7 m	
10.7					GS									10.7 m TO 12.2 m	
12.2					GS									12.2 m TO 13.7 m	
13.7	- BECOMING SATURATED AT ±10.0 m				GS									13.7 m TO 15.2 m	
15.2					GS									15.2 m TO 16.8 m	
16.8					GS									16.8 m TO 18.3 m	
18.3	SAND AND GRAVEL TRACE SILT AND FINE SAND				GS									- NATURAL CAVE - ZONE PRODUCING ESTIMATED ±0.8-1.0 L/s	
17.7	COARSE SAND AND GRAVEL				GS										
18	CLAYEY SAND TILL GREY				GS										
20															

BOREHOLE NO. 5

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: NOVEMBER 23, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: EK/DM

GROUND ELEVATION: 253.78 MASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION			WATER CONTENT %			REMARKS	
				TYPE	N ^o VALUE	% WATER	% RECOVERY	RQD (%)	"N" VALUE			10 20 30			
									SHEAR STRENGTH			Wp Wl			
20															
22.9															
22	BOREHOLE TERMINATED AT 22.9 m IN CLAYEY SAND FILL														
24															
26															
28															
30															
32															
34															
36															
38															
40															

BOREHOLE NO. 5A

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: OCTOBER 30, 1990

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: FB

GROUND ELEVATION: ± 253.78 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION		WATER CONTENT %		REMARKS		
				TYPE	N _v VALUE	% WATER	% RECOVERY	ROD (%)	N VALUE				CONTENT %	
									10	20	30		10	20
0	TOPSOIL													
0.3	FINE TO COARSE SAND MEDIUM BROWN, TRACE OF FINE GRAVEL AND SILT, BECOMING MEDIUM TO COARSE SAND, TRACE OF FINE GRAVEL AT ±2.3 m, CHANGING TO FINE TO COARSE SAND, SOME GRAVEL, TRACE TO SOME SILT AT ±3.8 m, MEDIUM TO COARSE SAND, SOME FINE SAND AND GRAVEL, TRACE SILT AT BOTTOM		II	CS										
2				CS										
4				CS										
6				CS										
8				CS										
8.4	GRAVELLY SAND MEDIUM BROWN, TRACE TO SOME SILT, BECOMING SATURATED AT ±9.8 m			CS										
9.9	MEDIUM TO COARSE SAND AND GRAVEL MEDIUM BROWN, SOME FINE SAND AND GRAVEL, TRACE SILT AT BEGINNING			CS								NATURAL CAVE		
10				CS										
12				CS										
13.0	FINE TO COARSE GRAVEL MEDIUM BROWN, SOME MEDIUM TO COARSE SAND			CS										
14				CS										
14.5	MEDIUM TO COARSE SAND AND GRAVEL MEDIUM BROWN			CS										
15				CS										
16.0	FINE TO COARSE GRAVEL MEDIUM BROWN, ANGULAR GRAVEL, SOME MEDIUM TO COARSE SAND, TRACE SILT			CS										
17.7				CS										
18	CLAYEY SILT GREY, TRACE OF GRAVEL			CS										
20				CS										

BOREHOLE NO. 5A

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: OCTOBER 30, 1990

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: FB

GROUND ELEVATION: ± 253.78 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CORE PENETRATION		WATER CONTENT %			REMARKS		
				TYPE	N ^o VALUE	% WATER	% RECOVERY	RQD (%)	N ^o VALUE			WATER CONTENT %			
									10	20	30	10		20	30
20															
20.5	CLAYEY SILT TILL GREY												NATURAL CAVE		
22															
23.5	CLAYEY SAND TILL GREY														
24															
28															
25					GS										
28.2	CLAYEY SAND TILL AND GRAVEL GREY, ANGULAR GRAVEL				GS										
30					GS										
31.1	BEDROCK GREEN, WEATHERED SHALE				GS										
32															
33.8	BOREHOLE TERMINATED AT 33.8 m														
36															
38															
40													ZONE PRODUCING ESTIMATED ±58.8 L/min		

BOREHOLE NO. 6

PROJECT NAME: HYDROGEOLOGICAL INVESTIGATION PARIS SAND AND GRAVEL PIT

PROJECT NO.: 880027.07

CLIENT: DUFFERIN AGGREGATES

DATE: NOVEMBER 30, 1988

BOREHOLE TYPE: 150 mm DIAMETER AIR ROTARY

GEOLOGIST: DM

GROUND ELEVATION: 239.84 mASL

REVIEWER: DEJ

DEPTH (m)	STRATIGRAPHIC DESCRIPTION	STRATIGRAPHY	MONITOR DETAILS	SAMPLE				CONE PENETRATION			WATER CONTENT %			REMARKS	
				TYPE	N ^o VALUE	% WATER	% RECOVERY	ROD (X)	"N" VALUE			WATER CONTENT %			
									10	20	30	10	20		30
							SHEAR STRENGTH			W _p W _L					
0															
0.2	TOPSOIL													SAMPLED DEPTH:	
2	FINE TO COARSE SAND AND GRAVEL GREY BROWN TO BROWN, TRACE SILT, TRACE CLAY, OCCASIONAL COBBLE -BECOMES SATURATED AT ±5.0 m													1.5 m TO 3.1 m	
3.1		CS												3.1 m TO 4.8 m	
4.6		CS												4.6 m TO 6.1 m	
6.1		CS												6.1 m TO 7.6 m	
7.6		CS												7.6 m TO 9.1 m	
8.2	GRAVELLY CLAY TILL GREY BROWN, WITH COBBLES														
10															
12															
14															
16.2	BOREHOLE TERMINATED AT 16.2 m IN GRAVELLY CLAY TILL														
18															
20															



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: BH1-12
 DATE COMPLETED: July 16, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITOR INSTALLATION	SAMPLE			
				NUMBER	INTERVAL	REC (%)	N' VALUE
	EXISTING GROUND SURFACE	254.24					
0.5	Topsoil - Beige, Sandy						
1.0	SW-GW - SAND and GRAVEL, with Cobbles, light brown to brown, loose, well graded, trace fines in some intervals below 9 mBGS	253.79	Bentonite Grout	1	50		
2.0				2	50		
3.0				3	50		
4.0				4	50		
5.0				5	50		
6.0							
6.5							
7.0							
7.5	- Cobbles obstructing augers, boney soil from 7.32 to 9.14m BGS						

NOTES:

WATER FOUND ▼

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: BH2-12
 DATE COMPLETED: July 17, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITOR INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	N' VALUE		
	EXISTING GROUND SURFACE	252.01							
0.5	TOPSOIL - Reddish brown, loose								
1.0	SW - GRAVELLY SAND, with cobbles, brown, well graded	251.40							
1.5									
2.0			Bentonite Grout	1		50			
2.5				2		50			
3.0				3		50			
3.5				4		50			
4.0				5		50			
4.5									
5.0									
5.5									
6.0	- Trace fines from 6.10 to 11.43m BGS								
6.5									
7.0									
7.5	- Water at 7.89m BGS		Natural						

NOTES:

WATER FOUND ▼

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: BH2-12
 DATE COMPLETED: July 17, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITOR INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	N' VALUE		
8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5 15.0 15.5	<div style="border: 1px solid black; padding: 2px;"> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> CI - CLAY TILL, trace gravel, dark brown, stiff </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> END OF BOREHOLE @ 12.19m BGS </div>	<div style="border: 1px solid black; padding: 2px;"> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> Collapse </div>	<div style="border: 1px solid black; padding: 2px;"> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> Collapse </div>	<div style="border: 1px solid black; padding: 2px;"> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 6 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 7 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 8 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 9 </div>	<div style="border: 1px solid black; padding: 2px;"> 20 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 50 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 100 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 90 </div>	<div style="border: 1px solid black; padding: 2px;"> 240.58 </div> <div style="border: 1px solid black; padding: 2px; margin-top: 5px;"> 239.82 </div>			

NOTES:
 WATER FOUND ▼

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: BH3-12
 DATE COMPLETED: July 18, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITOR INSTALLATION	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N' VALUE	
	EXISTING GROUND SURFACE	255.69						
0.5	TOPSOIL - reddish brown, silty sand grading to sand with gravel							
1.0	SW - SAND, with gravel and cobbles, brown, well graded	254.78		1		50		
1.5	- trace fines from 1.52 to 4.57m BGS							
2.0			Bentonite Grout					
2.5				2		50		
3.0								
3.5				3		50		
4.0								
4.5								
5.0				4		50		
5.5								
6.0								
6.5								
7.0				5		50		
7.5								

NOTES:
 WATER FOUND ▼

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: BH4-12
 DATE COMPLETED: July 23, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITOR INSTALLATION	SAMPLE					
				NUMBER	INTERVAL	REC (%)	N' VALUE		
	EXISTING GROUND SURFACE	254.09							
0.5	TOPSOIL	253.78		1	X	50			
1.0	SM - SILTY SAND, with gravel, trace cobbles and organics, light brown, loose			2	X	50			
1.5	SW-GW - SAND and GRAVEL, with cobbles, loose, brown, well graded	252.56		3	X	50			
4.0				4	X	50			
5.0				5	X	50			
6.0	CL - SILTY CLAY TILL, brown, firm	248.14							
6.5	CI - CLAY TILL, dark brown, some cobbles and gravel	247.68							
7.0									
7.5									

NOTES:

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

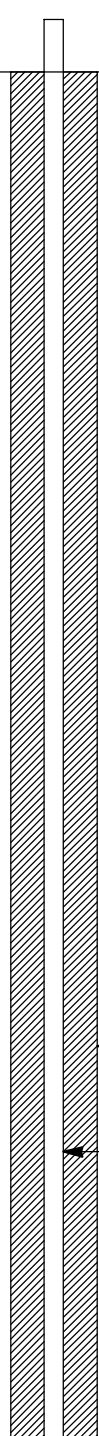
FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: MW1-12
 DATE COMPLETED: July 20, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	TOP OF RISER EXISTING GROUND SURFACE	254.25 253.34					
0.5	TOPSOIL - silty sand with gravel, reddish brown			1	X	50	
1.0	SM - SILTY SAND, with gravel, loose, trace organics	252.42			X		
1.5	SP - FINE SAND, with gravel and cobbles, some silt, loose, brown	251.82			X		
2.0				2	X	50	
2.5					X		
3.0				3	X	50	
3.5					X		
4.0				4	X	50	
4.5					X		
5.0				5	X	50	
5.5			← Bentonite		X		
6.0			← Schedule 40 PVC Casing		X		
6.5				5	X	50	
7.0					X		
7.5					X		

NOTES:

WATER FOUND ∇

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: MW1-12
 DATE COMPLETED: July 20, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE					
				NUMBER	INTERVAL	REC (%)	'N' VALUE		
8.5	SW - SAND, with gravel and cobbles, trace fines, loose, brown to grey-brown - Water at 9.14m BGS	244.50		6	X	50			
9.0		7		X	20				
9.5									
10.0									
10.5									
11.0									
11.5						8	X	33	
12.0									
12.5									
13.0						9	X	20	
13.5									
14.0									
14.5				10	X	30			
15.0									
15.5				11	X	70			
	CI - CLAY TILL, with gravel, dark brown, stiff	237.49							

NOTES:

WATER FOUND ▼

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: MW1-12
 DATE COMPLETED: July 20, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N' VALUE	
16.5 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0 21.5 22.0 22.5 23.0 23.5	END OF BOREHOLE @ 16.46m BGS	236.88	← Bentonite					

WELL DETAILS

Screened interval:
 240.54 to 237.49m AMSL
 12.80 to 15.85m BGS
 Length: 3.05m
 Diameter: 51mm
 Slot Size: 10
 Material: Schedule 40 PVC
 Seal:
 253.34 to 242.06m AMSL
 0.00 to 11.28m BGS
 Material: Bentonite
 Sand Pack:
 242.06 to 237.18m AMSL
 11.28 to 16.15m BGS
 Material: #4 Sand

NOTES:

WATER FOUND ∇

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: Watts Pond Road, Paris, Ontario

HOLE DESIGNATION: MW2-12
 DATE COMPLETED: July 23, 2012
 DRILLING METHOD: 6.25" Augers
 FIELD PERSONNEL: M.Waldick

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	TOP OF RISER EXISTING GROUND SURFACE	245.31 244.36					
0.5	OL - ORGANIC SOILS, silt with clay and sand, dark brown, moist, soft		<p style="font-size: small;">Bentonite Schedule 40 PVC Casing #4 Sand Pack Schedule 40 PVC Screen Bentonite</p>	1	X	50	
1.0	- Static Water at 1.22m BGS				X		
1.5					X		
2.0	ML-SM - SANDY SILT, with clay grading to SILTY SAND, with gravel, dark brown to brown, moist to wet soils, well graded	242.53			2	X	50
2.5				X			
3.0	- Water Table first encountered at 2.77m BGS SW-GW - SAND and GRAVEL, with cobbles and some fines, light brown, well graded	241.62		3	X	50	
3.5				X			
4.0				X			
4.5				X			
5.0	CL-CI - CLAYEY SILT TILL grading to CLAY TILL, red-brown to dark brown, firm to stiff	239.48		4	X	50	
5.5	END OF BOREHOLE @ 5.33m BGS	239.03					
6.0							
6.5							
7.0							
7.5							

WELL DETAILS
 Screened interval:
 241.62 to 240.09m m AMSL
 2.74 to 4.27m BGS
 Length: 1.52m
 Diameter: 51mm
 Slot Size: 10
 Material: Schedule 40 PVC
 Seal:
 244.36 to 243.14m m AMSL
 0.00 to 1.22m BGS
 Material: Bentonite
 Sand Pack:
 243.14 to 239.79m m AMSL
 1.22 to 4.57m BGS
 Material: #4 Sand

NOTES:

WATER FOUND ▼ STATIC WATER LEVEL ▼

OVERBURDEN LOG CRA 78410 PARIS PIT.GPJ CRA_CORP.GDT 9/12/12

FILE LOCATION:



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: 708 Watts Pond Road, Paris, Ontario
 DRILLING SUBCONTRACTOR: Underground Sonic Drilling Services Inc.

HOLE DESIGNATION: MW3-16
 DATE COMPLETED: January 14, 2016
 DRILLING METHOD: Roto-Sonic
 FIELD PERSONNEL: J. Leader

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	TOP OF CASING TOP OF RISER GROUND SURFACE	249.60 249.43 248.38					
0.5	OL - SANDY SILT (LOAM), soft/loose, slight plasticity, fine grained sand, dark brown, frozen-moist/wet; organic material, rootlets						
1.0	- wood from 1.22 to 1.30m BGS						
1.5	ML - SILT, with sand and gravel, firm, poorly graded, reddish brown, damp	247.08 246.92		1		75	
2.0	GW - SAND AND GRAVEL, trace silt, trace cobble, well graded, fine-coarse grained, subangular to rounded, brown, dry-damp						
2.5	- silty from 2.44 to 2.74m BGS						
3.0	- cobbly sand and gravel, grey and brown, dry-damp at 2.74m BGS						
3.5							
4.0				2		60	
4.5							
5.0							
5.5							
6.0							
6.5							
7.0	- wet from 7.01 to 7.32m BGS			3		50	
	CL/ML - SILT (TILL), with clay, trace fine	241.06					

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



OVERBURDEN LOG 078410-WA.GPJ CRA_CORP.GDT 3/3/17



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: 708 Watts Pond Road, Paris, Ontario
 DRILLING SUBCONTRACTOR: Underground Sonic Drilling Services Inc.

HOLE DESIGNATION: MW3-16
 DATE COMPLETED: January 14, 2016
 DRILLING METHOD: Roto-Sonic
 FIELD PERSONNEL: J. Leader

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N' VALUE	
15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0 21.5 22.0	 END OF BOREHOLE @ 17.68m BGS	230.70	 WELL DETAILS Screened interval: 242.28 to 239.24m AMSL 6.10 to 9.14m BGS Length: 3.05m Diameter: 51mm Slot Size: 10 Material: SCH. 40 PVC Seal: 247.16 to 242.89m AMSL 1.22 to 5.49m BGS Material: 5/8" Bentonite Gravel Sand Pack: 242.89 to 238.93m AMSL 5.49 to 9.45m BGS Material: No. 3 Silica Sand	6		60		

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



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: 708 Watts Pond Road, Paris, Ontario
 DRILLING SUBCONTRACTOR: Underground Sonic Drilling Services Inc.

HOLE DESIGNATION: MW4-16
 DATE COMPLETED: January 18, 2016
 DRILLING METHOD: Roto-Sonic
 FIELD PERSONNEL: J. Leader

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	TOP OF CASING TOP OF RISER GROUND SURFACE	244.57 244.39 243.37	<p>STEEL CASING</p> <p>CONCRETE</p> <p>No. 3 SILICA SAND</p> <p>BENTONITE GRAVEL</p> <p>152mm (6") Ø BOREHOLE</p> <p>51mm Ø SCH 40 PVC RISER PIPE</p>				
0.5	TOPSOIL - GRAVEL AND SILT (LOAM), with sand, dark brown, organic material, frozen	243.14					
1.0	GW - COBBLY SAND AND GRAVEL, trace silt, compact, well graded, fine-coarse grained, subangular to subrounded, brown and grey, dry-damp			1		100	
1.5							
2.0	- sand and gravel, with cobbles at 1.83m BGS						
2.5	- cobbly sand and gravel at 2.44m BGS						
3.0							
3.5							
4.0				2		100	
4.5							
5.0							
5.5							
6.0							
6.5							
7.0				3		100	

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



OVERBURDEN LOG 078410-WA.GPJ CRA CORP.GDT 3/3/17



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: 708 Watts Pond Road, Paris, Ontario
 DRILLING SUBCONTRACTOR: Underground Sonic Drilling Services Inc.

HOLE DESIGNATION: MW4-16
 DATE COMPLETED: January 18, 2016
 DRILLING METHOD: Roto-Sonic
 FIELD PERSONNEL: J. Leader

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	N' VALUE	
15.5 16.0 16.5 17.0 17.5 18.0 18.5 19.0 19.5 20.0 20.5 21.0 21.5 22.0	 END OF BOREHOLE @ 17.68m BGS	225.69	 ← BENTONITE GRAVEL	6		100		
			WELL DETAILS Screened interval: 231.79 to 228.74m m AMSL 11.58 to 14.63m BGS Length: 3.05m Diameter: 51mm Slot Size: 10 Material: SCH. 40 PVC Seal: 242.15 to 232.40m m AMSL 1.22 to 10.97m BGS Material: 5/8" Bentonite Gravel Sand Pack: 232.40 to 228.59m m AMSL 10.97 to 14.78m BGS Material: No. 3 Silica Sand					

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



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit

HOLE DESIGNATION: MW5-16

PROJECT NUMBER: 078410

DATE COMPLETED: January 19, 2016



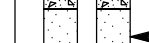



CLIENT: Dufferin Aggregates

DRILLING METHOD: Roto-Sonic

LOCATION: 708 Watts Pond Road, Paris, Ontario

FIELD PERSONNEL: J. Leader

DRILLING SUBCONTRACTOR: Underground Sonic Drilling Services Inc.

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	TOP OF CASING TOP OF RISER GROUND SURFACE	253.87 253.69 252.70	 <p>STEEL CASING</p>				
0.5	TOPSOIL, SANDY SILT (LOAM), dark brown, organic material, frozen	252.55	 <p>CONCRETE</p>				
1.0	SP - SAND, compact, well sorted, fine-medium grained, brown, moist		 <p>No. 3 SILICA SAND</p>	1		19	
2.5	- fine-coarse grained sand, well graded at 2.44m BGS						
3.0	- gravelly sand, trace cobbles at 3.05m BGS						
4.5		248.13	 <p>BENTONITE GRAVEL</p>				
5.0	GW - COBBLY, SAND AND GRAVEL, trace silt, compact, well graded, fine-coarse grained gravel, light brown, dry-damp		 <p>152mm (6") Ø BOREHOLE</p>				
5.5	- wet at 5.49m BGS						
6.0	SP - SAND, trace gravel, fine-medium grained, brown, wet	247.06	 <p>51mm Ø SCH 40 PVC RISER PIPE</p>				
6.5	- coarse gravel layer from 6.71 to 6.78m BGS						
7.0	- sand, with gravel, fine-coarse grained at 7.32m BGS			3		70	

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

OVERBURDEN LOG 078410-WA.GPJ CRA_CORP.GDT 3/3/17



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit
 PROJECT NUMBER: 078410
 CLIENT: Dufferin Aggregates
 LOCATION: 708 Watts Pond Road, Paris, Ontario
 DRILLING SUBCONTRACTOR: Underground Sonic Drilling Services Inc.

HOLE DESIGNATION: MW5-16
 DATE COMPLETED: January 19, 2016
 DRILLING METHOD: Roto-Sonic
 FIELD PERSONNEL: J. Leader

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
8.0 8.5 9.0 9.5 10.0 10.5 11.0 11.5 12.0 12.5 13.0 13.5 14.0 14.5	<p>- fine-medium grained sand, trace gravel at 9.14m BGS</p> <p>- trace silt, fine sand from 10.52 to 10.82m BGS</p> <p>- sand with gravel at 10.82m BGS</p> <p>- fine-coarse grained, sand at 11.28m BGS</p> <p>END OF BOREHOLE @ 12.19m BGS</p>	<p>240.51</p>	<p>WELL DETAILS Screened interval: 243.56 to 240.51m m AMSL 9.14 to 12.19m BGS Length: 3.05m Diameter: 51mm Slot Size: 20 Material: SCH. 40 PVC Seal: 251.48 to 244.17m m AMSL 1.22 to 8.53m BGS Material: 5/8" Bentonite Gravel Sand Pack: 244.17 to 240.51m m AMSL 8.53 to 12.19m BGS Material: No. 3 Silica Sand</p>	<p>4</p> <p>5</p>	<p>100</p> <p>100</p>		

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

OVERBURDEN LOG 078410-WA.GPJ CRA_CORP.GDT 3/3/17



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: Paris Pit

HOLE DESIGNATION: MW6-16

PROJECT NUMBER: 078410

DATE COMPLETED: January 15, 2016


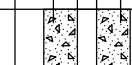
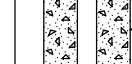


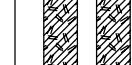
CLIENT: Dufferin Aggregates

DRILLING METHOD: Roto-Sonic

LOCATION: 708 Watts Pond Road, Paris, Ontario

FIELD PERSONNEL: J. Leader

DRILLING SUBCONTRACTOR: Underground Sonic Drilling Services Inc.

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m m AMSL	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	TOP OF CASING TOP OF RISER GROUND SURFACE	251.61 251.42 250.47	 STEEL CASING				
0.5	TOPSOIL - SILT (LOAM), with sand and gravel, dark brown, organic material, frozen; rootlets GW - GRAVEL AND COBBLES, with sand, compact, well graded, brown, frozen - moist - sand and gravel with cobbles, trace silt, subangular to rounded, dry-damp at 0.61m BGS - trace cobbles at 0.91m BGS	250.32	 CONCRETE				
1.0			 No. 3 SILICA SAND	1		100	
1.5							
2.0							
2.5							
3.0							
3.5							
4.0							
4.5							
5.0			 BENTONITE GRAVEL	2		80	
5.5	- wet at 5.33m BGS		 152mm (6") Ø BOREHOLE				
6.0	SP - SAND, compact, fine to coarse grained, well graded, brown, wet	244.83	 51mm Ø SCH 40 PVC RISER PIPE	3		90	
6.5							
7.0	- fine-medium grained sand at 7.32m BGS						

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

OVERBURDEN LOG 078410-WA.GPJ CRA_CORP.GDT 3/3/17



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: PARIS PIT - DIESEL SPILL
 PROJECT NUMBER: 11162342
 CLIENT: CRH CANADA GROUP INC.
 LOCATION: PARIS, ONTARIO

HOLE DESIGNATION: BH1-18/MW7-18
 DATE COMPLETED: 24 April 2018
 DRILLING METHOD: SONIC
 FIELD PERSONNEL: M. CORRIGAN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
	GROUND SURFACE TOP OF RISER	256.56 255.85						
0.5	GP-SANDY GRAVEL, some silt, trace clay, brown, dry, no odour		CONCRETE					4.0
1.0			5.08cm PVC WELL CASING	1RS		80		6.0
1.5	- trace silt at 1.52m BGS							5.7
2.0								2.0
2.5			BENTONITE	2RS		80		2.6
3.0		253.51						
3.5	SW/GW-SAND/GRAVEL, some silt, trace clay, grey, moist, no odour							1.8
4.0			15.24cm BOREHOLE	3RS		80		4.3
4.5		251.99						
5.0	SP-GRAVELLY SAND, some silt, trace clay, brown, moist, no odour							6.8
5.5	- crushed rock at 5.18m BGS - moist at 5.49m BGS			4RS		60		5.5
6.0		250.46						
6.5	SW/GW-SAND/GRAVEL, trace silt, trace clay, brown, dry, no odour							7.0
7.0				5RS		80		5.5
7.5								6.4

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

OVERBURDEN LOG 11162342-WI.GPJ GHD_Corp 8/6/18



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: PARIS PIT - DIESEL SPILL
 PROJECT NUMBER: 11162342
 CLIENT: CRH CANADA GROUP INC.
 LOCATION: PARIS, ONTARIO

HOLE DESIGNATION: BH1-18/MW7-18
 DATE COMPLETED: 24 April 2018
 DRILLING METHOD: SONIC
 FIELD PERSONNEL: M. CORRIGAN

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	PID (ppm)
8.5				6RS		80		7.7
9.0								5.6
9.5								
10.0	- wet at 9.91m BGS			7RS		40		10.6
10.5		245.89						
11.0	ML-CLAYEY SILT, some sand, some gravel, brown, wet, no odour							
11.5				8RS		5		7.8
12.0		244.37						
12.5	ML-SILT, trace clay, brown, no odour							8.3
13.0		243.61		9RS		80		
13.5	ML/CL-SILT/CLAY, trace sand, trace gravel, moist, no odour							9.3
14.0	END OF BOREHOLE @ 13.72m BGS	242.84						
14.5								
15.0								
15.5								

WELL DETAILS

Screened interval:
 247.57 to 243.00m
 8.99 to 13.56m BGS
 Length: 4.57m
 Diameter: 51mm
 Slot Size: 0.010
 Material: PVC
 Seal:
 255.95 to 248.18m
 0.61 to 8.38m BGS
 Material: BENTONITE
 Sand Pack:
 248.18 to 242.84m
 8.38 to 13.72m BGS
 Material: SAND

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

OVERBURDEN LOG 11162342-WI.GPJ GHD_Corp 8/6/18



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DUFFERIN PARIS PIT
 PROJECT NUMBER: 078410
 CLIENT: DUFFERIN AGGREGATES
 LOCATION: WATTS POND ROAD, PARIS, ONTARIO

HOLE DESIGNATION: MP1S
 DATE COMPLETED: May 26, 2016
 DRILLING METHOD: DIRECT PUSH
 FIELD PERSONNEL: R. CHATFIELD/D. DAUM

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
	TOP OF RISER GROUND SURFACE	245.93 244.32					
0.5	OL-ORGANIC SILT/CLAY		<p style="font-size: small;">38mm GALVANIZED STEEL WELL CASING</p> <p style="font-size: small;">38mm STAINLESS STEEL SCREEN</p>				
1.0	SP/GP-SAND/GRAVEL	243.32					
2.5	END OF BOREHOLE @ 2.45m BGS	241.87					
			WELL DETAILS Screened interval: 242.63 to 241.87m 1.69 to 2.45m BGS Length: 0.76m Diameter: 2mm Slot Size: 0.010 Material: GALVANIZED STEEL				
5.0							
6.0							
6.5							

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

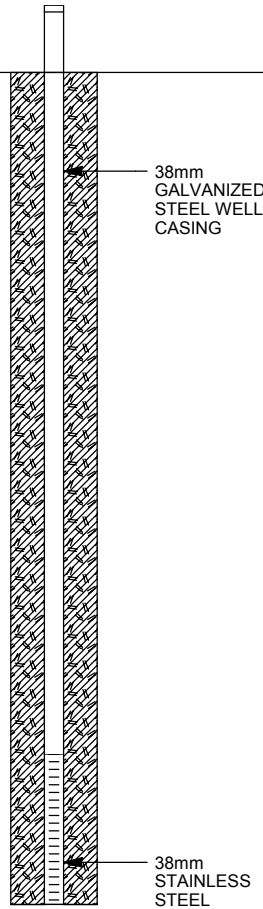
OVERBURDEN LOG 078410-WI.GPJ CRA_CORP.GDT 11/22/17



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DUFFERIN PARIS PIT
 PROJECT NUMBER: 078410
 CLIENT: DUFFERIN AGGREGATES
 LOCATION: WATTS POND ROAD, PARIS, ONTARIO

HOLE DESIGNATION: MP1D
 DATE COMPLETED: May 26, 2016
 DRILLING METHOD: DIRECT PUSH
 FIELD PERSONNEL: R. CHATFIELD/D. DAUM

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	ELEV. m	MONITORING WELL	SAMPLE				
				NUMBER	INTERVAL	REC (%)	'N' VALUE	
	TOP OF RISER GROUND SURFACE	245.41 244.40	 <p style="font-size: small;">38mm GALVANIZED STEEL WELL CASING</p> <p style="font-size: small;">38mm STAINLESS STEEL SCREEN</p>					
0.5	OL-ORGANIC SILT/CLAY							
1.0	SP/GP-SAND/GRAVEL	243.40						
1.5								
2.0								
2.5								
3.0								
3.5								
4.0								
4.5	END OF BOREHOLE @ 4.21m BGS	240.19	<p style="font-size: x-small;"><u>WELL DETAILS</u></p> <p style="font-size: x-small;">Screened interval: 240.95 to 240.19m 3.45 to 4.21m BGS</p> <p style="font-size: x-small;">Length: 0.76m Diameter: 2mm Slot Size: 0.010 Material: GALVANIZED STEEL</p>					
5.0								
5.5								
6.0								
6.5								

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

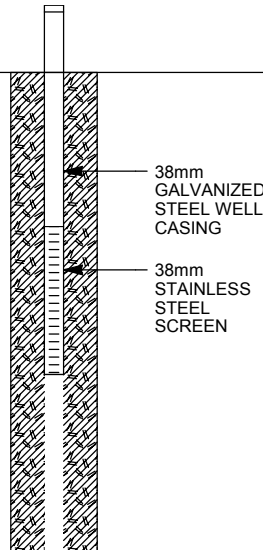
OVERBURDEN LOG 078410-WI.GPJ CRA_CORP.GDT 11/22/17



STRATIGRAPHIC AND INSTRUMENTATION LOG (OVERBURDEN)

PROJECT NAME: DUFFERIN PARIS PIT
 PROJECT NUMBER: 078410
 CLIENT: DUFFERIN AGGREGATES
 LOCATION: WATTS POND ROAD, PARIS, ONTARIO

HOLE DESIGNATION: MP2S
 DATE COMPLETED: November 9, 2017
 DRILLING METHOD: DIRECT PUSH
 FIELD PERSONNEL: K. FRITZ

DEPTH m BGS	STRATIGRAPHIC DESCRIPTION & REMARKS	DEPTH m BGS	MONITORING WELL	SAMPLE			
				NUMBER	INTERVAL	REC (%)	'N' VALUE
0.5 1.0 1.5 2.0 2.5 3.0 3.5 4.0 4.5 5.0 5.5 6.0 6.5	OL-ORGANIC SILT/CLAY SP/GP-SAND/GRAVEL END OF BOREHOLE @ 1.53m BGS	1.00 1.53	 <p style="font-size: small;"> 38mm GALVANIZED STEEL WELL CASING 38mm STAINLESS STEEL SCREEN </p> <p style="font-size: x-small;"> WELL DETAILS Screened interval: 0.78 to 1.53m BGS Length: 0.75m Diameter: 2mm Slot Size: 0.010 Material: GALVANIZED STEEL </p>				

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

OVERBURDEN LOG 078410-WI.GPJ CRA_CORP.GDT 11/22/17

Monitoring Well Inventory and Inspection Report

General Information

Well Field/Study Area: Telfer
 Well Name: OW1/96-A
 Former Well Name: --
 Nested With: OW1/96-B, -C
 Nest Position: deep
 Adjacent To: --
 Well Owner: County of Brant
 Well Located on Private Property: Yes
 Well Access: Foot Access
 Current Status: Monitoring Well

Borehole Log Information

Consultant Log: No
 MOE Well Record: No
 MOE Well Record Note: Available screen information from Lotowater (2006c).
 Year Installed: 1996
 Constructed Borehole Depth (mBGS): n/a
 Screen or Open Hole: screened
 Screen/Open Hole Interval (mBGS): 33.6 - 36.6
 Screen Pack Type: n/a
 Comment on Annular Seal: No WWR; therefore, no details on seal.
 Hydrostratigraphic Unit Monitored: Bedrock

Monitoring Status and Requirements

Monitored By: Stantec
 Water Level (Required By): Yes
 Water Quality (Required By): No

Survey Information

Co-ordinate Sytem / Zone: NAD83 / 17
 Northing: 551977.9
 Easting: 4785564.5
 UTM Survey Unit: Ashtech MobileMapper 100 (0.5 m accuracy)
 UTM Source: Stantec 2011 GPS survey
 Monitoring Reference Point: Top of PVC
 Reference Point Elev. (mAMSL): 249.73
 Elevation Source: Lotowater (2006c) - Table 1

Inspection Information

Inspected By: Stantec (RD)
 Inspection Date: 03-Aug-11
 Previous Inspection Date (Lotowater): Oct-06
 County Well Tag: Yes
 MOE Well Tag: No
 Outer Protective Casing Type: Steel, round, monument
 Locking Cap: Yes
 Well Head Secure: Yes - County Master Lock
 Well Casing / Inner Riser Type: PVC
 Well Casing / Inner Riser Diameter: 32 mm (1.25-inch)
 Measured Casing / Riser Stickup (m): 0.51
 Well Head Vented: Yes
 Waterra Tubing Installed for Sampling: No
 Annular Seal Visible: not visible
 Adequate Drainage around Wellhead: Yes
 Inspection Comments: --
 Deficiencies Noted: none (not including those related to annular seals)



Notes

-- = not applicable mAMSL = m above mean sea level
 n/a = not available mBGS = m below ground surface
 n/m = not measured mBRP = m below reference point

Monitoring Data

Measured Water Level (mBRP):	19.77	Dat	03-Aug-11
As-constructed Screen Depth (mBRP):	37.11	Dat	1996
Previous Measured Depth (mBRP):	36.91	Dat	Oct-06
Current Measured Depth (mBRP):	36.80	Dat	03-Aug-11
Difference (Log-Current) (m):	0.31		
Difference (Previous-Current) (m):	0.11		

Monitoring Well Inventory and Inspection Report

General Information

Well Field/Study Area: Telfer
 Well Name: OW1/96-B
 Former Well Name: --
 Nested With: OW1/96-A, -C
 Nest Position: intermediate
 Adjacent To: --
 Well Owner: County of Brant
 Well Located on Private Property: Yes
 Well Access: Foot Access
 Current Status: Monitoring Well

Borehole Log Information

Consultant Log: No
 MOE Well Record: No
 MOE Well Record Note: Available screen information from Lotowater (2006c).
 Year Installed: 1996
 Constructed Borehole Depth (mBGS): n/a
 Screen or Open Hole: screened
 Screen/Open Hole Interval (mBGS): 23.6 - 25.1
 Screen Pack Type: n/a
 Comment on Annular Seal: No WWR; therefore, no details on seal.
 Hydrostratigraphic Unit Monitored: Overburden (Intermediate)

Monitoring Status and Requirements

Monitored By: Stantec
 Water Level (Required By): Yes
 Water Quality (Required By): No

Inspection Information

Inspected By: Stantec (RD)
 Inspection Date: 03-Aug-11
 Previous Inspection Date (Lotowater): Oct-06
 County Well Tag: Yes
 MOE Well Tag: No
 Outer Protective Casing Type: Steel, round, monument
 Locking Cap: Yes
 Well Head Secure: Yes - County Master Lock
 Well Casing / Inner Riser Type: PVC
 Well Casing / Inner Riser Diameter: 32 mm (1.25-inch)
 Measured Casing / Riser Stickup (m): 0.49
 Well Head Vented: No
 Waterra Tubing Installed for Sampling: No
 Annular Seal Visible: not visible
 Adequate Drainage around Wellhead: Yes
 Inspection Comments: --
 Deficiencies Noted: none
 (not including those related to annular seals)

Survey Information

Co-ordinate Sytem / Zone: NAD83 / 17
 Northing: 551977.9
 Easting: 4785564.5
 UTM Survey Unit: Ashtech MobileMapper 100 (0.5 m accuracy)
 UTM Source: Stantec 2011 GPS survey
 Monitoring Reference Point: Top of PVC
 Reference Point Elev. (mAMSL): 249.72
 Elevation Source: Lotowater (2006c) - Table 1



Notes

-- = not applicable mAMSL = m above mean sea level
 n/a = not available mBGS = m below ground surface
 n/m = not measured mBRP = m below reference point

Monitoring Data

Measured Water Level (mBRP): 19.00	Dat 03-Aug-11
As-constructed Screen Depth (mBRP): 25.59	Dat 1996
Previous Measured Depth (mBRP): 25.34	Dat Oct-06
Current Measured Depth (mBRP): 25.26	Dat 03-Aug-11
Difference (Log-Current) (m): 0.33	
Difference (Previous-Current) (m): 0.08	

Monitoring Well Inventory and Inspection Report

General Information

Well Field/Study Area: Telfer
 Well Name: OW1/96-C
 Former Well Name: --
 Nested With: OW1/96-A, -B
 Nest Position: shallow
 Adjacent To: --
 Well Owner: County of Brant
 Well Located on Private Property: Yes
 Well Access: Foot Access
 Current Status: Monitoring Well

Borehole Log Information

Consultant Log: No
 MOE Well Record: No
 MOE Well Record Note: Available screen information from Lotowater (2006c).
 Year Installed: 1996
 Constructed Borehole Depth (mBGS): n/a
 Screen or Open Hole: screened
 Screen/Open Hole Interval (mBGS): 14.6 - 16.1
 Screen Pack Type: n/a
 Comment on Annular Seal: No WWR; therefore, no details on seal.
 Hydrostratigraphic Unit Monitored: Overburden (Upper)

Monitoring Status and Requirements

Monitored By: Stantec
 Water Level (Required By): Yes
 Water Quality (Required By): No

Survey Information

Co-ordinate Sytem / Zone: NAD83 / 17
 Northing: 551977.9
 Easting: 4785564.5
 UTM Survey Unit: Ashtech MobileMapper 100 (0.5 m accuracy)
 UTM Source: Stantec 2011 GPS survey
 Monitoring Reference Point: Top of PVC
 Reference Point Elev. (mAMSL): 249.70
 Elevation Source: Lotowater (2006c) - Table 1

Inspection Information

Inspected By: Stantec (RD)
 Inspection Date: 03-Aug-11
 Previous Inspection Date (Lotowater): Oct-06
 County Well Tag: Yes
 MOE Well Tag: No
 Outer Protective Casing Type: Steel, round, monument
 Locking Cap: Yes
 Well Head Secure: Yes - County Master Lock
 Well Casing / Inner Riser Type: PVC
 Well Casing / Inner Riser Diameter: 32 mm (1.25-inch)
 Measured Casing / Riser Stickup (m): 0.46
 Well Head Vented: No
 Waterra Tubing Installed for Sampling: No
 Annular Seal Visible: not visible
 Adequate Drainage around Wellhead: Yes
 Inspection Comments: --
 Deficiencies Noted: none (not including those related to annular seals)



Notes

-- = not applicable
 n/a = not available
 n/m = not measured
 mAMSL = m above mean sea level
 mBGS = m below ground surface
 mBRP = m below reference point

Monitoring Data

Measured Water Level (mBRP): 12.58	Dat 03-Aug-11
As-constructed Screen Depth (mBRP): 16.56	Dat 1996
Previous Measured Depth (mBRP): 15.9	Dat Oct-06
Current Measured Depth (mBRP): 16.43	Dat 03-Aug-11
Difference (Log-Current) (m): 0.13	
Difference (Previous-Current) (m): -0.53	

Appendix D

Historical Hydraulic Monitoring Data and Hydrographs

Appendix D.1

Historical Hydraulic Monitoring Data

Table D.1
Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	BH88-1-I		BH88-2-I		BH88-3-I		BH88-4-I		BH88-4A-I		BH88-4A-II	
	Reference Elevation (m AMSL)	272.16	Reference Elevation (m AMSL)	262.78	Reference Elevation (m AMSL)	254.76	Reference Elevation (m AMSL)	251.76	Reference Elevation (m AMSL)	251.47	Reference Elevation (m AMSL)	251.50
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
20-Dec-88	15.66	256.50	12.80	249.98	8.56	246.20	15.11	236.65	NI	NI	NI	NI
19-Jan-89	15.48	256.68	12.72	250.06	8.21	246.55	15.08	236.68	NI	NI	NI	NI
11-Apr-89	15.20	256.96	13.07	249.71	7.94	246.82	15.17	236.59	NI	NI	NI	NI
15-Aug-89	15.50	256.66	13.25	249.53	8.56	246.20	15.36	236.40	NI	NI	NI	NI
12-Dec-89	15.82	256.34	13.33	249.45	9.05	245.71	15.57	236.19	NI	NI	NI	NI
10-May-90	15.08	257.08	13.14	249.64	7.88	246.88	14.64	237.12	NI	NI	NI	NI
27-Aug-90	15.37	256.79	13.10	249.68	8.33	246.43	15.10	236.66	NI	NI	NI	NI
12-Dec-90	15.57	256.59	13.15	249.63	8.71	246.05	15.32	236.44	18.39	233.08	15.14	236.36
21-Feb-91	14.85	257.31	12.43	250.35	7.80	246.96	14.75	237.01	18.65	232.82	14.81	236.69
26-Mar-91	14.66	257.50	12.30	250.48	7.45	247.31	14.39	237.37	17.51	233.96	14.10	237.40
13-May-91	14.22	257.94	12.20	250.58	6.81	247.95	14.14	237.62	17.66	233.81	13.93	237.57
29-Jul-91	14.43	257.73	12.80	249.98	7.02	247.74	14.57	237.19	17.95	233.52	14.33	237.17
23-Sep-91	14.73	257.43	13.05	249.73	7.38	247.38	14.76	237.00	18.05	233.42	14.52	236.98
21-Nov-91	15.07	257.09	13.21	249.57	7.86	246.90	14.97	236.79	18.17	233.30	14.73	236.77
26-Feb-92	15.18	256.98	13.02	249.76	7.93	246.83	14.82	236.94	18.11	233.36	14.65	236.85
13-Jul-92	15.16	257.00	12.74	250.04	7.99	246.77	14.88	236.88	18.18	233.29	14.68	236.82
11-Nov-92	15.10	257.06	12.93	249.85	7.61	247.15	14.66	237.10	17.85	233.62	14.37	237.13
16-Apr-93	13.81	258.35	12.46	250.32	5.82	248.94	13.68	238.08	17.39	234.08	13.47	238.03
06-Jul-93	14.35	257.81	12.83	249.95	6.50	248.26	14.35	237.41	18.04	233.43	14.18	237.32
01-Nov-93	15.03	257.13	13.21	249.57	7.54	247.22	15.36	236.40	18.22	233.25	15.23	236.27
06-Apr-95	15.10	257.06	12.92	249.86	8.05	246.71	14.87	236.89	18.27	233.20	14.75	236.75
06-Jul-95	15.03	257.13	12.75	250.03	8.11	246.65	15.00	236.76	18.66	232.81	14.99	236.51
16-Nov-95	15.43	256.73	13.27	249.51	8.47	246.29	15.31	236.45	18.33	233.14	15.10	236.40
21-Nov-96	14.57	257.59	12.98	249.80	6.74	248.02	14.64	237.12	18.45	233.02	14.59	236.91
17-Apr-97	13.84	258.32	12.29	250.49	5.72	249.04	13.74	238.02	17.89	233.58	13.75	237.75
09-Jul-97	14.31	257.85	12.98	249.80	6.39	248.37	14.38	237.38	18.10	233.37	14.28	237.22
26-Nov-97	15.10	257.06	13.12	249.66	7.62	247.14	14.99	236.77	18.43	233.04	14.88	236.62
28-Apr-98	14.94	257.22	12.34	250.44	7.40	247.36	14.62	237.14	18.39	233.08	14.61	236.89
09-Jul-98	14.93	257.23	12.96	249.82	7.61	247.15	14.94	236.82	18.41	233.06	14.83	236.67
19-Nov-98	15.48	256.68	13.36	249.42	8.46	246.30	15.39	236.37	18.97	232.50	15.44	236.06
01-Nov-00	15.00	257.16	13.04	249.74	8.21	246.55	15.29	236.47	18.75	232.72	15.25	236.25
26-Apr-01	14.63	257.53	12.52	250.26	7.23	247.53	14.68	237.08	18.25	233.22	14.99	236.51
19-Jul-01	14.75	257.41	12.94	249.84	7.21	247.55	15.06	236.70	19.27	232.20	15.25	236.25
07-Nov-01	15.23	256.93	13.21	249.57	7.88	246.88	15.29	236.47	18.58	232.89	15.15	236.35
18-Nov-04	14.98	257.18	13.09	249.69	7.44	247.32	14.92	236.84	18.78	232.69	14.99	236.51
14-Nov-05	15.17	256.99	13.10	249.68	7.52	247.24	14.79	236.97	18.29	233.18	14.70	236.80
26-Sep-06	14.86	257.30	13.12	249.66	7.14	247.62	14.83	236.93	18.33	233.14	14.72	236.78

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-1-I		BH88-2-I		BH88-3-I		BH88-4-I		BH88-4A-I		BH88-4A-II	
	Reference Elevation (m AMSL)	272.16	Reference Elevation (m AMSL)	262.78	Reference Elevation (m AMSL)	254.76	Reference Elevation (m AMSL)	251.76	Reference Elevation (m AMSL)	251.47	Reference Elevation (m AMSL)	251.50
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
25-Oct-06	15.00	257.16	13.20	249.58	7.24	247.52	14.81	236.95	18.14	233.33	14.62	236.88
22-Nov-06	14.94	257.22	12.98	249.80	7.10	247.66	14.58	237.18	18.10	233.37	14.45	237.05
06-Jun-08	14.37	257.79	12.70	250.08	6.40	248.36	14.18	237.58	18.12	233.35	14.17	237.33
10-Sep-08	14.85	257.31	13.20	249.58	7.18	247.59	14.74	237.02	18.21	233.26	14.60	236.90
18-Nov-08	15.16	257.00	13.20	249.58	7.71	247.05	15.02	236.74	18.02	233.45	14.74	236.77
04-Jun-09	14.00	258.16	12.22	250.56	6.05	248.71	13.98	237.78	NA ⁽²⁾	NA ⁽²⁾	13.98	237.52
01-Sep-09	14.39	257.77	12.88	249.90	6.52	248.24	14.36	237.40	18.13	233.35	14.24	237.27
07-Dec-09	14.86	257.30	13.03	249.75	7.15	247.62	14.69	237.08	18.15	233.32	14.55	236.95
03-Jun-10	14.93	257.23	12.68	250.10	7.38	247.39	15.73	236.03	18.24	233.24	14.65	236.85
27-Aug-10	15.02	257.14	12.94	249.85	7.59	247.17	14.88	236.88	18.44	233.03	14.79	236.71
02-Dec-10	15.22	256.94	13.05	249.73	7.92	246.84	15.01	236.75	18.15	233.32	14.84	236.66
02-Jun-11	14.33	257.83	12.19	250.59	6.39	248.37	13.75	238.01	17.62	233.85	13.71	237.79
01-Sep-11	14.39	257.77	12.85	249.93	6.68	248.08	14.43	237.33	18.02	233.45	14.30	237.20
01-Dec-11	14.96	257.20	13.23	249.55	7.35	247.41	14.76	237.00	17.56	233.91	14.38	237.12
30-May-12	14.72	257.44	12.75	250.03	NA ⁽¹⁾	NA ⁽¹⁾	14.64	237.12	18.20	233.27	14.54	236.96
01-Aug-12	14.99	257.17	13.10	249.68	NA ⁽¹⁾	NA ⁽¹⁾	14.88	236.88	18.50	232.97	14.88	236.62
15-Sep-12	15.21	256.95	13.21	249.57	NA ⁽¹⁾	NA ⁽¹⁾	15.04	236.72	18.45	233.02	14.99	236.52
02-Nov-12	15.40	256.76	13.31	249.47	NA ⁽¹⁾	NA ⁽¹⁾	15.19	236.57	18.51	232.97	15.14	236.36
10-Dec-12	15.53	256.63	13.21	249.57	NA ⁽¹⁾	NA ⁽¹⁾	15.28	236.48	18.71	232.76	15.27	236.23
12-Dec-12	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	15.25	236.51	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Apr-13	14.87	257.30	12.75	250.03	NA ⁽¹⁾	NA ⁽¹⁾	14.24	237.52	17.60	233.87	14.30	237.20
30-May-13	14.77	257.39	12.50	250.28	NA ⁽¹⁾	NA ⁽¹⁾	14.40	237.36	18.03	233.44	14.23	237.27
20-Aug-13	14.91	257.25	13.00	249.79	NA ⁽¹⁾	NA ⁽¹⁾	14.84	236.92	18.56	232.91	14.85	236.66
05-Dec-13	15.26	256.90	12.91	249.87	NA ⁽¹⁾	NA ⁽¹⁾	14.89	236.87	18.81	232.66	15.04	236.46
12-Jan-14	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-May-14	14.58	257.58	12.80	249.98	NA ⁽¹⁾	NA ⁽¹⁾	14.41	237.35	17.81	233.66	14.06	237.44
28-Aug-14	14.79	257.37	12.86	249.92	NA ⁽¹⁾	NA ⁽¹⁾	14.69	237.07	18.19	233.28	14.65	236.85
10-Dec-14	15.25	256.91	12.98	249.80	NA ⁽¹⁾	NA ⁽¹⁾	14.93	236.83	18.32	233.15	15.83	235.67
11-May-15	15.17	256.99	12.81	249.97	NA ⁽¹⁾	NA ⁽¹⁾	14.80	236.96	18.25	233.22	14.74	236.76
31-Aug-15	15.23	256.93	13.07	249.71	NA ⁽¹⁾	NA ⁽¹⁾	15.09	236.67	18.47	233.00	15.03	236.47
04-Dec-15	15.51	256.65	13.30	249.48	NA ⁽¹⁾	NA ⁽¹⁾	15.34	236.43	18.58	232.89	15.28	236.22
26-Jan-16	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Feb-16	15.68	256.48	13.20	249.58	NA ⁽¹⁾	NA ⁽¹⁾	15.38	236.38	18.63	232.84	15.34	236.16
10-Mar-16	15.67	256.49	12.83	249.95	NA ⁽¹⁾	NA ⁽¹⁾	15.29	236.47	18.42	233.05	15.19	236.31
26-May-16	14.57	257.59	12.39	250.39	NA ⁽¹⁾	NA ⁽¹⁾	14.34	237.42	18.07	233.40	14.41	237.09
17-Aug-16	14.87	257.29	13.13	249.65	NA ⁽¹⁾	NA ⁽¹⁾	14.87	236.89	18.32	233.15	14.77	236.73
01-Dec-16	15.38	256.78	13.29	249.49	NA ⁽¹⁾	NA ⁽¹⁾	15.25	236.51	18.62	232.85	15.21	236.29
30-May-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-1-I		BH88-2-I		BH88-3-I		BH88-4-I		BH88-4A-I		BH88-4A-II	
	Reference Elevation (m AMSL)	272.16	Reference Elevation (m AMSL)	262.78	Reference Elevation (m AMSL)	254.76	Reference Elevation (m AMSL)	251.76	Reference Elevation (m AMSL)	251.47	Reference Elevation (m AMSL)	251.50
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
31-May-17	14.22	257.94	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	13.90	237.86	17.71	233.76	13.82	237.68
01-Jun-17	NA ⁽²⁾	NA ⁽²⁾	11.95	250.83	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Jun-17	14.17	257.99	12.30	250.48	NA ⁽¹⁾	NA ⁽¹⁾	14.15	237.61	17.98	233.49	14.06	237.44
20-Jul-17	14.26	257.90	12.70	250.08	NA ⁽¹⁾	NA ⁽¹⁾	14.29	237.47	17.98	233.49	14.19	237.31
27-Jul-17	NA ⁽²⁾	NA ⁽²⁾	12.74	250.04	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
03-Aug-17	NA ⁽²⁾	NA ⁽²⁾	12.83	249.95	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
08-Aug-17	14.35	257.81	12.85	249.93	NA ⁽¹⁾	NA ⁽¹⁾	14.41	237.35	18.06	233.41	14.32	237.18
10-Aug-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Aug-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Aug-17	NA ⁽²⁾	NA ⁽²⁾	12.86	249.92	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Aug-17	NA ⁽²⁾	NA ⁽²⁾	12.94	249.84	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Aug-17	NA ⁽²⁾	NA ⁽²⁾	12.92	249.86	NA ⁽¹⁾	NA ⁽¹⁾	14.50	237.26	18.10	233.37	14.39	237.11
07-Sep-17	NA ⁽²⁾	NA ⁽²⁾	12.96	249.82	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
14-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
28-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
05-Oct-17	NA ⁽²⁾	NA ⁽²⁾	13.02	249.76	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Oct-17	NA ⁽²⁾	NA ⁽²⁾	13.09	249.69	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
19-Oct-17	NA ⁽²⁾	NA ⁽²⁾	13.05	249.73	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Oct-17	NA ⁽²⁾	NA ⁽²⁾	13.07	249.71	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
02-Nov-17	NA ⁽²⁾	NA ⁽²⁾	13.10	249.68	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
09-Nov-17	NA ⁽²⁾	NA ⁽²⁾	13.06	249.72	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Nov-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
23-Nov-17	NA ⁽²⁾	NA ⁽²⁾	13.10	249.68	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Nov-17	NA ⁽²⁾	NA ⁽²⁾	13.07	249.71	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
07-Dec-17	14.96	257.20	13.11	249.67	NA ⁽¹⁾	NA ⁽¹⁾	14.88	236.88	18.29	233.18	14.76	236.74
21-Dec-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Jan-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Feb-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

Table D.1

Historical Hydraulic Monitoring Data
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Date	BH88-1-I		BH88-2-I		BH88-3-I		BH88-4-I		BH88-4A-I		BH88-4A-II	
	Reference Elevation (m AMSL)	272.16	Reference Elevation (m AMSL)	262.78	Reference Elevation (m AMSL)	254.76	Reference Elevation (m AMSL)	251.76	Reference Elevation (m AMSL)	251.47	Reference Elevation (m AMSL)	251.50
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
28-Mar-18	NA ⁽²⁾	NA ⁽²⁾	12.60	250.18	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Apr-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Apr-18	NA ⁽²⁾	NA ⁽²⁾	12.77	250.01	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Apr-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-May-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
7-May-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-May-18	10.13	262.03	11.97	250.81	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-May-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	14.02	237.74	17.84	233.63	13.97	237.53
24-May-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Jun-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Jul-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Aug-18	NA ⁽²⁾	NA ⁽²⁾	12.89	249.89	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Aug-18	14.64	257.52	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	14.71	237.06	18.38	233.09	13.61	237.89
24-Sep-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Oct-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Nov-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Dec-18	NA ⁽²⁾	NA ⁽²⁾	13.25	249.53	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Dec-18	NA	NA	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	14.98	236.78	18.35	233.12	14.82	236.68
11-Jan-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
5-Feb-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Mar-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
29-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
7-May-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-May-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
29-May-19	14.22	257.94	12.03	250.75	NA ⁽¹⁾	NA ⁽¹⁾	15.73	236.03	17.51	233.96	13.62	237.88
11-Jun-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Jul-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Aug-19	14.22	257.94	12.70	250.08	NA ⁽¹⁾	NA ⁽¹⁾	14.34	237.42	18.01	233.46	14.17	237.33
11-Sep-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Oct-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

Table D.1

Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	BH88-1-I		BH88-2-I		BH88-3-I		BH88-4-I		BH88-4A-I		BH88-4A-II	
	Reference Elevation (m AMSL)	272.16	Reference Elevation (m AMSL)	262.78	Reference Elevation (m AMSL)	254.76	Reference Elevation (m AMSL)	251.76	Reference Elevation (m AMSL)	251.47	Reference Elevation (m AMSL)	251.50
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
29-Nov-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
4-Dec-19	14.86	257.30	13.13	249.65	NA ⁽¹⁾	NA ⁽¹⁾	14.78	236.98	18.23	233.24	14.64	236.86
16-Jan-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Feb-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Mar-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
3-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
20-May-20	14.60	257.56	13.50	249.28	NA ⁽¹⁾	NA ⁽¹⁾	14.30	237.46	18.96	232.52	14.20	237.30
5-Jun-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Jul-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Aug-20	14.72	257.44	13.01	249.77	NA ⁽¹⁾	NA ⁽¹⁾	14.74	237.02	18.36	233.11	14.68	236.82
24-Sep-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Oct-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-Nov-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-Dec-20	15.32	256.84	13.26	249.52	NA ⁽¹⁾	NA ⁽¹⁾	15.13	236.63	18.52	232.95	15.07	236.43
27-Jan-21	NA ⁽²⁾	NA ⁽²⁾	13.42	249.36	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Feb-21	NA ⁽²⁾	NA ⁽²⁾	13.18	249.60	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Mar-21	NA ⁽²⁾	NA ⁽²⁾	12.84	249.94	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-May-21	15.41	256.75	12.48	250.30	NA ⁽¹⁾	NA ⁽¹⁾	15.12	236.64	18.58	232.89	15.06	236.44
4-Jun-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Jun-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Jun-21	15.38	256.78	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
2-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
23-Jul-21	15.43	256.73	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Jul-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Aug-21	15.46	256.70	13.11	249.67	NA ⁽¹⁾	NA ⁽¹⁾	15.23	236.53	19.16	232.31	15.46	236.04
20-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
3-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Sep-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-1-I		BH88-2-I		BH88-3-I		BH88-4-I		BH88-4A-I		BH88-4A-II	
	Reference Elevation (m AMSL)	272.16	Reference Elevation (m AMSL)	262.78	Reference Elevation (m AMSL)	254.76	Reference Elevation (m AMSL)	251.76	Reference Elevation (m AMSL)	251.47	Reference Elevation (m AMSL)	251.50
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
8-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Oct-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
19-Nov-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽¹⁾	NA ⁽¹⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Dec-21	15.29	256.87	12.59	250.19	NA ⁽¹⁾	NA ⁽¹⁾	14.90	236.86	18.11	233.36	14.76	236.74

Notes:

- (1) Not measured Monitoring well was destroyed
(2) Hydraulic monitoring event not required as part of ARA License, PTTW or ECA
(3) SW1A is the small pond.
(4) SW1B is the main pond.
(5) Effective January 2017.
(6) Surface water elevation extracted from transducer data due to difficulties with the field measurement
(7) Installed on June 4, 2021.
m btor Metres below top of riser pipe
m AMSL Metres above mean sea level
NA Not available
NI Monitoring well not installed

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-5-I		BH88-5-II		BH88-5A-I		BH88-6-I		MW1-12		MW2-12		MW3-16	
	Reference Elevation (m AMSL)	255.15	Reference Elevation (m AMSL)	254.77	Reference Elevation (m AMSL)	255.08	Reference Elevation (m AMSL)	240.91	Reference Elevation (m AMSL)	254.25	Reference Elevation (m AMSL)	245.31	Reference Elevation (m AMSL)	249.43
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
20-Dec-88	11.17	243.98	10.79	243.98	NI	NI	5.17	235.74	NI	NI	NI	NI	NI	NI
19-Jan-89	10.99	244.16	10.62	244.15	NI	NI	4.98	235.93	NI	NI	NI	NI	NI	NI
11-Apr-89	10.89	244.26	10.54	244.23	NI	NI	4.81	236.10	NI	NI	NI	NI	NI	NI
15-Aug-89	11.32	243.83	10.95	243.82	NI	NI	5.47	235.44	NI	NI	NI	NI	NI	NI
12-Dec-89	11.50	243.65	11.14	243.63	NI	NI	5.77	235.14	NI	NI	NI	NI	NI	NI
10-May-90	10.97	244.18	10.60	244.17	NI	NI	4.58	236.33	NI	NI	NI	NI	NI	NI
27-Aug-90	11.20	243.95	10.83	243.94	NI	NI	5.27	235.64	NI	NI	NI	NI	NI	NI
12-Dec-90	11.30	243.85	10.93	243.84	18.57	236.51	5.34	235.57	NI	NI	NI	NI	NI	NI
21-Feb-91	10.83	244.32	10.46	244.31	19.99	235.09	4.64	236.27	NI	NI	NI	NI	NI	NI
26-Mar-91	10.74	244.41	10.37	244.40	17.98	237.10	4.41	236.50	NI	NI	NI	NI	NI	NI
13-May-91	10.53	244.62	10.15	244.62	18.13	236.95	4.25	236.66	NI	NI	NI	NI	NI	NI
29-Jul-91	10.74	244.41	10.37	244.40	18.47	236.61	4.89	236.02	NI	NI	NI	NI	NI	NI
23-Sep-91	10.86	244.29	10.49	244.28	18.72	236.36	5.16	235.75	NI	NI	NI	NI	NI	NI
21-Nov-91	11.04	244.11	10.77	244.00	19.04	236.04	5.31	235.60	NI	NI	NI	NI	NI	NI
26-Feb-92	10.98	244.17	10.61	244.16	18.99	236.09	4.91	236.00	NI	NI	NI	NI	NI	NI
13-Jul-92	11.01	244.14	10.64	244.13	18.82	236.26	5.05	235.86	NI	NI	NI	NI	NI	NI
11-Nov-92	10.71	244.44	10.34	244.43	19.88	235.20	4.53	236.38	NI	NI	NI	NI	NI	NI
16-Apr-93	10.13	245.02	9.77	245.00	19.40	235.68	3.99	236.92	NI	NI	NI	NI	NI	NI
06-Jul-93	10.48	244.67	10.11	244.66	20.13	234.95	4.51	236.40	NI	NI	NI	NI	NI	NI
01-Nov-93	10.81	244.34	10.44	244.33	19.83	235.25	5.04	235.87	NI	NI	NI	NI	NI	NI
06-Apr-95	10.99	244.16	10.62	244.15	20.54	234.54	4.75	236.16	NI	NI	NI	NI	NI	NI
06-Jul-95	11.03	244.12	10.66	244.11	20.72	234.36	5.05	235.86	NI	NI	NI	NI	NI	NI
16-Nov-95	11.16	243.99	10.80	243.97	19.68	235.40	5.47	235.44	NI	NI	NI	NI	NI	NI
21-Nov-96	10.54	244.61	10.18	244.59	19.19	235.89	4.57	236.34	NI	NI	NI	NI	NI	NI
17-Apr-97	10.09	245.06	9.73	245.04	18.75	236.33	3.98	236.93	NI	NI	NI	NI	NI	NI
09-Jul-97	10.43	244.72	10.07	244.70	19.52	235.56	4.28	236.63	NI	NI	NI	NI	NI	NI
26-Nov-97	10.86	244.29	10.49	244.28	19.78	235.30	5.07	235.84	NI	NI	NI	NI	NI	NI
28-Apr-98	10.64	244.51	10.27	244.50	19.90	235.18	4.44	236.47	NI	NI	NI	NI	NI	NI
09-Jul-98	10.85	244.30	10.47	244.30	20.10	234.98	4.93	235.98	NI	NI	NI	NI	NI	NI
19-Nov-98	11.16	243.99	10.79	243.98	20.52	234.56	5.66	235.25	NI	NI	NI	NI	NI	NI
01-Nov-00	11.07	244.08	10.70	244.07	20.21	234.87	5.34	235.57	NI	NI	NI	NI	NI	NI
26-Apr-01	10.63	244.52	10.26	244.51	18.94	236.14	4.47	236.44	NI	NI	NI	NI	NI	NI
19-Jul-01	10.64	244.51	10.27	244.50	20.91	234.17	4.89	236.02	NI	NI	NI	NI	NI	NI
07-Nov-01	10.87	244.28	10.50	244.27	20.11	234.97	5.13	235.78	NI	NI	NI	NI	NI	NI
18-Nov-04	10.68	244.47	10.33	244.44	20.88	234.20	4.96	235.95	NI	NI	NI	NI	NI	NI
14-Nov-05	10.65	244.50	10.30	244.47	20.22	234.86	4.79	236.12	NI	NI	NI	NI	NI	NI
26-Sep-06	10.52	244.63	10.17	244.60	19.83	235.25	4.84	236.07	NI	NI	NI	NI	NI	NI

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-5-I		BH88-5-II		BH88-5A-I		BH88-6-I		MW1-12		MW2-12		MW3-16	
	Reference Elevation (m AMSL)	255.15	Reference Elevation (m AMSL)	254.77	Reference Elevation (m AMSL)	255.08	Reference Elevation (m AMSL)	240.91	Reference Elevation (m AMSL)	254.25	Reference Elevation (m AMSL)	245.31	Reference Elevation (m AMSL)	249.43
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
25-Oct-06	10.53	244.62	10.18	244.59	19.75	235.33	4.60	236.31	NI	NI	NI	NI	NI	NI
22-Nov-06	10.39	244.76	10.04	244.73	20.35	234.73	4.39	236.52	NI	NI	NI	NI	NI	NI
06-Jun-08	10.22	244.93	9.88	244.89	NA ⁽²⁾	NA ⁽²⁾	4.31	236.60	NI	NI	NI	NI	NI	NI
10-Sep-08	10.52	244.63	10.17	244.60	21.24	233.84	4.71	236.20	NI	NI	NI	NI	NI	NI
18-Nov-08	10.70	244.45	10.35	244.42	20.65	234.43	4.77	236.14	NI	NI	NI	NI	NI	NI
04-Jun-09	10.13	245.02	9.77	245.00	20.30	234.78	3.88	237.03	NI	NI	NI	NI	NI	NI
01-Sep-09	10.29	244.86	9.94	244.83	20.46	234.62	4.23	236.68	NI	NI	NI	NI	NI	NI
07-Dec-09	10.51	244.64	10.15	244.62	20.55	234.53	4.68	236.24	NI	NI	NI	NI	NI	NI
03-Jun-10	10.58	244.58	10.22	244.55	20.08	235.00	4.69	236.22	NI	NI	NI	NI	NI	NI
27-Aug-10	10.67	244.48	10.32	244.45	20.32	234.76	4.87	236.04	NI	NI	NI	NI	NI	NI
02-Dec-10	10.78	244.37	10.43	244.34	19.93	235.15	4.77	236.14	NI	NI	NI	NI	NI	NI
02-Jun-11	10.11	245.04	9.76	245.02	19.49	235.59	3.93	236.99	NI	NI	NI	NI	NI	NI
01-Sep-11	10.38	244.77	10.03	244.74	19.95	235.13	4.70	236.21	NI	NI	NI	NI	NI	NI
01-Dec-11	10.69	244.46	10.25	244.52	19.80	235.28	4.48	236.43	NI	NI	NI	NI	NI	NI
30-May-12	10.54	244.61	10.18	244.59	20.84	234.24	4.75	236.16	NI	NI	NI	NI	NI	NI
01-Aug-12	10.72	244.43	10.36	244.41	20.77	234.31	5.14	235.77	9.99	244.26	1.92	243.39	NI	NI
15-Sep-12	10.86	244.30	10.49	244.28	20.33	234.75	5.34	235.57	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI
02-Nov-12	10.94	244.22	10.59	244.18	20.28	234.80	5.24	235.68	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI
10-Dec-12	11.01	244.14	10.66	244.11	20.64	234.44	5.27	235.64	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI
12-Dec-12	NA ⁽²⁾	NA ⁽²⁾	10.68	244.10	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.25	244.00	NA ⁽²⁾	NA ⁽²⁾	NI	NI
22-Apr-13	10.53	244.62	10.17	244.60	20.25	234.83	4.06	236.85	9.84	244.41	1.31	244.00	NI	NI
30-May-13	10.55	244.60	10.19	244.58	20.40	234.68	4.39	236.52	9.87	244.38	1.35	243.96	NI	NI
20-Aug-13	10.72	244.43	10.37	244.40	20.57	234.51	5.01	235.90	10.03	244.23	1.83	243.49	NI	NI
05-Dec-13	10.87	244.29	10.52	244.26	20.23	234.85	4.91	236.00	10.13	244.12	1.62	243.70	NI	NI
12-Jan-14	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.96	244.29	1.35	243.97	NI	NI
21-May-14	10.39	244.76	10.03	244.74	19.99	235.09	4.11	236.80	9.73	244.52	1.27	244.04	NI	NI
28-Aug-14	10.55	244.60	10.19	244.58	20.66	234.42	4.77	236.14	9.87	244.38	1.25	244.06	NI	NI
10-Dec-14	10.77	244.38	10.42	244.35	20.90	234.18	4.92	235.99	10.02	244.23	1.56	243.75	NI	NI
11-May-15	10.73	244.42	10.37	244.40	20.79	234.29	4.62	236.29	9.99	244.26	1.60	243.71	NI	NI
31-Aug-15	10.92	244.23	10.56	244.21	20.74	234.34	5.25	235.66	10.16	244.09	2.16	243.15	NI	NI
04-Dec-15	11.05	244.10	10.70	244.07	20.30	234.78	5.42	235.49	10.30	243.95	2.09	243.22	NI	NI
26-Jan-16	11.07	244.08	10.72	244.05	20.72	234.36	NA ⁽²⁾	NA ⁽²⁾	10.27	243.98	NA ⁽²⁾	NA ⁽²⁾	5.52	243.91
11-Feb-16	11.04	244.12	10.68	244.09	20.03	235.05	5.23	235.68	10.24	244.01	1.89	243.42	5.48	243.95
10-Mar-16	11.01	244.14	10.64	244.13	19.92	235.17	5.05	235.86	10.20	244.06	1.74	243.57	5.46	243.98
26-May-16	10.50	244.65	10.15	244.62	20.08	235.00	4.39	236.52	9.80	244.45	1.49	243.82	5.08	244.35
17-Aug-16	10.66	244.49	10.33	244.44	19.80	235.28	5.12	235.79	9.88	244.37	1.72	243.59	5.16	244.27
01-Dec-16	10.95	244.20	10.65	244.12	20.27	234.81	5.32	235.59	10.15	244.10	1.89	243.42	5.42	244.01
30-May-17	10.18	244.97	9.83	244.94	19.39	235.69	NA ⁽²⁾	NA ⁽²⁾	9.54	244.71	1.36	243.95	4.80	244.63

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-5-I		BH88-5-II		BH88-5A-I		BH88-6-I		MW1-12		MW2-12		MW3-16	
	Reference Elevation (m AMSL)	255.15	Reference Elevation (m AMSL)	254.77	Reference Elevation (m AMSL)	255.08	Reference Elevation (m AMSL)	240.91	Reference Elevation (m AMSL)	254.25	Reference Elevation (m AMSL)	245.31	Reference Elevation (m AMSL)	249.43
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
31-May-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Jun-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	4.00	236.91	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Jun-17	10.25	244.90	9.90	244.87	18.48	236.60	4.23	236.68	9.57	244.68	1.34	243.97	4.83	244.60
20-Jul-17	10.21	244.94	9.86	244.91	19.82	235.26	4.39	236.52	9.50	244.75	1.26	244.05	4.77	244.66
27-Jul-17	10.32	244.83	9.97	244.80	19.99	235.09	NA ⁽²⁾	NA ⁽²⁾	9.75	244.50	NA ⁽²⁾	NA ⁽²⁾	5.08	244.35
03-Aug-17	10.46	244.69	10.10	244.67	19.54	235.54	NA ⁽²⁾	NA ⁽²⁾	10.01	244.24	NA ⁽²⁾	NA ⁽²⁾	5.28	244.15
08-Aug-17	10.37	244.78	10.02	244.75	19.64	235.44	4.49	236.42	9.76	244.49	1.41	243.90	5.05	244.38
10-Aug-17	10.42	244.73	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.88	244.37	NA ⁽²⁾	NA ⁽²⁾	5.16	244.27
17-Aug-17	10.41	244.74	10.07	244.70	19.89	235.19	NA ⁽²⁾	NA ⁽²⁾	9.91	244.34	NA ⁽²⁾	NA ⁽²⁾	5.18	244.25
18-Aug-17	10.42	244.73	10.08	244.69	19.29	235.79	NA ⁽²⁾	NA ⁽²⁾	9.88	244.37	NA ⁽²⁾	NA ⁽²⁾	5.16	244.27
24-Aug-17	10.46	244.69	10.10	244.67	19.53	235.55	NA ⁽²⁾	NA ⁽²⁾	9.95	244.30	NA ⁽²⁾	NA ⁽²⁾	5.22	244.21
30-Aug-17	10.47	244.68	10.12	244.65	20.18	234.90	4.57	236.34	9.97	244.28	1.52	243.79	5.24	244.19
07-Sep-17	10.43	244.72	10.09	244.68	19.34	235.74	NA ⁽²⁾	NA ⁽²⁾	9.77	244.48	NA ⁽²⁾	NA ⁽²⁾	5.03	244.40
12-Sep-17	10.46	244.69	10.11	244.66	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.92	244.34	NA ⁽²⁾	NA ⁽²⁾	5.18	244.26
13-Sep-17	10.53	244.62	10.18	244.59	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.06	244.19	1.48	243.83	5.36	244.07
14-Sep-17	10.58	244.58	10.22	244.55	20.13	234.96	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	5.42	244.02
15-Sep-17	10.59	244.56	10.24	244.53	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.08	244.17	NA ⁽²⁾	NA ⁽²⁾	5.43	244.00
21-Sep-17	10.56	244.60	10.21	244.57	20.50	234.58	NA ⁽²⁾	NA ⁽²⁾	10.13	244.13	NA ⁽²⁾	NA ⁽²⁾	5.41	244.02
28-Sep-17	10.48	244.67	10.29	244.48	20.15	234.94	NA ⁽²⁾	NA ⁽²⁾	10.17	244.08	NA ⁽²⁾	NA ⁽²⁾	5.49	243.95
05-Oct-17	10.70	244.45	10.29	244.48	19.83	235.25	NA ⁽²⁾	NA ⁽²⁾	10.14	244.11	NA ⁽²⁾	NA ⁽²⁾	5.45	243.98
12-Oct-17	10.63	244.52	10.27	244.50	19.96	235.12	NA ⁽²⁾	NA ⁽²⁾	10.15	244.10	NA ⁽²⁾	NA ⁽²⁾	5.46	243.97
19-Oct-17	10.64	244.51	10.29	244.48	20.06	235.02	NA ⁽²⁾	NA ⁽²⁾	10.13	244.12	NA ⁽²⁾	NA ⁽²⁾	5.46	243.97
26-Oct-17	10.60	244.55	10.26	244.51	20.02	235.06	NA ⁽²⁾	NA ⁽²⁾	10.02	244.23	NA ⁽²⁾	NA ⁽²⁾	5.36	244.07
02-Nov-17	10.67	244.48	10.32	244.45	19.33	235.75	NA ⁽²⁾	NA ⁽²⁾	10.17	244.08	NA ⁽²⁾	NA ⁽²⁾	5.50	243.93
09-Nov-17	10.63	244.52	10.29	244.48	19.65	235.43	NA ⁽²⁾	NA ⁽²⁾	9.99	244.26	NA ⁽²⁾	NA ⁽²⁾	5.32	244.11
16-Nov-17	10.65	244.51	10.30	244.48	19.62	235.46	NA ⁽²⁾	NA ⁽²⁾	10.17	244.09	NA ⁽²⁾	NA ⁽²⁾	5.49	243.95
23-Nov-17	10.68	244.47	10.33	244.44	19.66	235.42	NA ⁽²⁾	NA ⁽²⁾	10.17	244.08	NA ⁽²⁾	NA ⁽²⁾	5.52	243.91
30-Nov-17	10.66	244.49	10.31	244.46	19.41	235.67	NA ⁽²⁾	NA ⁽²⁾	10.12	244.13	NA ⁽²⁾	NA ⁽²⁾	5.44	243.99
07-Dec-17	10.70	244.45	10.35	244.42	19.97	235.11	4.98	235.93	10.07	244.18	1.43	243.88	5.39	244.04
21-Dec-17	10.55	244.60	10.20	244.57	20.14	234.94	NA ⁽²⁾	NA ⁽²⁾	9.79	244.46	NA ⁽²⁾	NA ⁽²⁾	5.03	244.40
24-Jan-18	10.51	244.64	10.16	244.61	19.68	235.40	NA ⁽²⁾	NA ⁽²⁾	9.78	244.47	NA ⁽²⁾	NA ⁽²⁾	5.03	244.41
22-Feb-18	10.30	244.85	9.95	244.82	19.22	235.86	NA ⁽²⁾	NA ⁽²⁾	9.58	244.68	NA ⁽²⁾	NA ⁽²⁾	4.83	244.60

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-5-I		BH88-5-II		BH88-5A-I		BH88-6-I		MW1-12		MW2-12		MW3-16	
	Reference Elevation (m AMSL)	255.15	Reference Elevation (m AMSL)	254.77	Reference Elevation (m AMSL)	255.08	Reference Elevation (m AMSL)	240.91	Reference Elevation (m AMSL)	254.25	Reference Elevation (m AMSL)	245.31	Reference Elevation (m AMSL)	249.43
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
28-Mar-18	10.45	244.70	10.10	244.67	19.84	235.24	NA ⁽²⁾	NA ⁽²⁾	9.80	244.45	NA ⁽²⁾	NA ⁽²⁾	5.05	244.38
9-Apr-18	10.52	244.63	10.17	244.60	19.44	235.64	NA ⁽²⁾	NA ⁽²⁾	9.92	244.33	NA ⁽²⁾	NA ⁽²⁾	5.20	244.23
18-Apr-18	10.54	244.61	10.19	244.58	20.35	234.73	NA ⁽²⁾	NA ⁽²⁾	10.14	244.11	NA ⁽²⁾	NA ⁽²⁾	5.46	243.97
24-Apr-18	10.38	244.77	10.04	244.73	20.12	234.96	NA ⁽²⁾	NA ⁽²⁾	9.78	244.47	NA ⁽²⁾	NA ⁽²⁾	5.09	244.34
1-May-18	10.24	244.91	9.89	244.88	19.31	235.77	NA ⁽²⁾	NA ⁽²⁾	9.73	244.52	NA ⁽²⁾	NA ⁽²⁾	5.04	244.40
7-May-18	10.21	244.94	9.86	244.91	20.01	235.07	NA ⁽²⁾	NA ⁽²⁾	9.52	244.73	NA ⁽²⁾	NA ⁽²⁾	4.81	244.62
16-May-18	10.23	244.92	9.82	244.95	20.12	234.96	4.39	236.52	9.52	244.73	1.34	243.97	4.78	244.65
17-May-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-May-18	10.22	244.93	9.88	244.89	20.24	234.84	NA ⁽²⁾	NA ⁽²⁾	9.61	244.64	NA ⁽²⁾	NA ⁽²⁾	4.87	244.56
6-Jun-18	10.29	244.86	9.95	244.82	19.94	235.14	NA ⁽²⁾	NA ⁽²⁾	9.67	244.58	NA ⁽²⁾	NA ⁽²⁾	4.93	244.50
16-Jul-18	10.39	244.76	10.04	244.73	19.29	235.79	NA ⁽²⁾	NA ⁽²⁾	9.71	244.54	NA ⁽²⁾	NA ⁽²⁾	4.97	244.46
8-Aug-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	4.82	236.09	9.75	244.51	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Aug-18	10.51	244.64	10.10	244.67	20.05	235.03	NA ⁽²⁾	NA ⁽²⁾	9.75	244.51	1.38	243.93	4.99	244.44
24-Sep-18	10.55	244.60	10.20	244.57	20.79	234.29	NA ⁽²⁾	NA ⁽²⁾	9.83	244.42	NA ⁽²⁾	NA ⁽²⁾	5.10	244.34
25-Oct-18	10.67	244.48	10.31	244.46	19.95	235.13	NA ⁽²⁾	NA ⁽²⁾	9.99	244.26	NA ⁽²⁾	NA ⁽²⁾	5.26	244.17
12-Nov-18	10.55	244.60	10.27	244.50	20.31	234.77	NA ⁽²⁾	NA ⁽²⁾	9.83	244.42	NA ⁽²⁾	NA ⁽²⁾	5.09	244.34
11-Dec-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	4.68	236.23	9.79	244.46	NA ⁽²⁾	NA ⁽²⁾	5.07	244.36
12-Dec-18	10.55	244.60	10.28	244.49	19.84	235.24	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	1.41	243.90	NA ⁽²⁾	NA ⁽²⁾
11-Jan-19	10.66	244.49	10.31	244.46	20.05	235.03	NA ⁽²⁾	NA ⁽²⁾	9.90	244.35	NA ⁽²⁾	NA ⁽²⁾	5.18	244.25
5-Feb-19	10.50	244.65	10.14	244.63	20.01	235.07	NA ⁽²⁾	NA ⁽²⁾	9.80	244.45	NA ⁽²⁾	NA ⁽²⁾	5.05	244.38
25-Mar-19	10.45	244.70	10.10	244.67	20.12	234.96	NA ⁽²⁾	NA ⁽²⁾	9.93	244.32	NA ⁽²⁾	NA ⁽²⁾	5.24	244.19
1-Apr-19	10.48	244.67	10.13	244.64	20.22	234.86	NA ⁽²⁾	NA ⁽²⁾	9.85	244.40	NA ⁽²⁾	NA ⁽²⁾	5.22	244.21
8-Apr-19	10.52	244.63	10.16	244.61	19.84	235.24	NA ⁽²⁾	NA ⁽²⁾	9.96	244.29	NA ⁽²⁾	NA ⁽²⁾	5.33	244.10
15-Apr-19	10.52	244.63	10.16	244.61	19.80	235.28	NA ⁽²⁾	NA ⁽²⁾	9.99	244.26	NA ⁽²⁾	NA ⁽²⁾	5.31	244.12
22-Apr-19	10.38	244.78	10.03	244.74	19.25	235.83	NA ⁽²⁾	NA ⁽²⁾	9.55	244.70	NA ⁽²⁾	NA ⁽²⁾	4.88	244.55
29-Apr-19	10.09	245.06	9.73	245.04	19.14	235.94	NA ⁽²⁾	NA ⁽²⁾	9.24	245.01	NA ⁽²⁾	NA ⁽²⁾	4.53	244.90
7-May-19	9.97	245.18	9.63	245.15	18.88	236.20	NA ⁽²⁾	NA ⁽²⁾	9.24	245.01	NA ⁽²⁾	NA ⁽²⁾	4.51	244.92
13-May-19	9.94	245.21	9.58	245.19	19.53	235.55	NA ⁽²⁾	NA ⁽²⁾	9.23	245.02	NA ⁽²⁾	NA ⁽²⁾	4.50	244.93
29-May-19	9.89	245.26	9.53	245.24	19.51	235.57	3.90	237.01	9.22	245.03	1.04	244.27	4.49	244.94
11-Jun-19	9.97	245.18	9.61	245.16	19.35	235.73	NA ⁽²⁾	NA ⁽²⁾	9.29	244.96	NA ⁽²⁾	NA ⁽²⁾	4.55	244.88
9-Jul-19	10.10	245.05	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.42	244.83	NA ⁽²⁾	NA ⁽²⁾	4.70	244.73
8-Aug-19	10.30	244.85	9.95	244.82	19.61	235.47	4.51	236.40	9.60	244.65	1.30	244.01	4.88	244.55
11-Sep-19	10.44	244.71	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.73	244.52	NA ⁽²⁾	NA ⁽²⁾	5.00	244.43
9-Oct-19	10.48	244.67	10.12	244.65	19.12	235.96	NA ⁽²⁾	NA ⁽²⁾	9.78	244.47	NA ⁽²⁾	NA ⁽²⁾	5.02	244.41

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	BH88-5-I		BH88-5-II		BH88-5A-I		BH88-6-I		MW1-12		MW2-12		MW3-16	
	Reference Elevation (m AMSL)	255.15	Reference Elevation (m AMSL)	254.77	Reference Elevation (m AMSL)	255.08	Reference Elevation (m AMSL)	240.91	Reference Elevation (m AMSL)	254.25	Reference Elevation (m AMSL)	245.31	Reference Elevation (m AMSL)	249.43
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
29-Nov-19	10.47	244.68	10.12	244.65	20.08	235.00	NA ⁽²⁾	NA ⁽²⁾	9.68	244.57	NA ⁽²⁾	NA ⁽²⁾	4.96	244.47
4-Dec-19	10.49	244.66	10.13	244.64	19.42	235.66	4.72	236.19	9.70	244.55	1.27	244.04	4.97	244.46
16-Jan-20	10.29	244.86	9.94	244.83	19.10	235.98	NA ⁽²⁾	NA ⁽²⁾	9.54	244.71	NA ⁽²⁾	NA ⁽²⁾	4.81	244.62
10-Feb-20	10.21	244.94	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.47	244.78	NA ⁽²⁾	NA ⁽²⁾	4.74	244.69
25-Mar-20	10.19	244.96	9.88	244.89	19.18	235.90	NA ⁽²⁾	NA ⁽²⁾	9.45	244.80	NA ⁽²⁾	NA ⁽²⁾	4.72	244.71
3-Apr-20	10.48	244.67	10.14	244.63	19.12	235.96	NA ⁽²⁾	NA ⁽²⁾	10.07	244.19	NA ⁽²⁾	NA ⁽²⁾	5.35	244.08
9-Apr-20	10.54	244.61	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.12	244.13	NA ⁽²⁾	NA ⁽²⁾	5.42	244.01
17-Apr-20	10.54	244.61	10.26	244.51	20.05	235.03	NA ⁽²⁾	NA ⁽²⁾	10.09	244.16	NA ⁽²⁾	NA ⁽²⁾	5.39	244.05
24-Apr-20	10.53	244.62	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.07	244.18	NA ⁽²⁾	NA ⁽²⁾	5.37	244.06
20-May-20	10.24	244.91	9.90	244.87	19.69	235.39	4.51	236.40	9.51	244.74	1.19	244.12	4.79	244.64
5-Jun-20	9.97	245.18	9.97	244.80	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.61	244.64	NA ⁽²⁾	NA ⁽²⁾	4.89	244.54
6-Jul-20	10.52	244.63	10.93	243.84	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.85	244.40	NA ⁽²⁾	NA ⁽²⁾	5.11	244.32
10-Aug-20	10.56	244.59	10.21	244.56	20.65	234.43	5.00	235.91	9.81	244.44	1.80	243.51	5.06	244.37
24-Sep-20	10.72	244.43	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.05	244.20	NA ⁽²⁾	NA ⁽²⁾	5.24	244.19
6-Oct-20	10.75	244.40	10.40	244.37	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	9.99	244.26	NA ⁽²⁾	NA ⁽²⁾	5.26	244.17
27-Nov-20	10.80	244.35	10.45	244.32	20.99	234.09	NA ⁽²⁾	NA ⁽²⁾	9.98	244.27	NA ⁽²⁾	NA ⁽²⁾	5.24	244.19
1-Dec-20	10.80	244.35	10.45	244.32	20.38	234.70	5.18	235.73	9.98	244.27	1.71	243.60	5.23	244.20
27-Jan-21	10.95	244.20	10.61	244.16	20.17	234.91	NA ⁽²⁾	NA ⁽²⁾	10.09	244.16	NA ⁽²⁾	NA ⁽²⁾	5.34	244.09
24-Feb-21	10.97	244.19	10.61	244.16	20.32	234.76	NA ⁽²⁾	NA ⁽²⁾	10.14	244.11	NA ⁽²⁾	NA ⁽²⁾	5.40	244.03
30-Mar-21	10.89	244.26	10.54	244.23	20.06	235.02	NA ⁽²⁾	NA ⁽²⁾	10.09	244.16	NA ⁽²⁾	NA ⁽²⁾	5.34	244.09
27-May-21	10.99	244.16	10.64	244.13	21.01	234.07	4.96	235.95	10.24	244.01	2.06	243.25	5.47	243.96
4-Jun-21	10.98	244.18	10.62	244.15	20.46	234.62	NA ⁽²⁾	NA ⁽²⁾	10.19	244.06	2.05	243.26	5.45	243.99
11-Jun-21	10.98	244.18	10.63	244.15	20.93	234.15	NA ⁽²⁾	NA ⁽²⁾	10.19	244.06	2.19	243.13	5.45	243.99
18-Jun-21	10.99	244.16	10.64	244.13	19.96	235.12	NA ⁽²⁾	NA ⁽²⁾	10.21	244.04	2.24	243.07	5.47	243.97
2-Jul-21	10.91	244.24	10.55	244.22	20.28	234.80	NA ⁽²⁾	NA ⁽²⁾	10.11	244.15	1.91	243.40	5.36	244.08
9-Jul-21	10.92	244.23	10.58	244.19	20.49	234.59	NA ⁽²⁾	NA ⁽²⁾	10.20	244.05	1.93	243.38	5.44	243.99
16-Jul-21	10.93	244.22	10.58	244.19	20.23	234.85	NA ⁽²⁾	NA ⁽²⁾	10.20	244.05	2.03	243.28	5.44	243.99
23-Jul-21	10.95	244.20	10.60	244.18	20.73	234.35	NA ⁽²⁾	NA ⁽²⁾	10.19	244.06	2.12	243.19	5.45	243.99
30-Jul-21	10.97	244.18	10.61	244.16	20.71	234.37	NA ⁽²⁾	NA ⁽²⁾	10.24	244.01	2.11	243.20	5.48	243.95
6-Aug-21	10.98	244.17	10.63	244.14	20.29	234.79	NA ⁽²⁾	NA ⁽²⁾	10.25	244.00	2.25	243.06	5.50	243.93
13-Aug-21	11.01	244.14	10.66	244.11	20.41	234.67	NA ⁽²⁾	NA ⁽²⁾	10.27	243.98	2.31	243.00	5.52	243.91
18-Aug-21	11.02	244.13	10.67	244.11	20.33	234.75	5.32	235.59	10.27	243.99	2.34	242.98	5.51	243.92
20-Aug-21	11.02	244.13	10.68	244.09	21.11	233.97	NA ⁽²⁾	NA ⁽²⁾	10.27	243.98	2.37	242.94	5.52	243.91
27-Aug-21	11.02	244.13	10.57	244.20	20.80	234.28	NA ⁽²⁾	NA ⁽²⁾	10.27	243.98	2.35	242.96	5.53	243.90
3-Sep-21	11.05	244.10	10.69	244.08	21.37	233.71	NA ⁽²⁾	NA ⁽²⁾	10.30	243.95	2.42	242.89	5.53	243.90
10-Sep-21	11.02	244.13	10.67	244.10	20.90	234.18	NA ⁽²⁾	NA ⁽²⁾	10.26	243.99	2.39	242.92	5.51	243.92
17-Sep-21	10.98	244.17	10.62	244.15	20.85	234.23	NA ⁽²⁾	NA ⁽²⁾	10.21	244.04	2.29	243.02	5.45	243.98
24-Sep-21	10.95	244.20	10.59	244.18	20.58	234.50	NA ⁽²⁾	NA ⁽²⁾	10.21	244.04	2.00	243.31	5.46	243.98
1-Oct-21	10.96	244.19	10.60	244.17	20.84	234.24	NA ⁽²⁾	NA ⁽²⁾	10.22	244.03	2.12	243.19	5.46	243.97

Table D.1

Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	BH88-5-I		BH88-5-II		BH88-5A-I		BH88-6-I		MW1-12		MW2-12		MW3-16	
	Reference Elevation (m AMSL)	255.15	Reference Elevation (m AMSL)	254.77	Reference Elevation (m AMSL)	255.08	Reference Elevation (m AMSL)	240.91	Reference Elevation (m AMSL)	254.25	Reference Elevation (m AMSL)	245.31	Reference Elevation (m AMSL)	249.43
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
8-Oct-21	10.97	244.18	10.62	244.15	20.68	234.40	NA ⁽²⁾	NA ⁽²⁾	10.23	244.02	2.07	243.24	5.48	243.95
15-Oct-21	10.92	244.23	10.57	244.20	19.82	235.26	NA ⁽²⁾	NA ⁽²⁾	10.16	244.09	2.00	243.31	5.41	244.02
22-Oct-21	10.93	244.22	10.58	244.19	19.87	235.21	NA ⁽²⁾	NA ⁽²⁾	10.20	244.05	1.90	243.41	5.44	243.99
19-Nov-21	10.87	244.28	10.51	244.26	20.28	234.80	NA ⁽²⁾	NA ⁽²⁾	10.13	244.12	1.77	243.54	5.39	244.04
8-Dec-21	10.85	244.30	10.41	244.36	20.09	234.99	4.85	236.06	10.07	244.18	1.69	243.62	5.33	244.10

Notes:

- (1) Not measured Monitoring well was destroyed
- (2) Hydraulic monitoring event not required as part of ARA License, PTTW or ECA
- (3) SW1A is the small pond.
- (4) SW1B is the main pond.
- (5) Effective January 2017
- (6) Surface water elevation extracted from transducer data due to difficulties with the field measurement
- (7) Installed on June 4, 2021.
- m btor Metres below top of riser pipe
- m AMSL Metres above mean sea level
- NA Not available
- NI Monitoring well not installed

Table D.1

Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	MW4-16		MW5-16		MW6-16		MW7-18		OW1-96A		OW1-96B		OW1-96C	
	Reference Elevation (m AMSL)	244.39	Reference Elevation (m AMSL)	253.69	Reference Elevation (m AMSL)	251.42	Reference Elevation (m AMSL)	256.56	Reference Elevation (m AMSL)	249.73	Reference Elevation (m AMSL)	249.72	Reference Elevation (m AMSL)	249.70
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
20-Dec-88	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
19-Jan-89	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Apr-89	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Aug-89	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Dec-89	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-May-90	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-Aug-90	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Dec-90	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Feb-91	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Mar-91	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-May-91	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
29-Jul-91	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
23-Sep-91	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Nov-91	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Feb-92	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-Jul-92	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Nov-92	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Apr-93	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
06-Jul-93	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Nov-93	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
06-Apr-95	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
06-Jul-95	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Nov-95	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Nov-96	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Apr-97	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
09-Jul-97	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Nov-97	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
28-Apr-98	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
09-Jul-98	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
19-Nov-98	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Nov-00	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Apr-01	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
19-Jul-01	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
07-Nov-01	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Nov-04	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
14-Nov-05	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Sep-06	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	MW4-16		MW5-16		MW6-16		MW7-18		OW1-96A		OW1-96B		OW1-96C	
	Reference Elevation (m AMSL)	244.39	Reference Elevation (m AMSL)	253.69	Reference Elevation (m AMSL)	251.42	Reference Elevation (m AMSL)	256.56	Reference Elevation (m AMSL)	249.73	Reference Elevation (m AMSL)	249.72	Reference Elevation (m AMSL)	249.70
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
25-Oct-06	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Nov-06	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
06-Jun-08	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Sep-08	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Nov-08	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
04-Jun-09	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Sep-09	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
07-Dec-09	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
03-Jun-10	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-Aug-10	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
02-Dec-10	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
02-Jun-11	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Sep-11	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Dec-11	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-May-12	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Aug-12	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Sep-12	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
02-Nov-12	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Dec-12	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Dec-12	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Apr-13	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-May-13	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
20-Aug-13	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
05-Dec-13	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Jan-14	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-May-14	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
28-Aug-14	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Dec-14	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-May-15	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
31-Aug-15	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
04-Dec-15	NI	NI	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Jan-16	11.23	233.16	7.49	246.20	6.13	245.29	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Feb-16	11.07	233.32	7.42	246.27	6.06	245.36	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Mar-16	10.99	233.40	7.41	246.28	5.95	245.47	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-May-16	10.03	234.36	6.04	247.65	4.68	246.74	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Aug-16	10.71	233.68	6.47	247.22	5.33	246.09	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
01-Dec-16	11.12	233.27	7.14	246.55	5.93	245.49	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-May-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	MW4-16		MW5-16		MW6-16		MW7-18		OW1-96A		OW1-96B		OW1-96C	
	Reference Elevation (m AMSL)	244.39	Reference Elevation (m AMSL)	253.69	Reference Elevation (m AMSL)	251.42	Reference Elevation (m AMSL)	256.56	Reference Elevation (m AMSL)	249.73	Reference Elevation (m AMSL)	249.72	Reference Elevation (m AMSL)	249.70
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
31-May-17	9.15	235.24	5.21	248.48	4.10	247.32	NI	NI	19.57	230.16	18.76	230.96	11.59	238.11
01-Jun-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Jun-17	9.69	234.70	5.18	248.51	4.27	247.15	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
20-Jul-17	9.96	234.43	5.23	248.46	4.50	246.92	NI	NI	19.76	229.97	19.03	230.69	12.68	237.02
27-Jul-17	NA ⁽²⁾	NA ⁽²⁾	5.25	248.44	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
03-Aug-17	NA ⁽²⁾	NA ⁽²⁾	5.33	248.36	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
08-Aug-17	10.09	234.30	NA ⁽²⁾	NA ⁽²⁾	4.67	246.75	NI	NI	19.83	229.90	19.10	230.62	12.89	236.81
10-Aug-17	0.42	234.29	5.35	248.34	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Aug-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Aug-17	NA ⁽²⁾	NA ⁽²⁾	5.34	248.35	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Aug-17	NA ⁽²⁾	NA ⁽²⁾	5.38	248.31	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Aug-17	10.19	234.20	5.43	248.26	4.79	246.63	NI	NI	19.85	229.88	19.11	230.61	13.00	236.70
07-Sep-17	NA ⁽²⁾	NA ⁽²⁾	5.49	248.20	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
14-Sep-17	NA ⁽²⁾	NA ⁽²⁾	5.58	248.11	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
21-Sep-17	NA ⁽²⁾	NA ⁽²⁾	5.64	248.06	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
28-Sep-17	NA ⁽²⁾	NA ⁽²⁾	5.66	248.03	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
05-Oct-17	NA ⁽²⁾	NA ⁽²⁾	5.74	247.95	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Oct-17	NA ⁽²⁾	NA ⁽²⁾	5.79	247.90	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
19-Oct-17	NA ⁽²⁾	NA ⁽²⁾	5.82	247.87	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
26-Oct-17	NA ⁽²⁾	NA ⁽²⁾	5.84	247.85	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
02-Nov-17	NA ⁽²⁾	NA ⁽²⁾	5.92	247.77	NA ⁽²⁾	NA ⁽²⁾	NI	NI	19.95	229.78	19.28	230.44	13.49	236.21
09-Nov-17	NA ⁽²⁾	NA ⁽²⁾	5.95	247.74	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Nov-17	NA ⁽²⁾	NA ⁽²⁾	6.00	247.70	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
23-Nov-17	NA ⁽²⁾	NA ⁽²⁾	6.04	247.65	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Nov-17	NA ⁽²⁾	NA ⁽²⁾	6.06	247.63	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
07-Dec-17	10.58	233.81	6.11	247.58	5.39	246.03	NI	NI	19.87	229.86	19.17	230.55	13.65	236.05
21-Dec-17	NA ⁽²⁾	NA ⁽²⁾	5.22	248.48	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Jan-18	NA ⁽²⁾	NA ⁽²⁾	6.20	247.49	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Feb-18	NA ⁽²⁾	NA ⁽²⁾	5.75	247.94	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	MW4-16		MW5-16		MW6-16		MW7-18		OW1-96A		OW1-96B		OW1-96C	
	Reference Elevation (m AMSL)	244.39	Reference Elevation (m AMSL)	253.69	Reference Elevation (m AMSL)	251.42	Reference Elevation (m AMSL)	256.56	Reference Elevation (m AMSL)	249.73	Reference Elevation (m AMSL)	249.72	Reference Elevation (m AMSL)	249.70
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
28-Mar-18	NA ⁽²⁾	NA ⁽²⁾	5.76	247.93	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Apr-18	NA ⁽²⁾	NA ⁽²⁾	5.74	247.96	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Apr-18	NA ⁽²⁾	NA ⁽²⁾	5.67	248.02	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Apr-18	NA ⁽²⁾	NA ⁽²⁾	5.52	248.17	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-May-18	NA ⁽²⁾	NA ⁽²⁾	5.35	248.34	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
7-May-18	NA ⁽²⁾	NA ⁽²⁾	5.25	248.44	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-May-18	9.40	234.99	5.20	248.49	4.38	247.04	9.26	247.30	19.65	230.08	18.85	230.87	11.87	237.83
17-May-18	NA ⁽²⁾	NA ⁽²⁾	5.20	248.49	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-May-18	NA ⁽²⁾	NA ⁽²⁾	5.19	248.50	NA ⁽²⁾	NA ⁽²⁾	9.31	247.25	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Jun-18	NA ⁽²⁾	NA ⁽²⁾	5.26	248.43	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Jul-18	NA ⁽²⁾	NA ⁽²⁾	5.48	248.21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Aug-18	10.42	233.97	5.62	248.07	4.94	246.48	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Aug-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	20.20	229.53	19.44	230.28	13.29	236.41
24-Sep-18	NA ⁽²⁾	NA ⁽²⁾	5.89	247.80	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Oct-18	NA ⁽²⁾	NA ⁽²⁾	6.13	247.56	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Nov-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Dec-18	10.56	233.83	6.25	247.44	5.46	245.96	NA ⁽²⁾	NA ⁽²⁾	20.64	229.09	19.61	230.11	13.51	236.19
12-Dec-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	10.13	246.43	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Jan-19	NA ⁽²⁾	NA ⁽²⁾	6.28	247.41	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
5-Feb-19	NA ⁽²⁾	NA ⁽²⁾	6.11	247.58	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Mar-19	NA ⁽²⁾	NA ⁽²⁾	5.47	248.22	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-Apr-19	NA ⁽²⁾	NA ⁽²⁾	5.44	248.25	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Apr-19	NA ⁽²⁾	NA ⁽²⁾	5.40	248.29	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Apr-19	NA ⁽²⁾	NA ⁽²⁾	5.39	248.30	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Apr-19	NA ⁽²⁾	NA ⁽²⁾	5.34	248.35	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
29-Apr-19	NA ⁽²⁾	NA ⁽²⁾	5.24	248.45	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
7-May-19	NA ⁽²⁾	NA ⁽²⁾	5.11	248.58	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-May-19	NA ⁽²⁾	NA ⁽²⁾	5.01	248.68	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
29-May-19	8.64	235.75	4.81	248.88	4.03	247.39	8.94	247.62	19.40	230.33	18.62	231.10	11.33	238.37
11-Jun-19	NA ⁽²⁾	NA ⁽²⁾	4.72	248.97	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Jul-19	NA ⁽²⁾	NA ⁽²⁾	4.81	248.88	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Aug-19	9.81	234.58	5.10	248.59	4.51	246.91	9.28	247.28	19.80	229.93	19.05	230.67	12.48	237.22
11-Sep-19	NA ⁽²⁾	NA ⁽²⁾	5.43	248.26	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Oct-19	NA ⁽²⁾	NA ⁽²⁾	5.68	248.01	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	MW4-16		MW5-16		MW6-16		MW7-18		OW1-96A		OW1-96B		OW1-96C	
	Reference Elevation (m AMSL)	244.39	Reference Elevation (m AMSL)	253.69	Reference Elevation (m AMSL)	251.42	Reference Elevation (m AMSL)	256.56	Reference Elevation (m AMSL)	249.73	Reference Elevation (m AMSL)	249.72	Reference Elevation (m AMSL)	249.70
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
29-Nov-19	NA ⁽²⁾	NA ⁽²⁾	5.98	247.71	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
4-Dec-19	10.43	233.96	6.02	247.67	5.26	246.16	9.77	246.79	20.11	229.62	19.47	230.25	13.49	236.21
16-Jan-20	NA ⁽²⁾	NA ⁽²⁾	5.82	247.87	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Feb-20	NA ⁽²⁾	NA ⁽²⁾	5.33	248.36	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Mar-20	NA ⁽²⁾	NA ⁽²⁾	5.25	248.44	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
3-Apr-20	NA ⁽²⁾	NA ⁽²⁾	5.25	248.44	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Apr-20	NA ⁽²⁾	NA ⁽²⁾	5.20	248.49	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Apr-20	NA ⁽²⁾	NA ⁽²⁾	5.20	248.49	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Apr-20	NA ⁽²⁾	NA ⁽²⁾	5.19	248.50	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
20-May-20	9.80	234.59	5.22	248.47	4.60	246.82	9.36	247.20	19.73	230.00	18.99	230.74	12.66	237.04
5-Jun-20	NA ⁽²⁾	NA ⁽²⁾	5.32	248.37	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Jul-20	NA ⁽²⁾	NA ⁽²⁾	5.65	248.04	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Aug-20	10.46	233.93	5.95	247.74	5.17	246.25	9.93	246.63	19.99	229.74	19.31	230.41	13.60	236.10
24-Sep-20	NA ⁽²⁾	NA ⁽²⁾	6.31	247.38	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Oct-20	NA ⁽²⁾	NA ⁽²⁾	6.42	247.27	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-Nov-20	NA ⁽²⁾	NA ⁽²⁾	6.79	246.90	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-Dec-20	10.90	233.49	6.83	246.86	5.79	245.63	10.58	245.98	20.02	229.71	19.41	230.31	14.09	235.61
27-Jan-21	NA ⁽²⁾	NA ⁽²⁾	7.12	246.57	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Feb-21	NA ⁽²⁾	NA ⁽²⁾	7.25	246.44	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Mar-21	NA ⁽²⁾	NA ⁽²⁾	7.19	246.50	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-May-21	10.76	233.63	7.05	246.64	5.63	245.79	NA ⁽²⁾	NA ⁽²⁾	20.08	229.65	19.45	230.27	13.41	236.29
4-Jun-21	NA ⁽²⁾	NA ⁽²⁾	7.06	246.63	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
11-Jun-21	NA ⁽²⁾	NA ⁽²⁾	7.09	246.60	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Jun-21	NA ⁽²⁾	NA ⁽²⁾	7.12	246.57	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
2-Jul-21	NA ⁽²⁾	NA ⁽²⁾	7.06	246.64	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Jul-21	NA ⁽²⁾	NA ⁽²⁾	7.02	246.68	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Jul-21	NA ⁽²⁾	NA ⁽²⁾	7.01	246.68	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
23-Jul-21	NA ⁽²⁾	NA ⁽²⁾	7.04	246.66	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Jul-21	NA ⁽²⁾	NA ⁽²⁾	7.06	246.63	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Aug-21	NA ⁽²⁾	NA ⁽²⁾	7.08	246.61	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-Aug-21	NA ⁽²⁾	NA ⁽²⁾	7.12	246.57	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
18-Aug-21	11.01	233.38	7.12	246.57	5.88	245.54	NA ⁽²⁾	NA ⁽²⁾	20.29	229.44	19.68	230.05	13.85	235.85
20-Aug-21	NA ⁽²⁾	NA ⁽²⁾	7.13	246.56	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
27-Aug-21	NA ⁽²⁾	NA ⁽²⁾	7.14	246.55	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
3-Sep-21	NA ⁽²⁾	NA ⁽²⁾	7.18	246.51	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Sep-21	NA ⁽²⁾	NA ⁽²⁾	7.18	246.51	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Sep-21	NA ⁽²⁾	NA ⁽²⁾	7.16	246.53	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Sep-21	NA ⁽²⁾	NA ⁽²⁾	7.10	246.59	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-Oct-21	NA ⁽²⁾	NA ⁽²⁾	7.09	246.60	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	MW4-16		MW5-16		MW6-16		MW7-18		OW1-96A		OW1-96B		OW1-96C	
	Reference Elevation (m AMSL)	244.39	Reference Elevation (m AMSL)	253.69	Reference Elevation (m AMSL)	251.42	Reference Elevation (m AMSL)	256.56	Reference Elevation (m AMSL)	249.73	Reference Elevation (m AMSL)	249.72	Reference Elevation (m AMSL)	249.70
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)
8-Oct-21	NA ⁽²⁾	NA ⁽²⁾	7.10	246.59	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Oct-21	NA ⁽²⁾	NA ⁽²⁾	7.10	246.59	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
22-Oct-21	NA ⁽²⁾	NA ⁽²⁾	7.09	246.60	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
19-Nov-21	NA ⁽²⁾	NA ⁽²⁾	6.98	246.71	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Dec-21	10.51	233.88	6.85	246.84	5.45	245.97	10.50	246.06	19.58	230.15	18.92	230.80	13.25	236.46

Notes:

- (1) Not measured Monitoring well was destroyed
- (2) Hydraulic monitoring event not required as part of ARA License, PTTW or ECA
- (3) SW1A is the small pond.
- (4) SW1B is the main pond.
- (5) Effective January 2017
- (6) Surface water elevation extracted from transducer data due to difficulties with the field measurement
- (7) Installed on June 4, 2021.
- m btor Metres below top of riser pipe
- m AMSL Metres above mean sea level
- NA Not available
- NI Monitoring well not installed

Table D.1

Historical Hydraulic Monitoring Data
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Date	MP1S		MW1D		MP2S		SW1A ⁽³⁾	
	Reference Elevation (m AMSL)	245.93	Reference Elevation (m AMSL)	245.41	Reference Elevation (m AMSL)	245.20	Former Reference Elevation (m AMSL)	243.58
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Current Reference Elevation (m AMSL) ⁽⁶⁾	243.61
						Depth to Water	Surface Water Elevation (m AMSL)	
20-Dec-88	NI	NI	NI	NI	NI	NI	NI	NI
19-Jan-89	NI	NI	NI	NI	NI	NI	NI	NI
11-Apr-89	NI	NI	NI	NI	NI	NI	NI	NI
15-Aug-89	NI	NI	NI	NI	NI	NI	NI	NI
12-Dec-89	NI	NI	NI	NI	NI	NI	NI	NI
10-May-90	NI	NI	NI	NI	NI	NI	NI	NI
27-Aug-90	NI	NI	NI	NI	NI	NI	NI	NI
12-Dec-90	NI	NI	NI	NI	NI	NI	NI	NI
21-Feb-91	NI	NI	NI	NI	NI	NI	NI	NI
26-Mar-91	NI	NI	NI	NI	NI	NI	NI	NI
13-May-91	NI	NI	NI	NI	NI	NI	NI	NI
29-Jul-91	NI	NI	NI	NI	NI	NI	NI	NI
23-Sep-91	NI	NI	NI	NI	NI	NI	NI	NI
21-Nov-91	NI	NI	NI	NI	NI	NI	NI	NI
26-Feb-92	NI	NI	NI	NI	NI	NI	NI	NI
13-Jul-92	NI	NI	NI	NI	NI	NI	NI	NI
11-Nov-92	NI	NI	NI	NI	NI	NI	NI	NI
16-Apr-93	NI	NI	NI	NI	NI	NI	NI	NI
06-Jul-93	NI	NI	NI	NI	NI	NI	NI	NI
01-Nov-93	NI	NI	NI	NI	NI	NI	NI	NI
06-Apr-95	NI	NI	NI	NI	NI	NI	NI	NI
06-Jul-95	NI	NI	NI	NI	NI	NI	NI	NI
16-Nov-95	NI	NI	NI	NI	NI	NI	NI	NI
21-Nov-96	NI	NI	NI	NI	NI	NI	NI	NI
17-Apr-97	NI	NI	NI	NI	NI	NI	NI	NI
09-Jul-97	NI	NI	NI	NI	NI	NI	NI	NI
26-Nov-97	NI	NI	NI	NI	NI	NI	NI	NI
28-Apr-98	NI	NI	NI	NI	NI	NI	NI	NI
09-Jul-98	NI	NI	NI	NI	NI	NI	NI	NI
19-Nov-98	NI	NI	NI	NI	NI	NI	NI	NI
01-Nov-00	NI	NI	NI	NI	NI	NI	NI	NI
26-Apr-01	NI	NI	NI	NI	NI	NI	NI	NI
19-Jul-01	NI	NI	NI	NI	NI	NI	NI	NI
07-Nov-01	NI	NI	NI	NI	NI	NI	NI	NI
18-Nov-04	NI	NI	NI	NI	NI	NI	NI	NI
14-Nov-05	NI	NI	NI	NI	NI	NI	NI	NI
26-Sep-06	NI	NI	NI	NI	NI	NI	NI	NI

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	MP1S		MW1D		MP2S		SW1A ⁽³⁾	
	Reference Elevation (m AMSL)	245.93 Groundwater Elevation (m AMSL)	Reference Elevation (m AMSL)	245.41 Groundwater Elevation (m AMSL)	Reference Elevation (m AMSL)	245.20 Groundwater Elevation (m AMSL)	Former Reference Elevation (m AMSL)	243.58 Current Reference Elevation (m AMSL) ⁽⁶⁾ 243.61
	Depth to Water (m btor)		Depth to Water (m btor)		Depth to Water (m btor)		Depth to Water	Surface Water Elevation (m AMSL)
25-Oct-06	NI	NI	NI	NI	NI	NI	NI	NI
22-Nov-06	NI	NI	NI	NI	NI	NI	NI	NI
06-Jun-08	NI	NI	NI	NI	NI	NI	NI	NI
10-Sep-08	NI	NI	NI	NI	NI	NI	NI	NI
18-Nov-08	NI	NI	NI	NI	NI	NI	NI	NI
04-Jun-09	NI	NI	NI	NI	NI	NI	NI	NI
01-Sep-09	NI	NI	NI	NI	NI	NI	NI	NI
07-Dec-09	NI	NI	NI	NI	NI	NI	NI	NI
03-Jun-10	NI	NI	NI	NI	NI	NI	NI	NI
27-Aug-10	NI	NI	NI	NI	NI	NI	NI	NI
02-Dec-10	NI	NI	NI	NI	NI	NI	NI	NI
02-Jun-11	NI	NI	NI	NI	NI	NI	NI	NI
01-Sep-11	NI	NI	NI	NI	NI	NI	NI	NI
01-Dec-11	NI	NI	NI	NI	NI	NI	NI	NI
30-May-12	NI	NI	NI	NI	NI	NI	NI	NI
01-Aug-12	NI	NI	NI	NI	NI	NI	0.80	242.78
15-Sep-12	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾
02-Nov-12	NI	NI	NI	NI	NI	NI	0.73	242.85
10-Dec-12	NI	NI	NI	NI	NI	NI	0.86	242.72
12-Dec-12	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾
22-Apr-13	NI	NI	NI	NI	NI	NI	0.44	243.14
30-May-13	NI	NI	NI	NI	NI	NI	(6)	243.00
20-Aug-13	NI	NI	NI	NI	NI	NI	0.82	242.76
05-Dec-13	NI	NI	NI	NI	NI	NI	0.68	242.90
12-Jan-14	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾
21-May-14	NI	NI	NI	NI	NI	NI	(6)	242.97
28-Aug-14	NI	NI	NI	NI	NI	NI	0.70	242.88
10-Dec-14	NI	NI	NI	NI	NI	NI	0.65	242.93
11-May-15	NI	NI	NI	NI	NI	NI	0.73	242.85
31-Aug-15	NI	NI	NI	NI	NI	NI	(6)	242.70
04-Dec-15	NI	NI	NI	NI	NI	NI	0.90	242.68
26-Jan-16	NI	NI	NI	NI	NI	NI	NA ⁽²⁾	NA ⁽²⁾
11-Feb-16	NI	NI	NI	NI	NI	NI	0.84	242.74
10-Mar-16	NI	NI	NI	NI	NI	NI	0.75	242.83
26-May-16	NI	NI	NI	NI	NI	NI	0.71	242.87
17-Aug-16	1.66	244.27	1.23	244.18	NI	NI	0.79	242.79
01-Dec-16	1.82	244.11	1.31	244.10	NI	NI	0.83	242.75
30-May-17	1.55	244.38	1.14	244.27	NI	NI	0.56	243.05

Table D.1
Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	MP1S		MW1D		MP2S		SW1A ⁽³⁾	
	Reference Elevation (m AMSL)	245.93	Reference Elevation (m AMSL)	245.41	Reference Elevation (m AMSL)	245.20	Former Reference Elevation (m AMSL)	243.58
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Current Reference Elevation (m AMSL) ⁽⁶⁾	243.61
							Depth to Water	Surface Water Elevation (m AMSL)
31-May-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾
01-Jun-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾
21-Jun-17	1.54	244.39	1.13	244.28	NI	NI	0.63	242.98
20-Jul-17	1.52	244.41	1.04	244.37	NI	NI	0.53	243.09
27-Jul-17	1.58	244.35	1.06	244.35	NI	NI	0.59	243.02
03-Aug-17	1.66	244.27	1.09	244.32	NI	NI	0.65	242.96
08-Aug-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	0.63	242.98
10-Aug-17	1.63	244.30	1.09	244.32	NI	NI	NA ⁽²⁾	NA ⁽²⁾
17-Aug-17	1.63	244.30	1.13	244.28	NI	NI	0.58	243.03
18-Aug-17	1.64	244.29	1.14	244.27	NI	NI	0.58	243.03
24-Aug-17	1.66	244.27	1.15	244.26	NI	NI	0.63	242.98
30-Aug-17	1.69	244.24	1.18	244.23	NI	NI	0.67	242.94
07-Sep-17	1.61	244.32	1.20	244.21	NI	NI	0.66	242.95
12-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾
13-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	0.69	242.93
14-Sep-17	1.63	244.30	1.21	244.20	NI	NI	0.69	242.93
15-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	NA ⁽²⁾	NA ⁽²⁾
21-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	0.72	242.89
28-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NI	NI	0.76	242.86
05-Oct-17	1.69	244.24	1.26	244.15	NI	NI	0.78	242.83
12-Oct-17	1.68	244.25	1.26	244.15	NI	NI	0.75	242.86
19-Oct-17	1.64	244.29	1.26	244.15	NI	NI	0.72	242.89
26-Oct-17	1.62	244.31	4.02	241.39	NI	NI	0.69	242.92
02-Nov-17	1.62	244.31	3.30	242.11	NI	NI	NA ⁽²⁾	NA ⁽²⁾
09-Nov-17	1.60	244.33	2.73	242.68	1.90	243.30	NA ⁽²⁾	NA ⁽²⁾
16-Nov-17	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.92	244.28	0.63	242.99
23-Nov-17	1.61	244.32	NA ⁽²⁾	NA ⁽²⁾	0.91	244.29	NA ⁽²⁾	NA ⁽²⁾
30-Nov-17	1.61	244.32	NA ⁽²⁾	NA ⁽²⁾	0.90	244.30	NA ⁽²⁾	NA ⁽²⁾
07-Dec-17	1.65	244.28	NA ⁽²⁾	NA ⁽²⁾	0.94	244.26	0.63	242.99
21-Dec-17	1.61	244.33	NA ⁽²⁾	NA ⁽²⁾	0.90	244.30	NA ⁽²⁾	NA ⁽²⁾
24-Jan-18	1.60	244.34	NA ⁽²⁾	NA ⁽²⁾	0.89	244.32	NA ⁽²⁾	NA ⁽²⁾
22-Feb-18	1.55	244.38	NA ⁽²⁾	NA ⁽²⁾	0.86	244.34	NA ⁽²⁾	NA ⁽²⁾

Table D.1

Historical Hydraulic Monitoring Data
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Date	MP1S		MW1D		MP2S		SW1A ⁽³⁾	
	Reference Elevation (m AMSL)	245.93	Reference Elevation (m AMSL)	245.41	Reference Elevation (m AMSL)	245.20	Former Reference Elevation (m AMSL)	243.58
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Current Reference Elevation (m AMSL) ⁽⁶⁾	243.61
							Depth to Water	Surface Water Elevation (m AMSL)
28-Mar-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Apr-18	1.62	244.31	NA ⁽²⁾	NA ⁽²⁾	0.94	244.26	0.66	242.95
18-Apr-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.54	243.07
24-Apr-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.61	243.00
1-May-18	1.55	244.38	NA ⁽²⁾	NA ⁽²⁾	0.91	244.29	0.61	243.00
7-May-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.60	243.01
16-May-18	1.54	244.39	NA ⁽²⁾	NA ⁽²⁾	0.88	244.32	NA ⁽²⁾	NA ⁽²⁾
17-May-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-May-18	1.57	244.36	NA ⁽²⁾	NA ⁽²⁾	0.93	244.27	0.61	243.00
6-Jun-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
16-Jul-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.71	242.90
8-Aug-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.64	242.97
9-Aug-18	1.60	244.33	NA ⁽²⁾	NA ⁽²⁾	0.93	244.28	NA ⁽²⁾	NA ⁽²⁾
24-Sep-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.74	242.87
25-Oct-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Nov-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.60	243.02
11-Dec-18	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
12-Dec-18	1.61	244.32	NA ⁽²⁾	NA ⁽²⁾	0.91	244.29	0.55	243.06
11-Jan-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
5-Feb-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Mar-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
1-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
15-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.45	243.16
22-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.47	243.14
29-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
7-May-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
13-May-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
29-May-19	1.46	244.47	NA ⁽²⁾	NA ⁽²⁾	0.81	244.39	0.22	243.39
11-Jun-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Jul-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
8-Aug-19	1.54	244.39	NA ⁽²⁾	NA ⁽²⁾	0.89	244.31	0.37	243.24
11-Sep-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
9-Oct-19	1.61	244.32	NA ⁽²⁾	NA ⁽²⁾	0.94	244.26	0.52	243.09

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County of Brant, Ontario

Date	MP1S		MW1D		MP2S		SW1A ⁽³⁾	
	Reference Elevation (m AMSL)	245.93	Reference Elevation (m AMSL)	245.41	Reference Elevation (m AMSL)	245.20	Former Reference Elevation (m AMSL)	243.58
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Current Reference Elevation (m AMSL) ⁽⁶⁾	243.61
							Depth to Water	Surface Water Elevation (m AMSL)
29-Nov-19	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.34	243.27
4-Dec-19	1.56	244.37	NA ⁽²⁾	NA ⁽²⁾	0.88	244.32	0.34	243.27
16-Jan-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
10-Feb-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
25-Mar-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
3-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.35	243.26
9-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
17-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.42	243.19
24-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
20-May-20	1.62	244.31	NA ⁽²⁾	NA ⁽²⁾	0.90	244.30	0.40	243.21
5-Jun-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.39	243.22
6-Jul-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.66	242.95
10-Aug-20	1.69	244.24	NA ⁽²⁾	NA ⁽²⁾	0.99	244.21	0.67	242.94
24-Sep-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
6-Oct-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.66	242.95
27-Nov-20	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.68	242.93
1-Dec-20	1.72	244.22	NA ⁽²⁾	NA ⁽²⁾	1.01	244.19	0.65	242.96
27-Jan-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
24-Feb-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
30-Mar-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	0.55	243.06
27-May-21	1.94	243.99	NA ⁽²⁾	NA ⁽²⁾	1.25	243.95	0.79	242.82
4-Jun-21	1.90	244.03	NA ⁽²⁾	NA ⁽²⁾	1.20	244.01	NA ⁽²⁾	NA ⁽²⁾
11-Jun-21	1.96	243.98	NA ⁽²⁾	NA ⁽²⁾	1.28	243.92	NA ⁽²⁾	NA ⁽²⁾
18-Jun-21	1.94	243.99	NA ⁽²⁾	NA ⁽²⁾	1.24	243.96	NA ⁽²⁾	NA ⁽²⁾
2-Jul-21	1.75	244.18	NA ⁽²⁾	NA ⁽²⁾	1.08	244.12	NA ⁽²⁾	NA ⁽²⁾
9-Jul-21	1.86	244.07	NA ⁽²⁾	NA ⁽²⁾	1.15	244.05	NA ⁽²⁾	NA ⁽²⁾
16-Jul-21	1.90	244.03	NA ⁽²⁾	NA ⁽²⁾	1.18	244.02	NA ⁽²⁾	NA ⁽²⁾
23-Jul-21	1.93	244.00	NA ⁽²⁾	NA ⁽²⁾	1.25	243.96	NA ⁽²⁾	NA ⁽²⁾
30-Jul-21	1.92	244.01	NA ⁽²⁾	NA ⁽²⁾	1.21	243.99	NA ⁽²⁾	NA ⁽²⁾
6-Aug-21	1.98	243.95	NA ⁽²⁾	NA ⁽²⁾	1.27	243.93	NA ⁽²⁾	NA ⁽²⁾
13-Aug-21	1.97	243.96	NA ⁽²⁾	NA ⁽²⁾	1.27	243.93	NA ⁽²⁾	NA ⁽²⁾
18-Aug-21	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾	NA ⁽²⁾
20-Aug-21	2.03	243.90	NA ⁽²⁾	NA ⁽²⁾	1.33	243.87	Inaccessible	Inaccessible
27-Aug-21	2.01	243.92	NA ⁽²⁾	NA ⁽²⁾	1.31	243.89	NA ⁽²⁾	NA ⁽²⁾
3-Sep-21	2.04	243.89	NA ⁽²⁾	NA ⁽²⁾	1.33	243.87	NA ⁽²⁾	NA ⁽²⁾
10-Sep-21	1.98	243.95	NA ⁽²⁾	NA ⁽²⁾	1.27	243.93	NA ⁽²⁾	NA ⁽²⁾
17-Sep-21	1.94	243.99	NA ⁽²⁾	NA ⁽²⁾	1.23	243.97	NA ⁽²⁾	NA ⁽²⁾
24-Sep-21	1.92	244.01	NA ⁽²⁾	NA ⁽²⁾	1.29	243.91	NA ⁽²⁾	NA ⁽²⁾
1-Oct-21	1.96	243.97	NA ⁽²⁾	NA ⁽²⁾	1.24	243.96	NA ⁽²⁾	NA ⁽²⁾

Table D.1
Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	MP1S		MW1D		MP2S		SW1A ⁽³⁾	
	Reference Elevation (m AMSL)	245.93	Reference Elevation (m AMSL)	245.41	Reference Elevation (m AMSL)	245.20	Former Reference Elevation (m AMSL)	243.58
	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Depth to Water (m btor)	Groundwater Elevation (m AMSL)	Current Reference Elevation (m AMSL) ⁽⁶⁾	243.61
							Depth to Water	Surface Water Elevation (m AMSL)
8-Oct-21	1.95	243.98	NA ⁽²⁾	NA ⁽²⁾	1.25	243.95	NA ⁽²⁾	NA ⁽²⁾
15-Oct-21	1.87	244.06	NA ⁽²⁾	NA ⁽²⁾	1.16	244.04	NA ⁽²⁾	NA ⁽²⁾
22-Oct-21	1.88	244.05	NA ⁽²⁾	NA ⁽²⁾	1.15	244.05	NA ⁽²⁾	NA ⁽²⁾
19-Nov-21	1.87	244.06	NA ⁽²⁾	NA ⁽²⁾	1.15	244.05	NA ⁽²⁾	NA ⁽²⁾
8-Dec-21	1.82	244.11	NA ⁽²⁾	NA ⁽²⁾	1.13	244.07	0.73	242.89

Notes:

- (1) Not measured Monitoring well was destroyed
- (2) Hydraulic monitoring event not required as part of ARA License, PTTW or ECA
- (3) SW 1A is the small pond.
- (4) SW 1B is the main pond.
- (5) Effective January 2017
- (6) Surface water elevation extracted from transducer data due to difficulties with the field measurement
- (7) Installed on June 4, 2021.
- m btor Metres below top of riser pipe
- m AMSL Metres above mean sea level
- NA Not available
- NI Monitoring well not installed

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	SW1B ⁽⁴⁾		SG2B	
	Depth to Water	Surface Water Elevation (m AMSL)	Depth to Water	Surface Water Elevation (m AMSL)
		Former Reference Elevation (m AMSL) 244.52		Current Reference Elevation (m AMSL) ⁽⁷⁾ 242.63
		Current Reference Elevation (m AMSL) ⁽⁵⁾ 244.55		
20-Dec-88	NI	NI	NI	NI
19-Jan-89	NI	NI	NI	NI
11-Apr-89	NI	NI	NI	NI
15-Aug-89	NI	NI	NI	NI
12-Dec-89	NI	NI	NI	NI
10-May-90	NI	NI	NI	NI
27-Aug-90	NI	NI	NI	NI
12-Dec-90	NI	NI	NI	NI
21-Feb-91	NI	NI	NI	NI
26-Mar-91	NI	NI	NI	NI
13-May-91	NI	NI	NI	NI
29-Jul-91	NI	NI	NI	NI
23-Sep-91	NI	NI	NI	NI
21-Nov-91	NI	NI	NI	NI
26-Feb-92	NI	NI	NI	NI
13-Jul-92	NI	NI	NI	NI
11-Nov-92	NI	NI	NI	NI
16-Apr-93	NI	NI	NI	NI
06-Jul-93	NI	NI	NI	NI
01-Nov-93	NI	NI	NI	NI
06-Apr-95	NI	NI	NI	NI
06-Jul-95	NI	NI	NI	NI
16-Nov-95	NI	NI	NI	NI
21-Nov-96	NI	NI	NI	NI
17-Apr-97	NI	NI	NI	NI
09-Jul-97	NI	NI	NI	NI
26-Nov-97	NI	NI	NI	NI
28-Apr-98	NI	NI	NI	NI
09-Jul-98	NI	NI	NI	NI
19-Nov-98	NI	NI	NI	NI
01-Nov-00	NI	NI	NI	NI
26-Apr-01	NI	NI	NI	NI
19-Jul-01	NI	NI	NI	NI
07-Nov-01	NI	NI	NI	NI
18-Nov-04	NI	NI	NI	NI
14-Nov-05	NI	NI	NI	NI
26-Sep-06	NI	NI	NI	NI

Table D.1

Historical Hydraulic Monitoring Data
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Date	SW1B ⁽⁴⁾		SG2B	
	Depth to Water	Surface Water Elevation (m AMSL)	Depth to Water	Surface Water Elevation (m AMSL)
		Former Reference Elevation (m AMSL) 244.52		Current Reference Elevation (m AMSL) ⁽⁷⁾ 242.63
		Current Reference Elevation (m AMSL) ⁽⁵⁾ 244.55		
25-Oct-06	NI	NI	NI	NI
22-Nov-06	NI	NI	NI	NI
06-Jun-08	NI	NI	NI	NI
10-Sep-08	NI	NI	NI	NI
18-Nov-08	NI	NI	NI	NI
04-Jun-09	NI	NI	NI	NI
01-Sep-09	NI	NI	NI	NI
07-Dec-09	NI	NI	NI	NI
03-Jun-10	NI	NI	NI	NI
27-Aug-10	NI	NI	NI	NI
02-Dec-10	NI	NI	NI	NI
02-Jun-11	NI	NI	NI	NI
01-Sep-11	NI	NI	NI	NI
01-Dec-11	NI	NI	NI	NI
30-May-12	NI	NI	NI	NI
01-Aug-12	0.70	243.82	NI	NI
15-Sep-12	NA ⁽²⁾	NA ⁽²⁾	NI	NI
02-Nov-12	0.80	243.73	NI	NI
10-Dec-12	0.87	243.66	NI	NI
12-Dec-12	NA ⁽²⁾	NA ⁽²⁾	NI	NI
22-Apr-13	0.55	243.97	NI	NI
30-May-13	(6)	243.96	NI	NI
20-Aug-13	0.70	243.82	NI	NI
05-Dec-13	0.64	243.88	NI	NI
12-Jan-14	NA ⁽²⁾	NA ⁽²⁾	NI	NI
21-May-14	NA ⁽²⁾	NA ⁽²⁾	NI	NI
28-Aug-14	0.61	243.91	NI	NI
10-Dec-14	0.61	243.91	NI	NI
11-May-15	0.62	243.91	NI	NI
31-Aug-15	0.93	243.59	NI	NI
04-Dec-15	0.90	243.62	NI	NI
26-Jan-16	NA ⁽²⁾	NA ⁽²⁾	NI	NI
11-Feb-16	0.86	243.66	NI	NI
10-Mar-16	0.80	243.72	NI	NI
26-May-16	0.60	243.92	NI	NI
17-Aug-16	0.67	243.85	NI	NI
01-Dec-16	0.80	243.72	NI	NI
30-May-17	0.54	244.01	NI	NI

Table D.1

Historical Hydraulic Monitoring Data
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

SW1B ⁽⁴⁾			SG2B		
	Former Reference Elevation (m AMSL) 244.52		Current Reference Elevation (m AMSL) ⁽⁷⁾ 242.63		
	Current Reference Elevation (m AMSL) ⁽⁵⁾ 244.55				
Date	Depth to Water	Surface Water Elevation (m AMSL)	Depth to Water	Surface Water Elevation (m AMSL)	Surface Water Elevation (m AMSL)
31-May-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
01-Jun-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
21-Jun-17	0.54	244.01	NI		NI
20-Jul-17	0.51	244.04	NI		NI
27-Jul-17	0.55	244.00	NI		NI
03-Aug-17	0.58	243.97	NI		NI
08-Aug-17	0.56	243.99	NI		NI
10-Aug-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
17-Aug-17	0.56	243.99	NI		NI
18-Aug-17	0.56	243.99	NI		NI
24-Aug-17	0.57	243.98	NI		NI
30-Aug-17	0.58	243.97	NI		NI
07-Sep-17	0.57	243.98	NI		NI
12-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
13-Sep-17	0.58	243.97	NI		NI
14-Sep-17	0.60	243.96	NI		NI
15-Sep-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
21-Sep-17	0.60	243.96	NI		NI
28-Sep-17	0.67	243.88	NI		NI
05-Oct-17	0.68	243.87	NI		NI
12-Oct-17	0.64	243.91	NI		NI
19-Oct-17	0.64	243.92	NI		NI
26-Oct-17	0.61	243.94	NI		NI
02-Nov-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
09-Nov-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
16-Nov-17	0.58	243.98	NI		NI
23-Nov-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
30-Nov-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
07-Dec-17	0.60	243.95	NI		NI
21-Dec-17	NA ⁽²⁾	NA ⁽²⁾	NI		NI
24-Jan-18	NA ⁽²⁾	NA ⁽²⁾	NI		NI
22-Feb-18	NA ⁽²⁾	NA ⁽²⁾	NI		NI

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

SW1B ⁽⁴⁾			SG2B		
Former Reference Elevation (m AMSL) 244.52			Current Reference Elevation (m AMSL) ⁽⁷⁾ 242.63		
Current Reference Elevation (m AMSL) ⁽⁵⁾ 244.55					
Date	Depth to Water	Surface Water Elevation (m AMSL)	Depth to Water	Surface Water Elevation (m AMSL)	
28-Mar-18	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
9-Apr-18	0.58	243.97	NI	NI	
18-Apr-18	0.57	243.98	NI	NI	
24-Apr-18	0.55	244.00	NI	NI	
1-May-18	0.54	244.01	NI	NI	
7-May-18	0.54	244.01	NI	NI	
16-May-18	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
17-May-18	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
24-May-18	0.55	244.00	NI	NI	
6-Jun-18	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
16-Jul-18	0.58	243.97	NI	NI	
8-Aug-18	0.57	243.98	NI	NI	
9-Aug-18	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
24-Sep-18	0.61	243.95	NI	NI	
25-Oct-18	0.62	243.93	NI	NI	
12-Nov-18	0.58	243.97	NI	NI	
11-Dec-18	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
12-Dec-18	0.57	243.98	NI	NI	
11-Jan-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
5-Feb-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
25-Mar-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
1-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
8-Apr-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
15-Apr-19	0.49	244.06	NI	NI	
22-Apr-19	0.48	244.07	NI	NI	
29-Apr-19	0.39	244.16	NI	NI	
7-May-19	0.28	244.27	NI	NI	
13-May-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
29-May-19	0.22	244.33	NI	NI	
11-Jun-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
9-Jul-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
8-Aug-19	0.43	244.12	NI	NI	
11-Sep-19	NA ⁽²⁾	NA ⁽²⁾	NI	NI	
9-Oct-19	0.51	244.04	NI	NI	

Table D.1

Historical Hydraulic Monitoring Data
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Date	SW1B ⁽⁴⁾		SG2B	
	Depth to Water	Surface Water Elevation (m AMSL)	Depth to Water	Surface Water Elevation (m AMSL)
		Former Reference Elevation (m AMSL) 244.52		Current Reference Elevation (m AMSL) ⁽⁷⁾ 242.63
		Current Reference Elevation (m AMSL) ⁽⁵⁾ 244.55		
29-Nov-19	0.42	244.13	NI	NI
4-Dec-19	0.42	244.13	NI	NI
16-Jan-20	NA ⁽²⁾	NA ⁽²⁾	NI	NI
10-Feb-20	NA ⁽²⁾	NA ⁽²⁾	NI	NI
25-Mar-20	NA ⁽²⁾	NA ⁽²⁾	NI	NI
3-Apr-20	0.34	244.21	NI	NI
9-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NI	NI
17-Apr-20	0.53	244.02	NI	NI
24-Apr-20	NA ⁽²⁾	NA ⁽²⁾	NI	NI
20-May-20	0.40	244.15	NI	NI
5-Jun-20	0.44	244.11	NI	NI
6-Jul-20	0.61	243.94	NI	NI
10-Aug-20	0.65	243.90	NI	NI
24-Sep-20	NA ⁽²⁾	NA ⁽²⁾	NI	NI
6-Oct-20	0.73	243.82	NI	NI
27-Nov-20	0.65	243.90	NI	NI
1-Dec-20	0.43	244.12	NI	NI
27-Jan-21	NA ⁽²⁾	NA ⁽²⁾	NI	NI
24-Feb-21	NA ⁽²⁾	NA ⁽²⁾	NI	NI
30-Mar-21	0.63	243.92	NI	NI
27-May-21	0.93	243.62	NI	NI
4-Jun-21	0.94	243.61	-0.99	243.62
11-Jun-21	1.00	243.56	-0.94	243.57
18-Jun-21	1.07	243.48	-0.87	243.50
2-Jul-21	0.99	243.56	-0.98	243.61
9-Jul-21	0.93	243.62	Submerged	Submerged
16-Jul-21	0.94	243.61	Submerged	Submerged
23-Jul-21	0.98	243.57	-0.96	243.59
30-Jul-21	0.99	243.56	-0.85	243.48
6-Aug-21	1.08	243.47	-0.88	243.51
13-Aug-21	1.15	243.40	-0.83	243.46
18-Aug-21	NA ⁽²⁾	NA ⁽²⁾	-0.78	243.41
20-Aug-21	1.19	243.36	-0.79	243.42
27-Aug-21	1.20	243.35	-0.75	243.38
3-Sep-21	1.21	243.34	-0.69	243.32
10-Sep-21	1.19	243.36	-0.70	243.33
17-Sep-21	1.19	243.36	-0.75	243.38
24-Sep-21	1.08	243.47	-0.86	243.49
1-Oct-21	1.07	243.48	-0.86	243.49

Table D.1

**Historical Hydraulic Monitoring Data
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

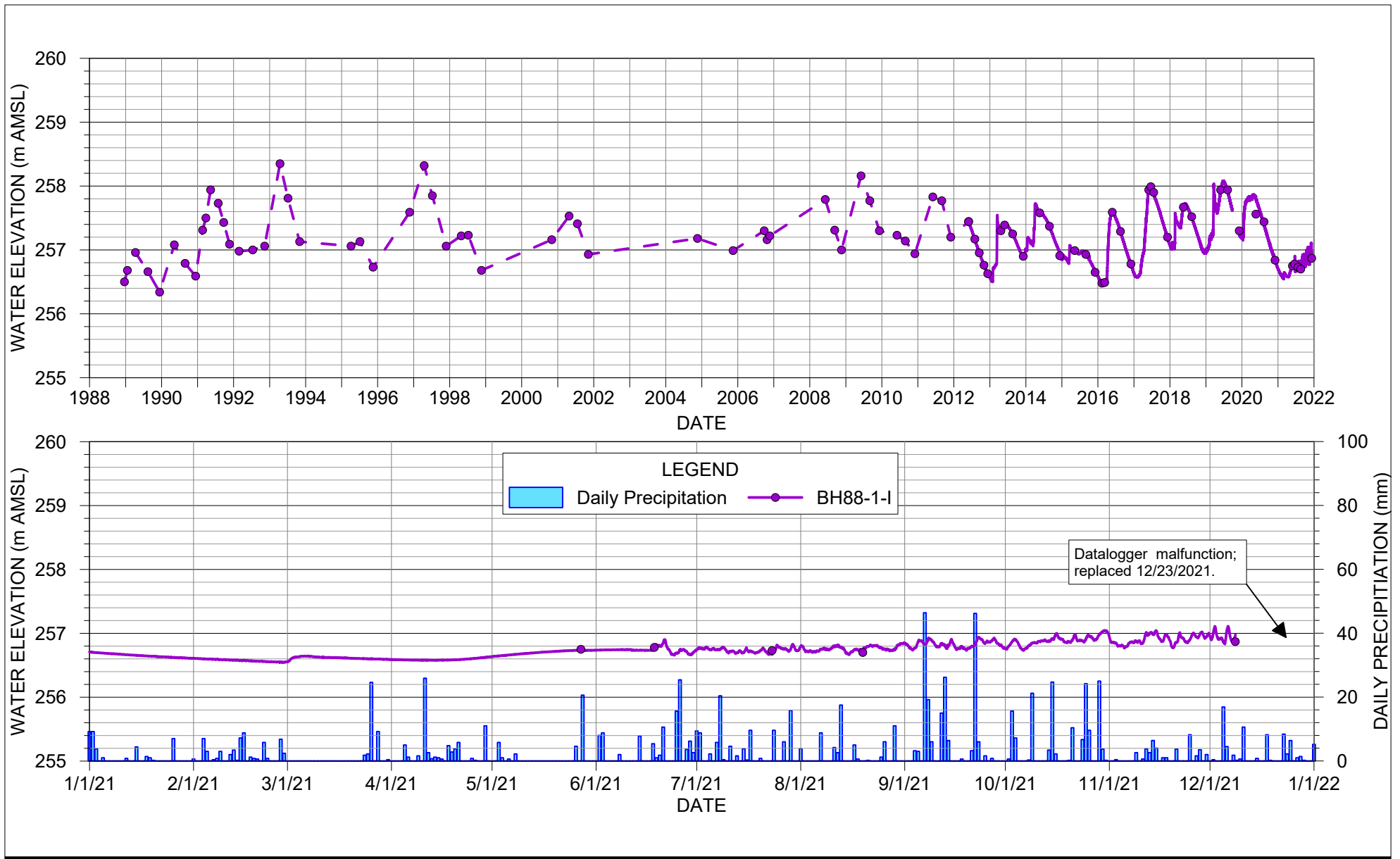
Date	SW1B ⁽⁴⁾		SG2B	
	Depth to Water	Surface Water Elevation (m AMSL)	Depth to Water	Surface Water Elevation (m AMSL)
		Former Reference Elevation (m AMSL) 244.52		Current Reference Elevation (m AMSL) ⁽⁷⁾ 242.63
		Current Reference Elevation (m AMSL) ⁽⁵⁾ 244.55		
8-Oct-21	1.04	243.51	-0.84	243.47
15-Oct-21	0.98	243.57	-0.96	243.59
22-Oct-21	0.92	243.63	-0.99	243.62
19-Nov-21	0.83	243.72	-1.10	243.73
8-Dec-21	0.76	243.79	-1.13	243.76

Notes:

- (1) Not measured Monitoring well was destroyed
- (2) Hydraulic monitoring event not required as part of ARA License, PTTW or ECA
- (3) SW 1A is the small pond.
- (4) SW 1B is the main pond.
- (5) Effective January 2017
- (6) Surface water elevation extracted from transducer data due to difficulties with the field measurement
- (7) Installed on June 4, 2021.
- m btor Metres below top of riser pipe
- m AMSL Metres above mean sea level
- NA Not available
- NI Monitoring well not installed

Appendix D.2

Hydrographs

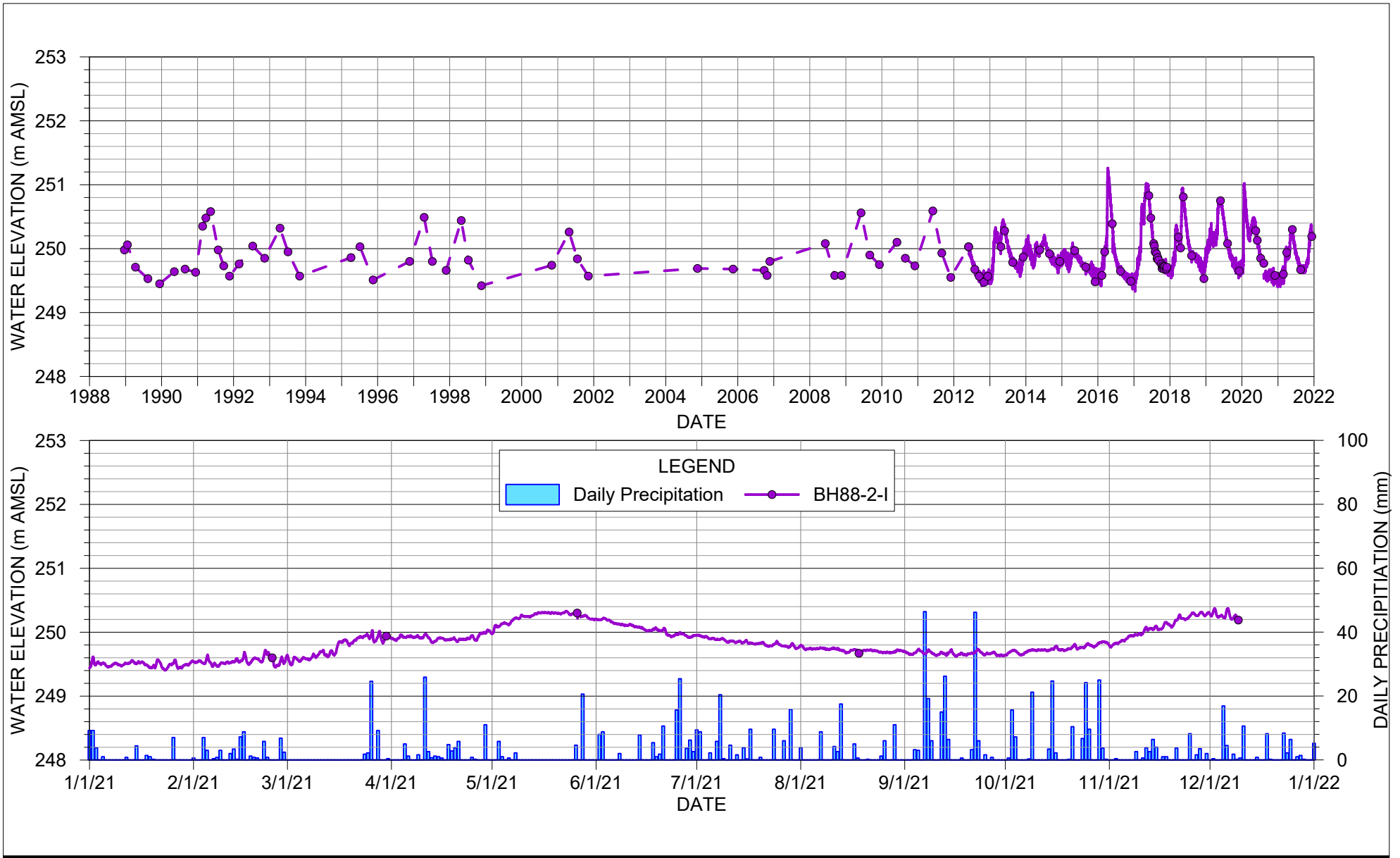


DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

Project No. 078410-20
Date February 08, 2022

HYDROGRAPH - BH88-1-I

FIGURE D.1

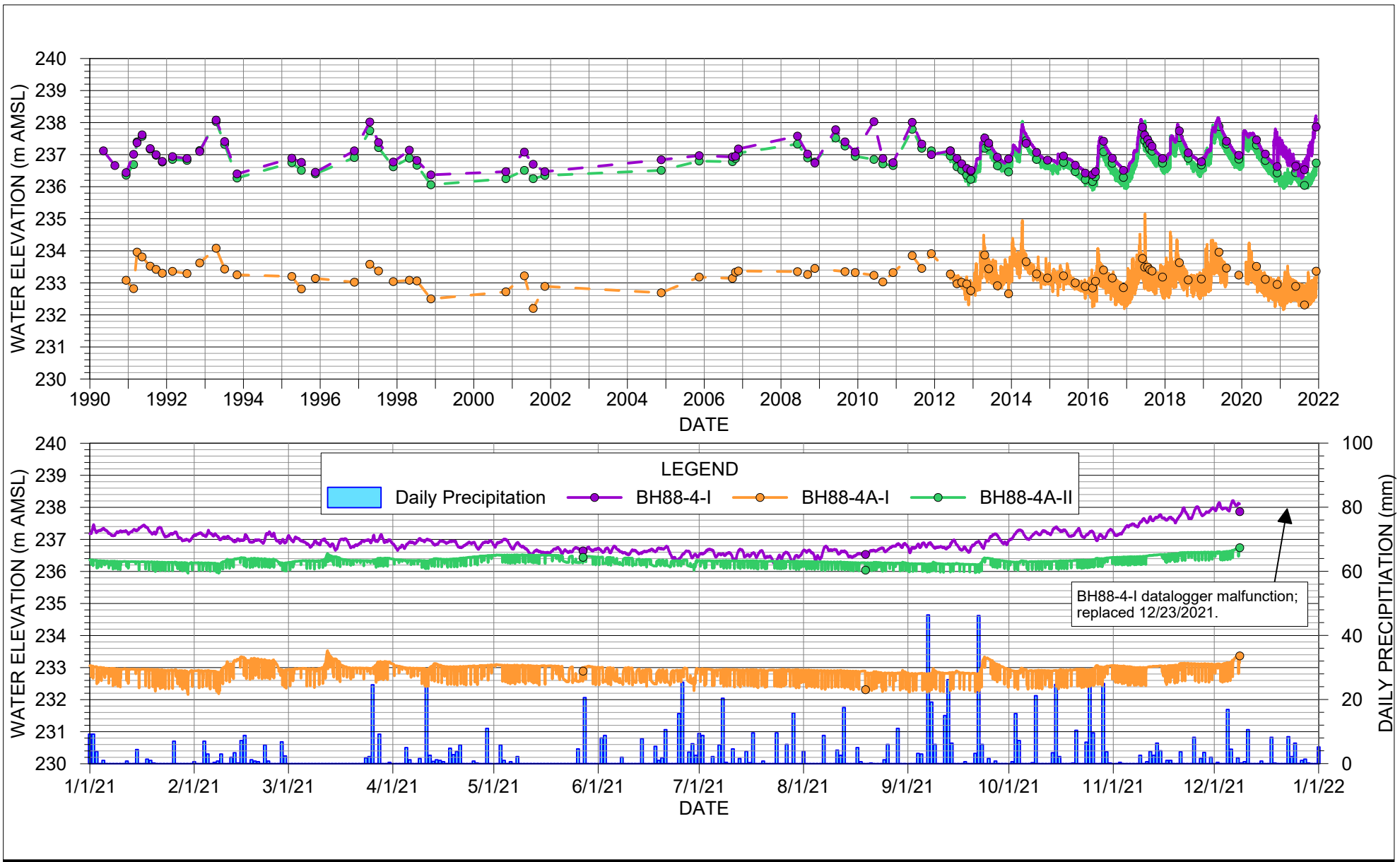


DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

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HYDROGRAPH - BH88-2-I

FIGURE D.2

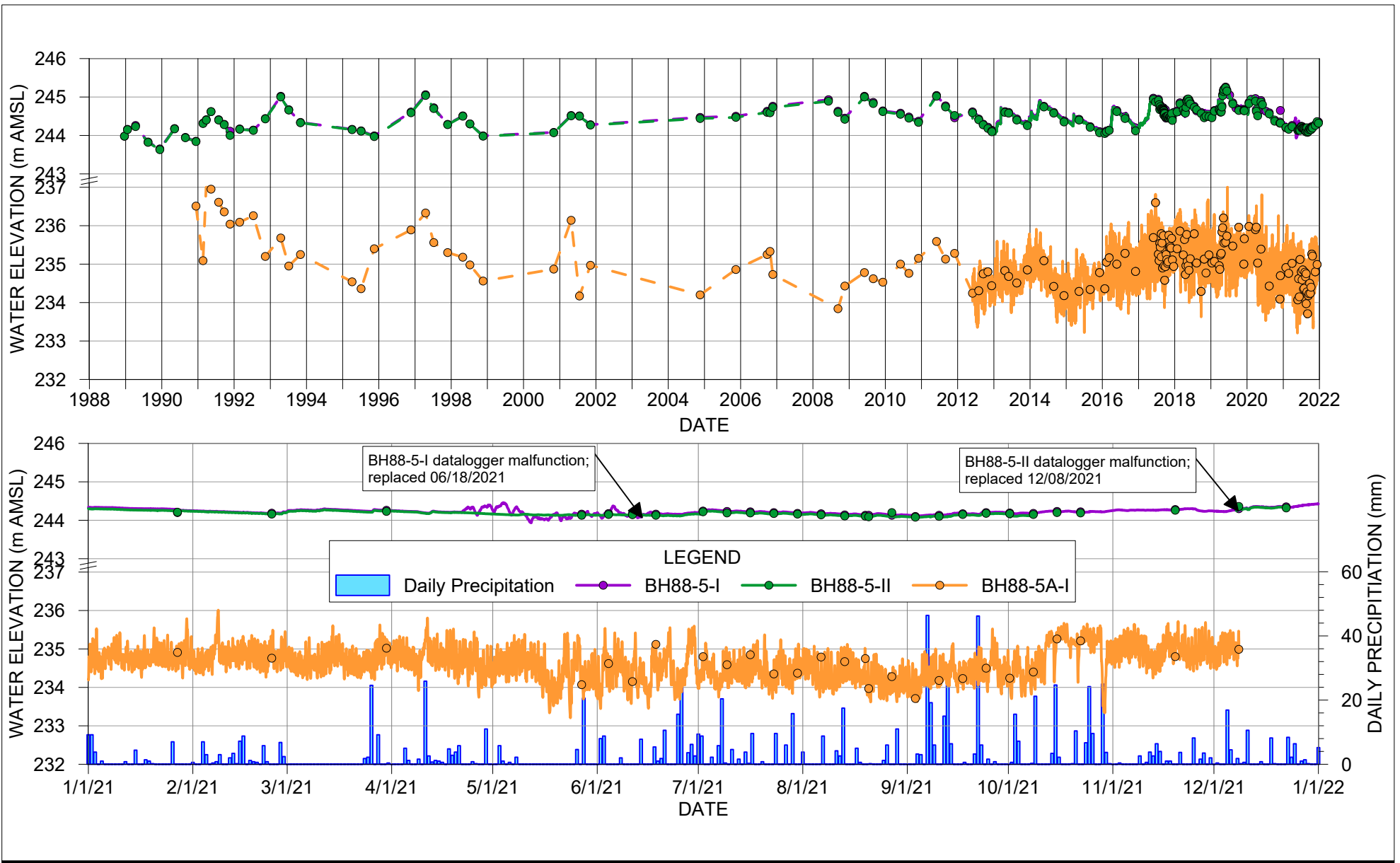


DUFFERIN AGGREGATES - PARIS PIT
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HYDROGRAPH - BH88-4 NEST

FIGURE D.3

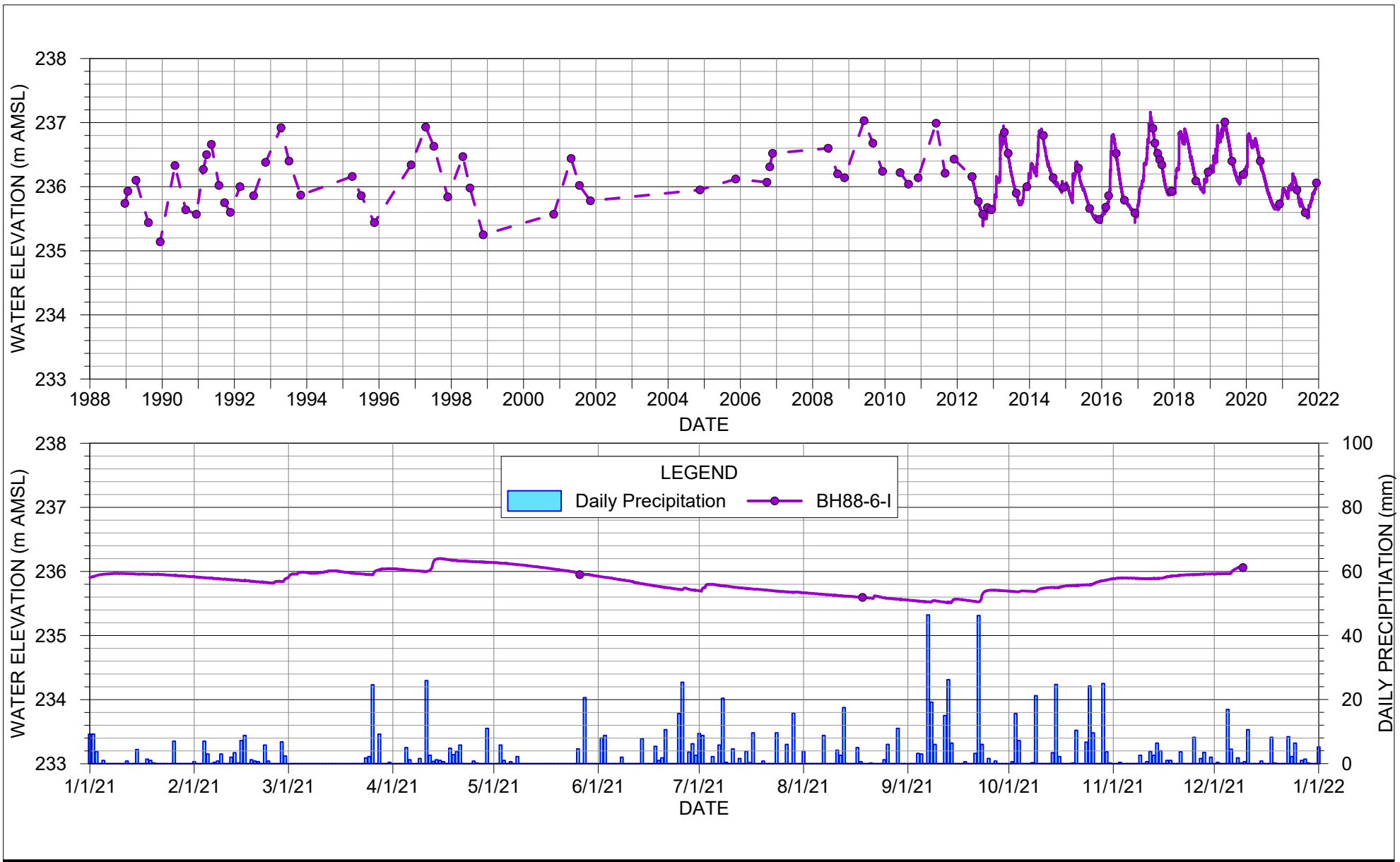


DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

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HYDROGRAPH - BH88-5 NEST

FIGURE D.4

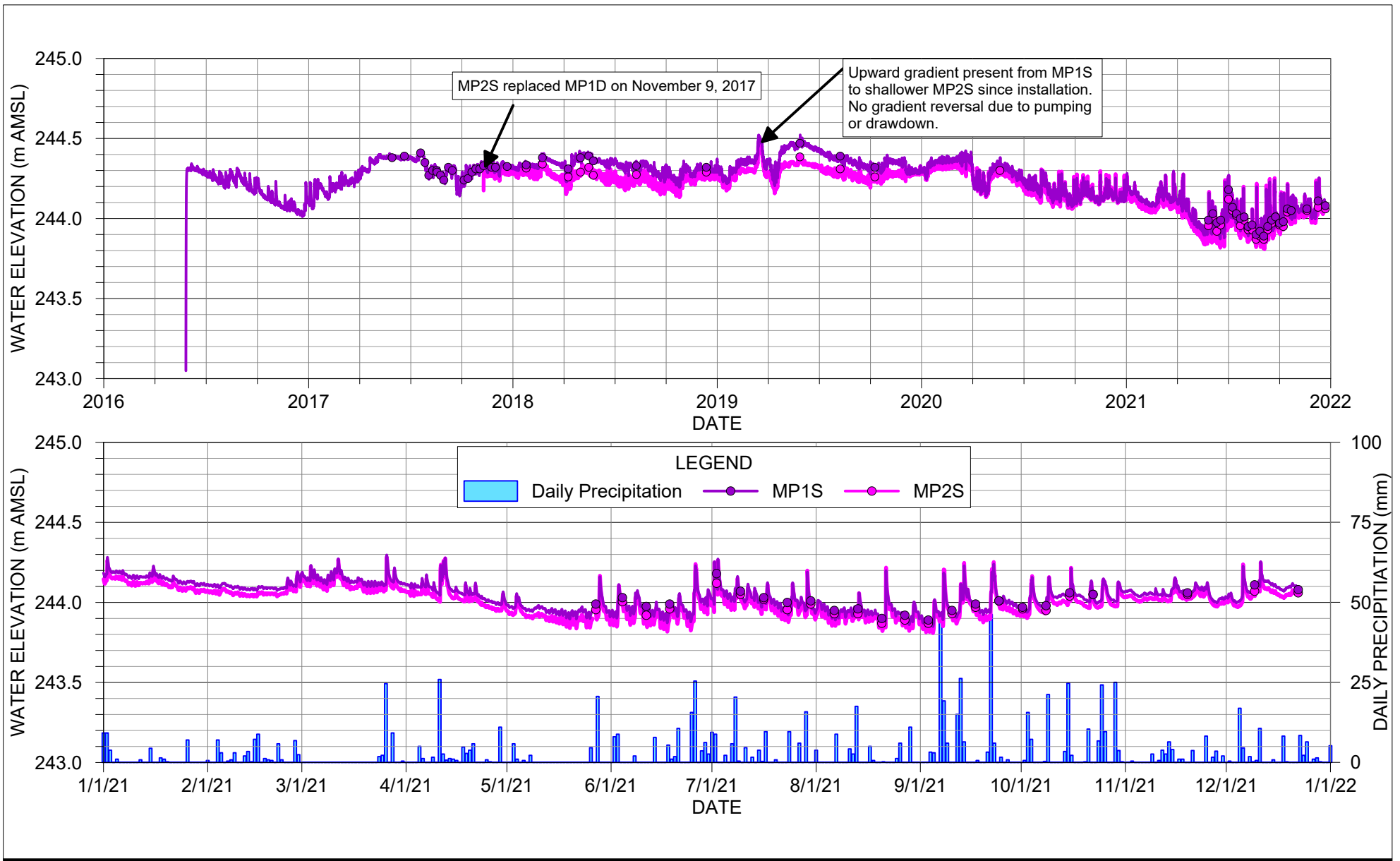


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HYDROGRAPH - BH88-6-I

FIGURE D.5

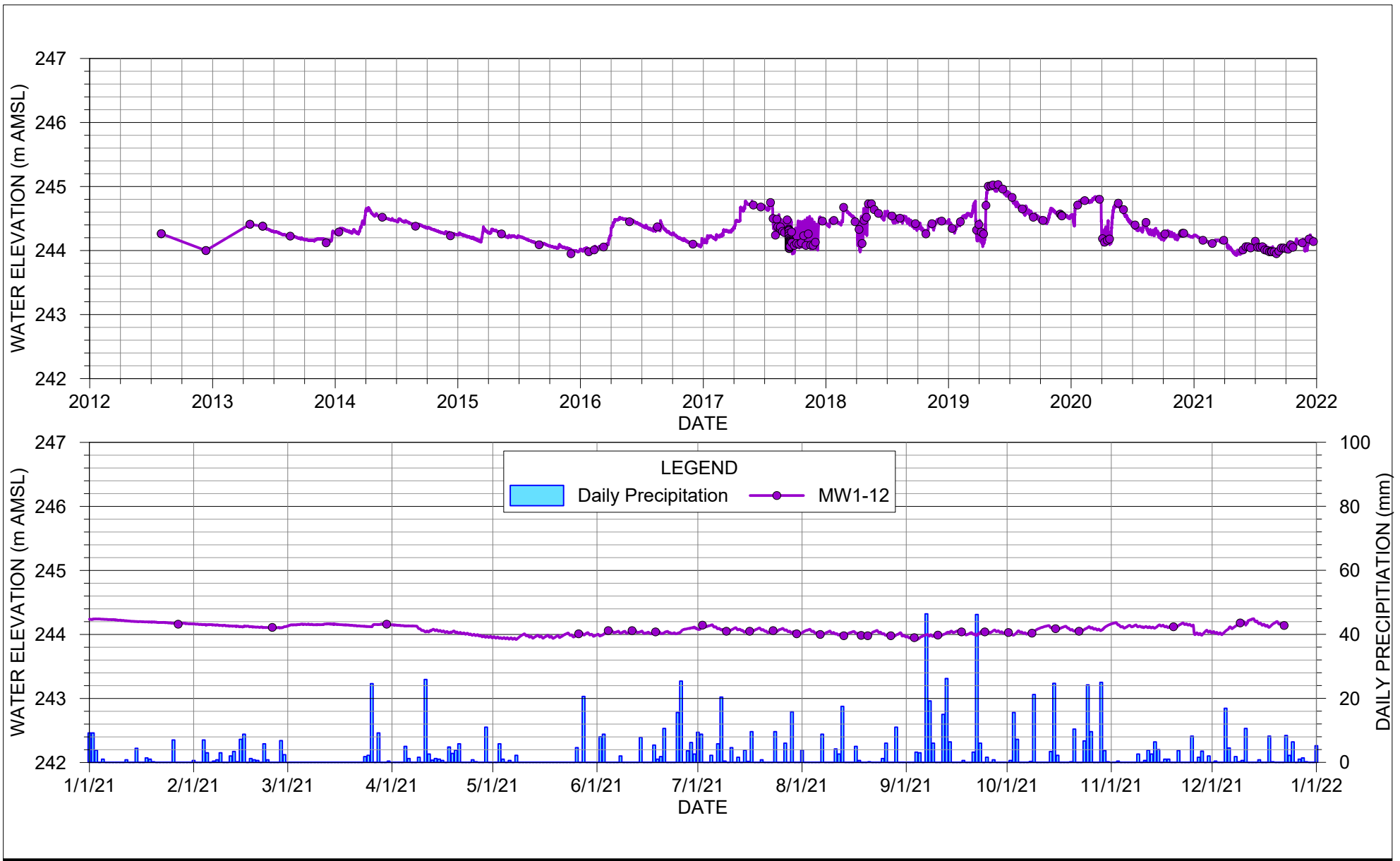


DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

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HYDROGRAPH
MULTI-LEVEL PIEZOMETER

FIGURE D.6

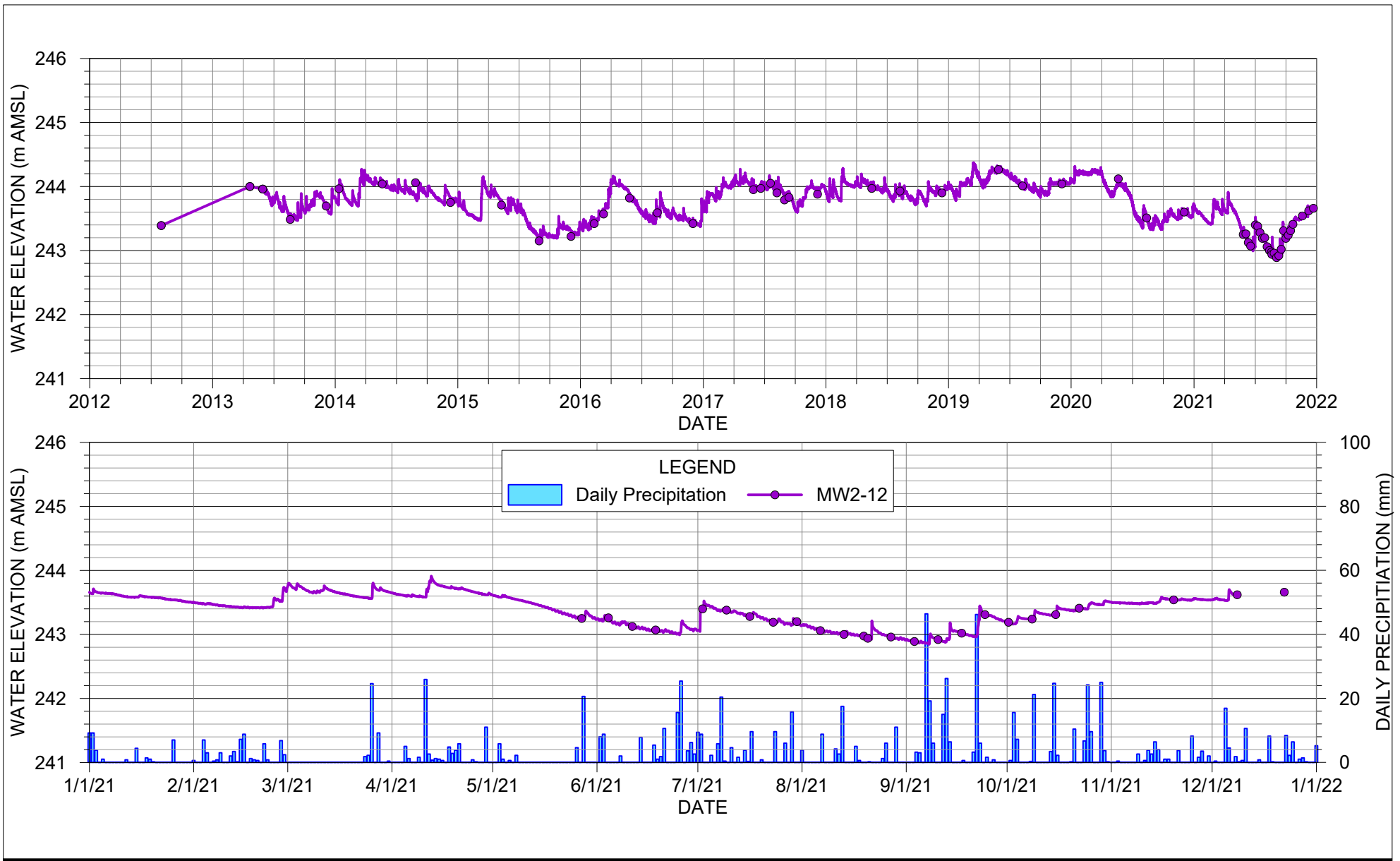


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HYDROGRAPH - MW1-12

FIGURE D.7

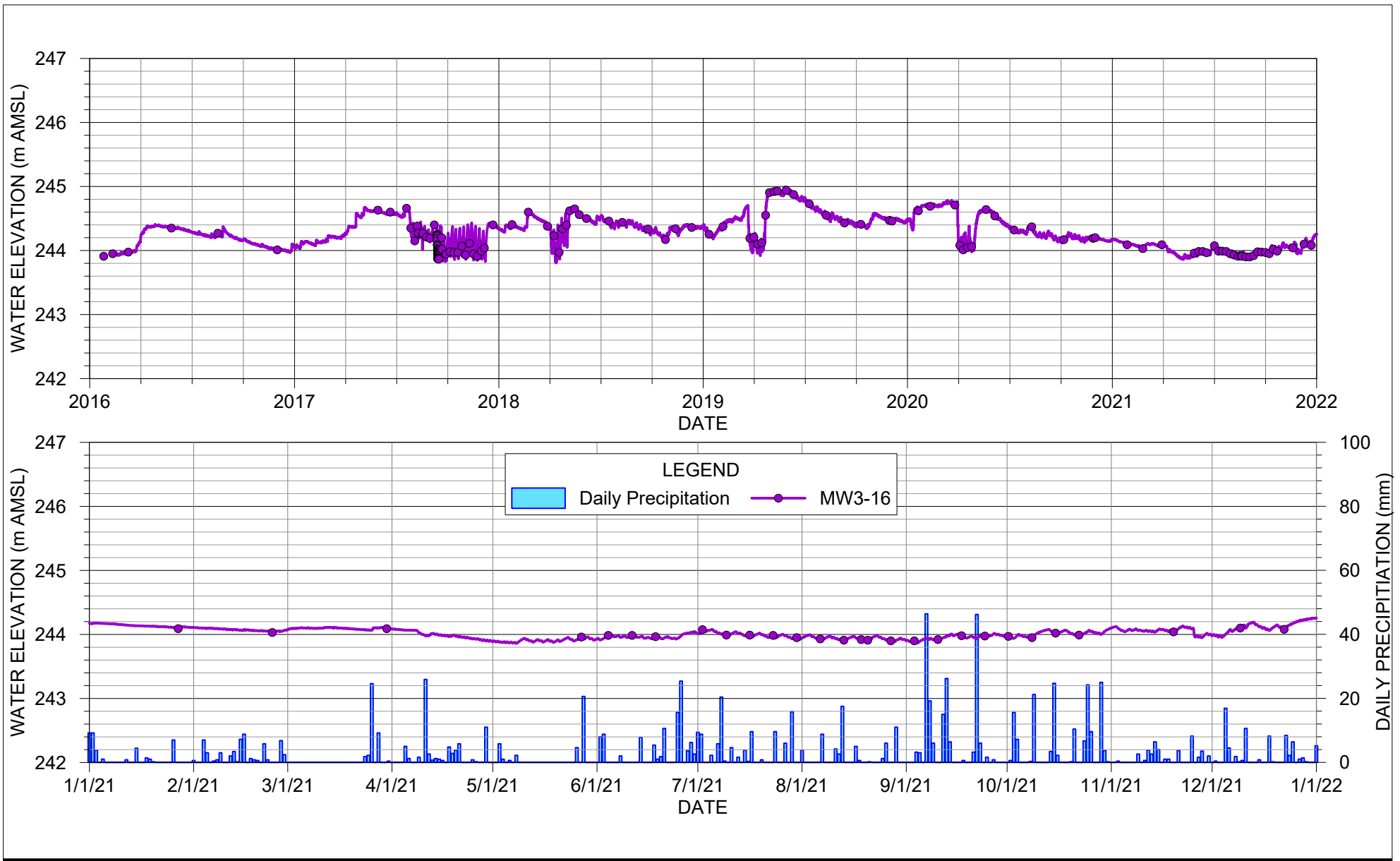


DUFFERIN AGGREGATES - PARIS PIT
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HYDROGRAPH - MW2-12

FIGURE D.8

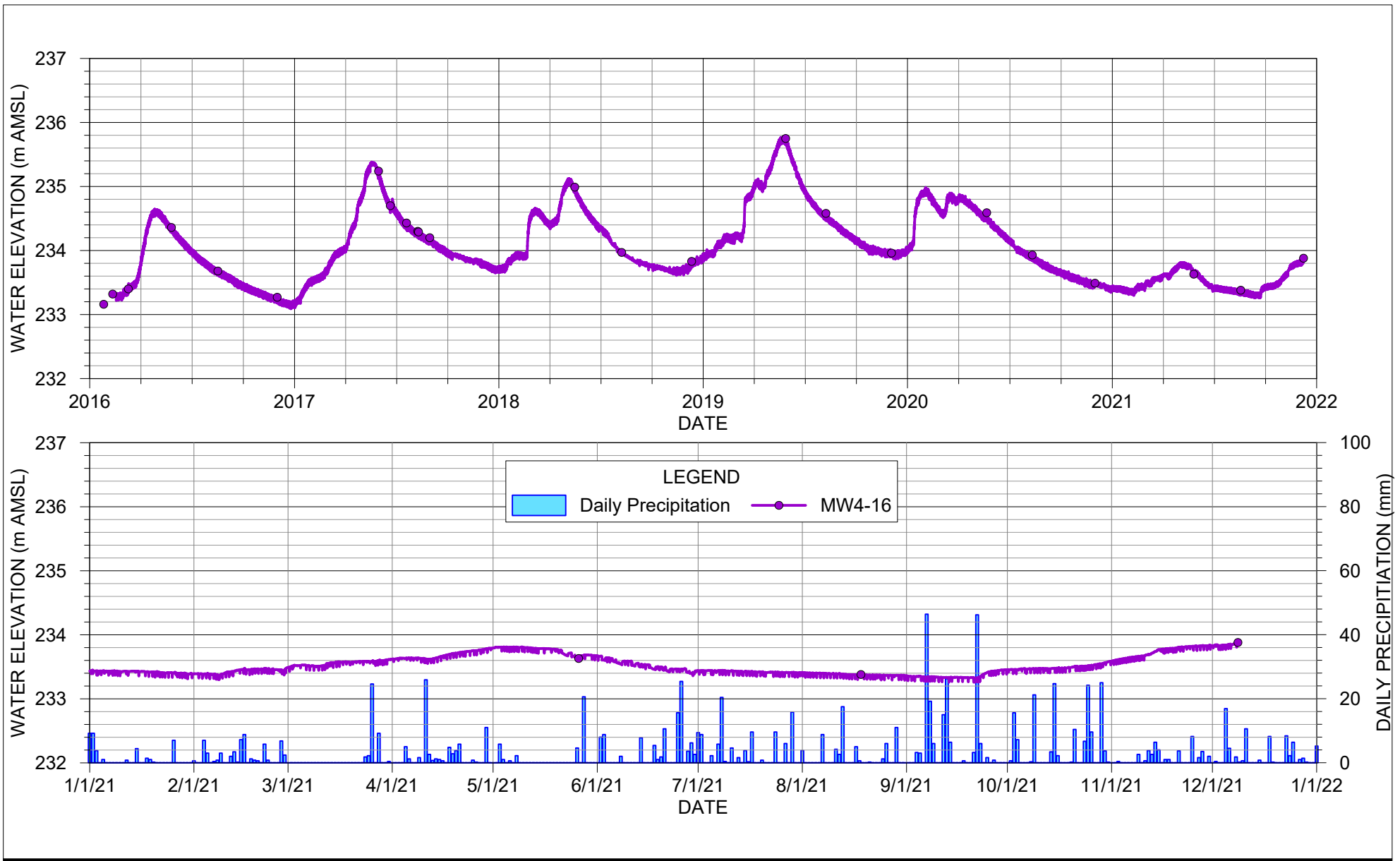


DUFFERIN AGGREGATES - PARIS PIT
 COUNTY OF BRANT, ONTARIO

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HYDROGRAPH - MW3-16

FIGURE D.9

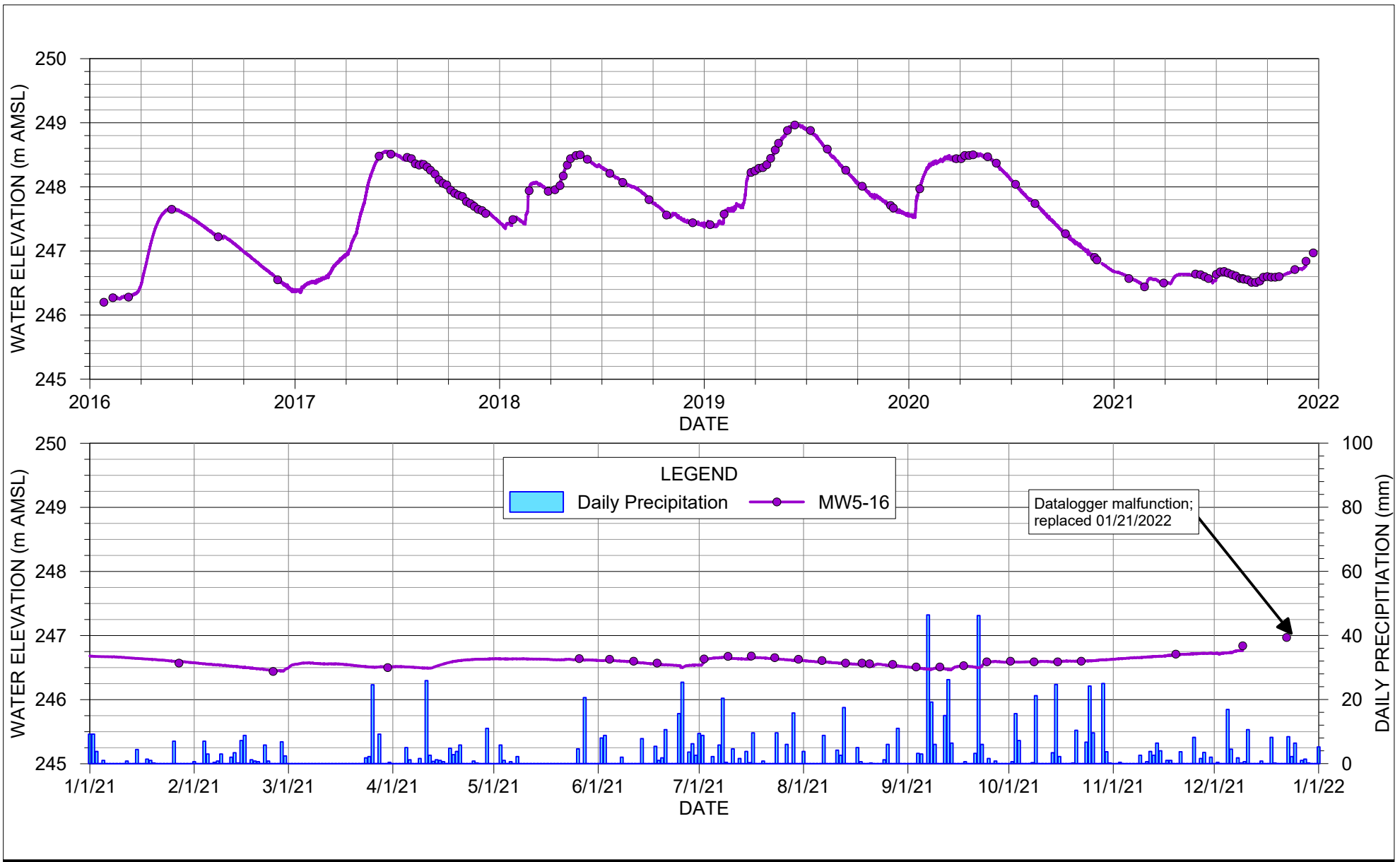


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Project No. 078410-20
Date February 08, 2022

HYDROGRAPH - MW4-16

FIGURE D.10

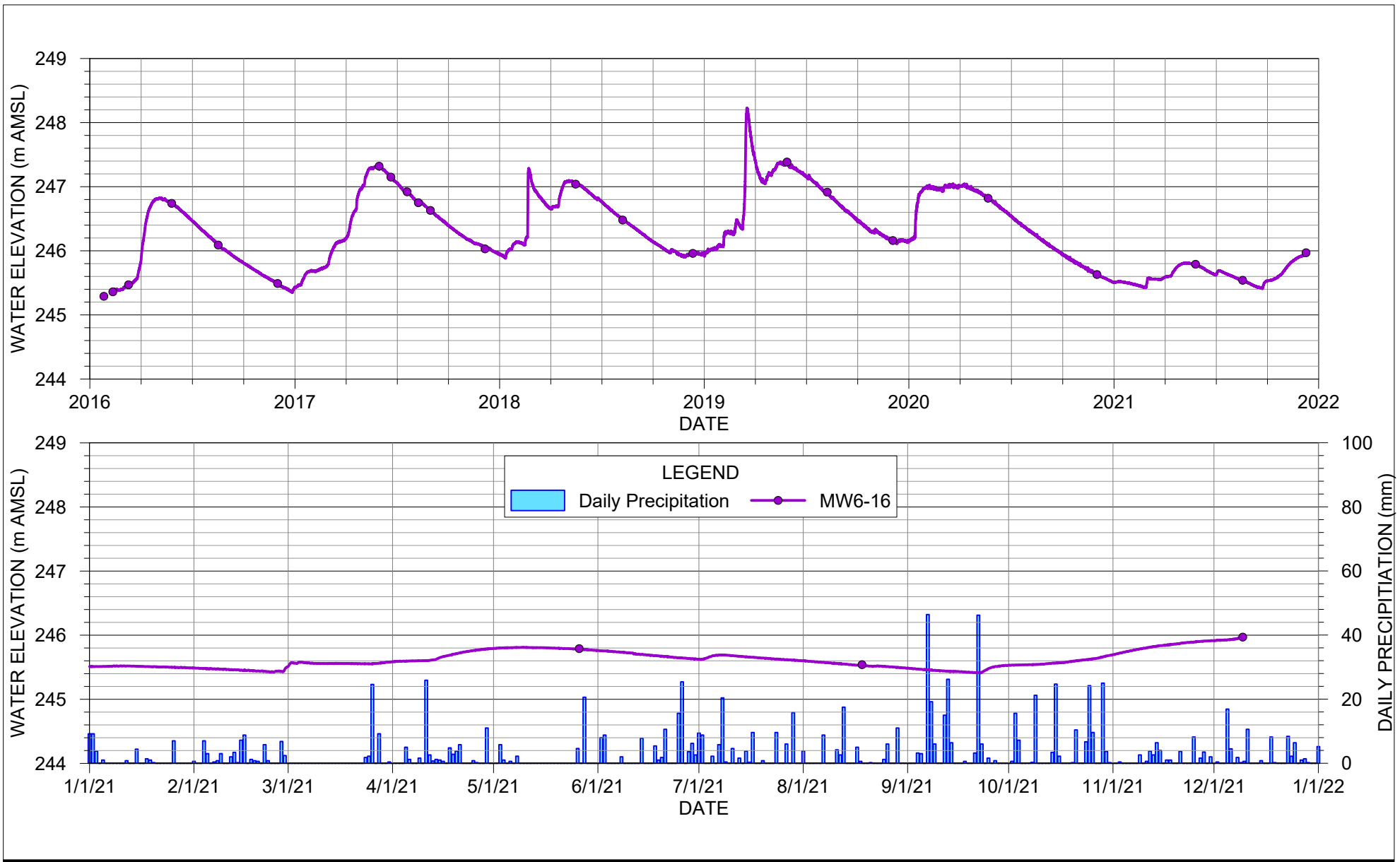


DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

Project No. 078410-20
Date February 08, 2022

HYDROGRAPH - MW5-16

FIGURE D.11

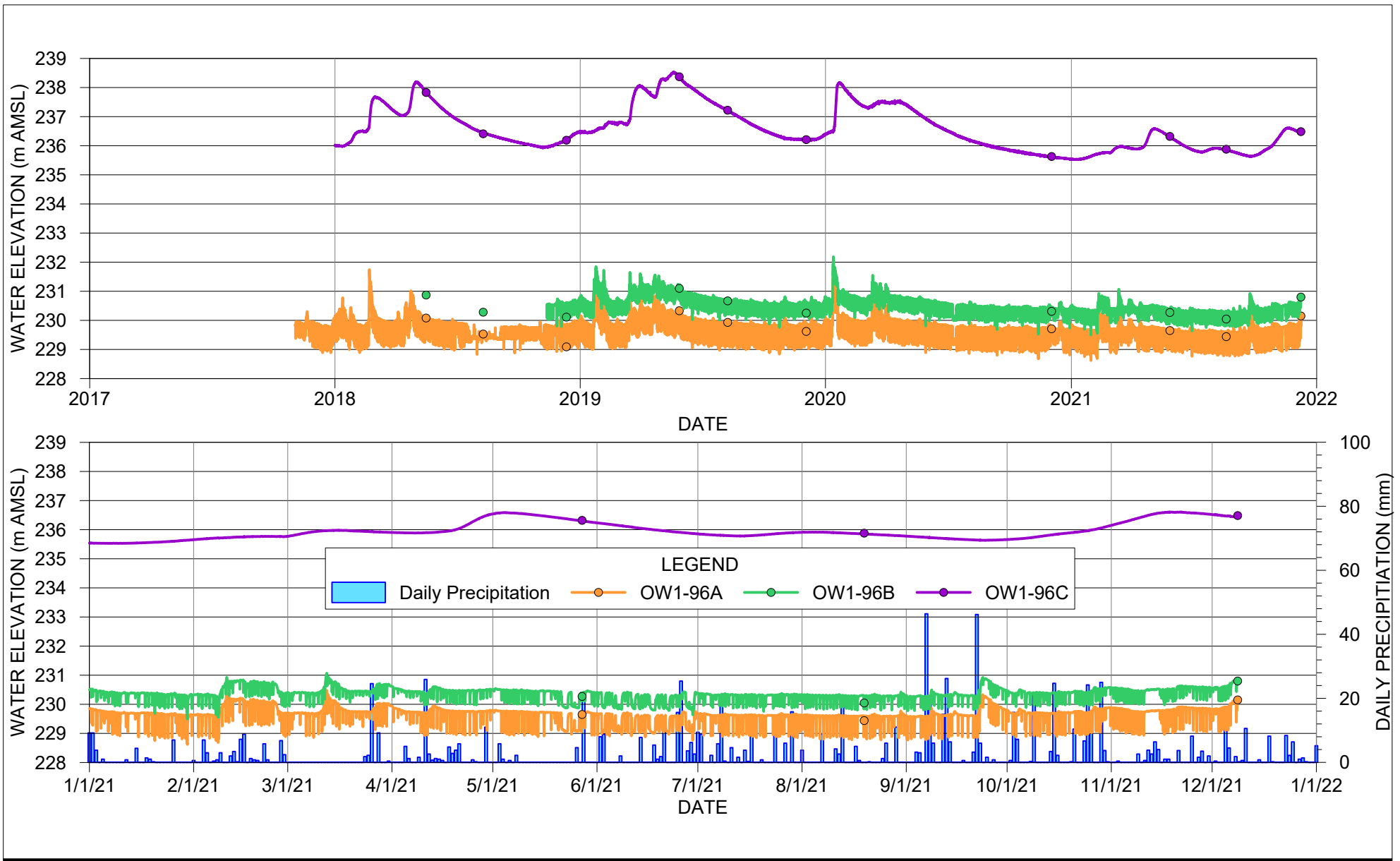


DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

Project No. 078410-20
Date February 08, 2022

HYDROGRAPH - MW6-16

FIGURE D.12

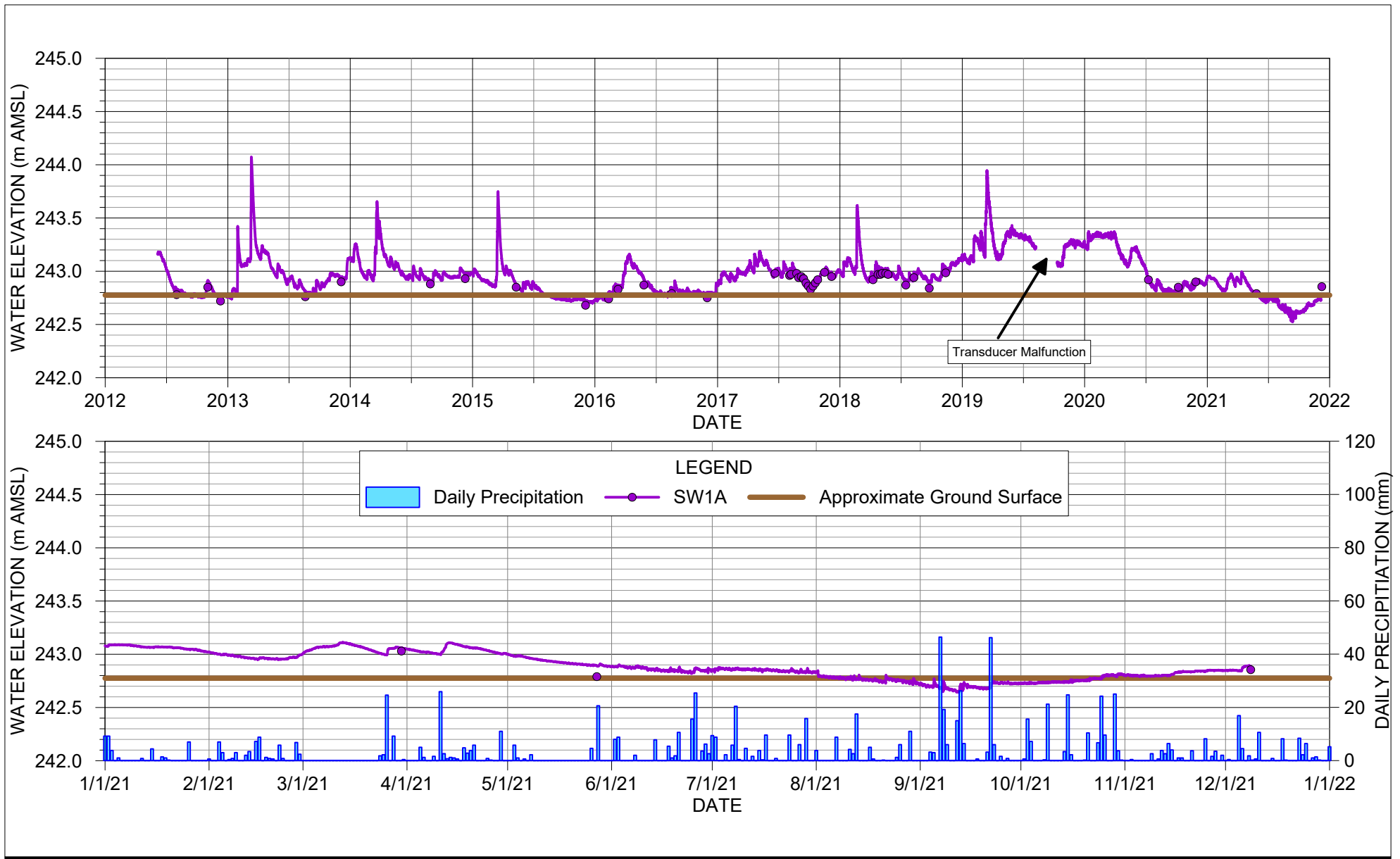


DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

Project No. 078410-20
Date February 08, 2022

HYDROGRAPH - OW1-96 NEST

FIGURE D.13

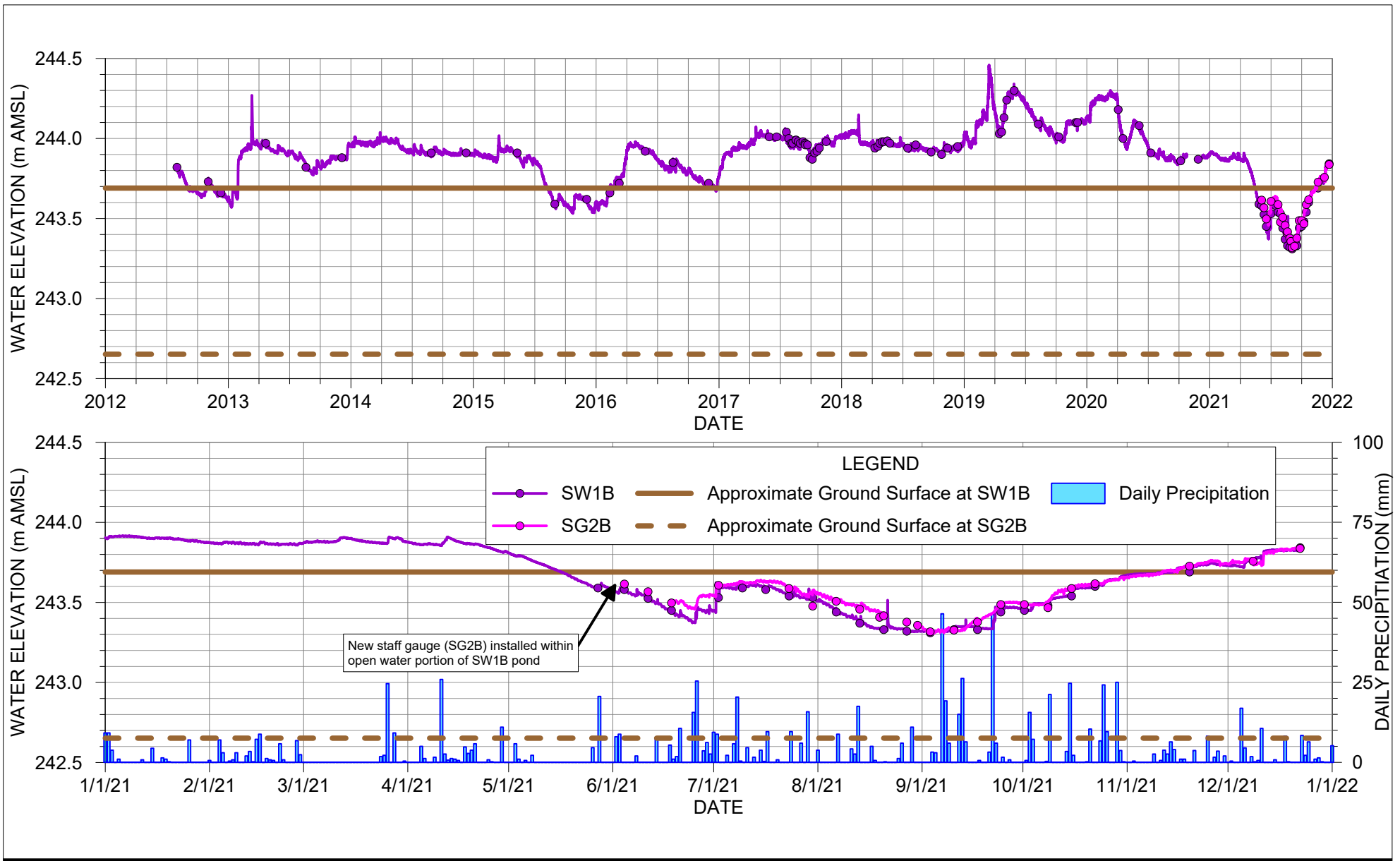


DUFFERIN AGGREGATES - PARIS PIT
 COUNTY OF BRANT, ONTARIO

Project No. 078410-20
 Date February 08, 2022

HYDROGRAPH - SW1A

FIGURE D.14



DUFFERIN AGGREGATES - PARIS PIT
COUNTY OF BRANT, ONTARIO

Project No. 078410-20
Date February 08, 2022

HYDROGRAPH - SW1B

FIGURE D.15

Appendix E

Trigger Mechanism and Contingency Plan



July 19, 2017

Reference No. 078410

Ms. Maria Topalovic
CRH Canada Group Inc.
2300 Steeles Ave W, 4th Floor
Concord, Ontario
L4K 5X6

Dear Ms. Topalovic:

**Re: Trigger Mechanism and Contingency Plan
Condition 4.7 – PTTW No. 5826-ALCNNN
Dufferin Aggregates Paris Pit, County of Brant, Ontario**

1. Introduction

This Trigger Mechanism and Contingency Plan (TMC Plan) has been prepared by GHD Limited (GHD) on behalf of Dufferin Aggregates, A division of CRH Canada Group Inc. (Dufferin). The TMC Plan has been prepared as required by the Ministry of the Environment and Climate Change (MOECC) pursuant to Condition 4.7 of Permit to Take Water 5826-ALCNNN (PTTW), issued to CRH Canada Group Inc. on April 27, 2017 for the Dufferin Aggregates Paris Pit.

The PTTW provides the approval necessary for Dufferin to take water from the source water pond which will be excavated below the water table in the area shown on Figure 1. The water taking is for the purpose of aggregate washing and dust control and will be used to fill and top-up the settling and recirculation cells of the settling pond.

The hydrologic and hydrogeologic assessment completed by GHD to support the issuance of the PTTW concluded that the proposed water taking is not anticipated to have any appreciable or unacceptable effect on the Paris North municipal water supply system, private water supply wells or surface water features. The assessment also included an evaluation of the potential drawdown due to operation of the source water pond.

The purpose of the TMC Plan is to have an assessment and evaluation procedure in place to review water levels during the time when Dufferin is taking water from the source water pond and an action plan to respond if key groundwater or surface water levels drop below predicted levels evaluated as part of the PTTW assessment. The TMC Plan is a precautionary addition to the monitoring and other requirements of the PTTW.

2. Groundwater TMC Plan

There is a long history of groundwater monitoring at the Paris Pit, prior to any water taking. The natural range of groundwater levels since 1988 is well established by measurements at monitoring wells BH88-1,



BH88-2, BH88-3, BH88-4, BH88-5, and BH88-6 as well as other County of Brant monitoring wells in the area (refer to Figure 1). This knowledge of historical groundwater levels and the predicted drawdown from the water taking assessment provide the basis to establish appropriate trigger levels for groundwater levels at the three key trigger monitoring well locations identified in the PTTW (Condition 4.2): BH88-5, MW1-12, and MW3-16 (or suitable alternate locations as described in Condition 4.2a).

The TMC Plan for the groundwater level monitoring is based on setting a Trigger Level as well as a precautionary Early-Warning Threshold Level for each of the three specified monitoring locations. The Early-Warning Threshold Level will alert Dufferin to a change in groundwater levels and to increase the frequency of collecting and reviewing monitoring data. The Trigger Level will require Dufferin to reduce and/or cease the taking of water.

2.1 Early-Warning Threshold Levels

The Early-Warning Threshold is defined as the historical seasonal (monthly) low groundwater level plus 10 percent (of the monthly range) based on analysis of historical monitoring data as defined in Table 1.

The historical seasonal low groundwater level will be used to prevent the taking of water at the maximum Table A water taking rate (14,000 litres per minute [L/min]) during dry climatic conditions. Specifically, Dufferin will not take water at a rate higher than the Condition 3.4a rate (1,400 L/min) when the groundwater level is below the historical low groundwater level.

Monitoring Location	Early Warning Threshold Level	Required Action When Water Level is Below Early Warning Threshold
BH88-5 MW1-12 MW3-16	Refer to Table 1 for monthly values specific to each monitoring location	<ol style="list-style-type: none"> 1. Increase frequency of manual water level measurements and data logger downloads to weekly for monitoring wells BH88-5, MW1-12, and MW3-16 as well as for surface water location SW1 as identified in Section 3 (below). 2. Review monitoring data weekly to ensure water levels have not dropped below Trigger Levels. 3. When water levels increase to be above the Early-Warning Threshold for a period of one month, normal monitoring frequency can resume.

2.2 Groundwater Trigger Levels

The Trigger Level is defined by subtracting the predicted drawdown in groundwater levels from the historical low groundwater levels as presented in Section 2.1 (above) and Table 1. The predicted drawdown values are the maximum predicted drawdown scenarios from the hydrologic and hydrogeologic impact assessment for the PTTW (CRA, March 2013).



Monitoring Location	Trigger Level	Required Action When Water Level is Below Trigger Level
BH88-5 MW1-12 MW1-16	Refer to Table 1 for monthly values specific to each monitoring location	<ol style="list-style-type: none"> 1. Continue weekly manual water level measurements and downloading of data loggers for BH88-5, MW1-12, and MW3-16 (per Section 2.1) as well as surface water monitoring location SW1 as identified in Section 3 (below). 2. Continue weekly review of monitoring data. 3. Within 1 business day of measuring/ downloading a water level that is below the Trigger Level (allowing time for data verification), reduce daily water taking for washing operations by 25 percent by reducing the rate and/or duration of pumping (i.e., reduce maximum daily water taking for washing to 756,000 litres). 4. Notify the MOECC⁽¹⁾ within 2 business days of measuring/downloading a water level that is below a Trigger Level and provide weekly notifications to MOECC⁽¹⁾ regarding the status of water levels and water taking conditions. Notifications may be by email, phone, or other method agreeable to MOECC⁽¹⁾. 5. If water level remains below Trigger Level after 7 calendar days of reduced water taking (item 3 above), reduce daily water taking for washing by 50 percent (i.e., reduce maximum daily water taking for washing to 504,000 litres). 6. If water level remains below Trigger Level after a total of 14 calendar days of reduced water taking (item 3 and 4, above), cease water taking for washing. 7. Water taking for dust control may continue at all times in accordance with PTTW, as warranted by Site conditions. 8. When the water levels in all the affected monitoring wells return to levels that are above the Trigger Levels for a period of 7 calendar days, water takings for washing can resume for a period of 7 calendar days at a rate of up to 50 percent of the daily limit. If the water levels remain above the Trigger Levels for those 7 calendar days, water takings for washing can resume for a period of 7 calendar days at a rate of up to 75 percent of the daily limit. If water levels remain above the Trigger

⁽¹⁾ MOECC refers to the Ontario Water Resources Act (OWRA) Section 34.1 Signing Director.



Monitoring Location	Trigger Level	Required Action When Water Level is Below Trigger Level
		<p>Levels for those 7 calendar days, the application of normal daily water taking limits will resume.</p> <p>9. When the water level increases to be above the historical low groundwater level, the water taking may revert to the amount and rate as described under the Permit to Take Water.</p> <p>10. When the water level increases to be above the historical low groundwater level for a period of one month, normal monitoring frequency can resume.</p>

3. Surface Water TMC Plan

The Surface Water TMC Plan is based on the surface water level in the existing on-Site pond. There is approximately 4 years of monitoring data available for the pond based on the SW1 monitoring location as shown on Figure 1.

The TMC Plan for the on-Site pond is based on setting a Trigger Level as well as a precautionary Early-Warning Threshold Level for the SW1 location (as measured at SW1, SW1A, and SW1B locations over time) similar to the groundwater TMC Plan. The Early-Warning Threshold Level will alert Dufferin to a change in surface water levels and to increase the frequency of collecting and reviewing monitoring data. The Trigger Level will require Dufferin to reduce and/or cease the taking of water.

3.1 Early-Warning Threshold Level

The Early-Warning Threshold is based on the historical seasonal (monthly) low surface water level plus 10 percent (of the monthly range) based on analysis of the historical monitoring data as defined in Table 2. It is noted that the historical monitoring period is limited to approximately 4 years and is therefore expected to overestimate the elevation of the historical low levels experienced by the pond. Therefore the historical low water level and Early-Warning Threshold Levels should be recognized as conservatively high levels.

The historical low water level will also be used to prevent the taking of water at the maximum Table A water taking rate (14,000 L/min during dry climatic conditions). Specifically, Dufferin will not take water at a rate higher than the Condition 3.4a rate (1,400 L/min) when the SW1 surface water level is below the historical low water level.



Monitoring Location	Early Warning Threshold Level	Required Action When Water Level is Below Early Warning Threshold
SW1	Refer to Table 2 for monthly values	<ol style="list-style-type: none"> 1. Increase frequency of manual water level measurements and data logger downloads to weekly for SW1 and associated multi-level piezometer as well as for the three groundwater monitoring wells identified in Section 2 (above). 2. Review monitoring data weekly to ensure water level has not dropped below Trigger Level. 3. When water level increase to be above the Early-Warning Threshold for a period of one month, normal monitoring frequency can resume.

3.2 Surface Water Trigger Level

The Trigger Level is defined by subtracting the predicted drawdown in the on-Site pond water level from the historical low surface water level as presented in Section 3.1 (above) and Table 2. The predicted drawdown values are the maximum predicted drawdown scenarios from the hydrologic and hydrogeologic impact assessment for the PTTW (CRA, March 2013).

Monitoring Location	Trigger Level	Required Action When Water Level is Below Trigger Level
SW1	Refer to Table 2 for monthly values	<ol style="list-style-type: none"> 1. Continue weekly manual water level measurements and downloading of data loggers for SW1 and associated multi-level piezometer (per Section 3.1) and for the three groundwater monitoring wells identified in Section 2 (above). 2. Continue weekly review of monitoring data. 3. If the groundwater level in either of the groundwater wells MW1-12 or MW3-16 (or their alternate locations to the south or east of the Source Pond) are below their respective historical low water level, follow items 5 to 12 (below). 4. If the groundwater level in groundwater wells MW1-12 and MW3-16 remain above their respective historical low water levels, follow item 6 and item 12 (below) in addition to submitting to MOECC⁽²⁾ an assessment of the relationship between the water taking, surface water level, groundwater levels, climatic conditions and other potential influences and a proposed plan for any actions that are warranted based on the assessment.

⁽²⁾ MOECC refers to the Ontario Water Resources Act (OWRA) Section 34.1 Signing Director.



Monitoring Location	Trigger Level	Required Action When Water Level is Below Trigger Level
		<ol style="list-style-type: none"> 5. Within 1 business day of measuring/ downloading a water level that is below the Trigger Level (allowing time for data verification), reduce daily water taking for washing operations by 25 percent by reducing the rate and/or duration of pumping (i.e., reduce maximum daily water taking for washing to 756,000 litres). 6. Notify the MOECC⁽³⁾ within 2 business days of measuring/downloading a water level that is below the Trigger Level and provide weekly notifications to MOECC⁽³⁾ regarding the status of water levels and water taking conditions. Notifications may be by email, phone, or method agreeable to MOECC⁽³⁾. 7. If water level remains below Trigger Level after 7 calendar days of reduced water taking (item 3 above), reduce daily water taking for washing by 50 percent (i.e., reduce maximum daily water taking for washing to 504,000 litres). 8. If water level remains below Trigger Level after a total of 14 calendar days of reduced water taking (item 3 and 4, above), cease water taking for washing. 9. Water taking for dust control may continue at all times in accordance with PTTW, as warranted by Site conditions. 10. When the SW1 water level returns to a level that is above the Trigger Level for a period of 7 calendar days, water takings for washing can resume for a period of 7 calendar days at a rate of up to 50 percent of the daily limit. If the water level remains above the Trigger Level for those 7 calendar days, water takings for washing can resume for a period of 7 calendar days at a rate of up to 75 percent of the daily limit. If water levels remain above the Trigger Levels for those 7 calendar days, the application of normal daily water taking limits will resume. 11. When the SW1 water level increases to be above the historical low water level, the water taking may revert to the amount and rate as described in the Permit to Take Water.

⁽³⁾ MOECC refers to the Ontario Water Resources Act (OWRA) Section 34.1 Signing Director.



Monitoring Location	Trigger Level	Required Action When Water Level is Below Trigger Level
		12. When the SW1 water level increases to be above the historical low water level for a period of one month, normal monitoring frequency can resume.

4. Reporting

The Combined Annual Monitoring Report that is a requirement of the PTTW will include documentation of the monitoring results and any notifications, response/contingency actions associated with this TMC Plan.

The variable nature of groundwater flow conditions under the influence of multiple water takings and climate effects is recognized. For example, despite, the long history of water level monitoring data, there might be future climatic conditions which have not been encountered within the Site monitoring period of 1988 to present (2016). If necessary this TMC Plan may be modified in the future subject to consultation with and approval by MOECC⁽⁴⁾.

Should you have any questions on the above, please do not hesitate to contact us.

Sincerely,

GHD

Michael R. Tomka, P. Eng.



Gary I. Lagos, M.Sc., P.Geo.

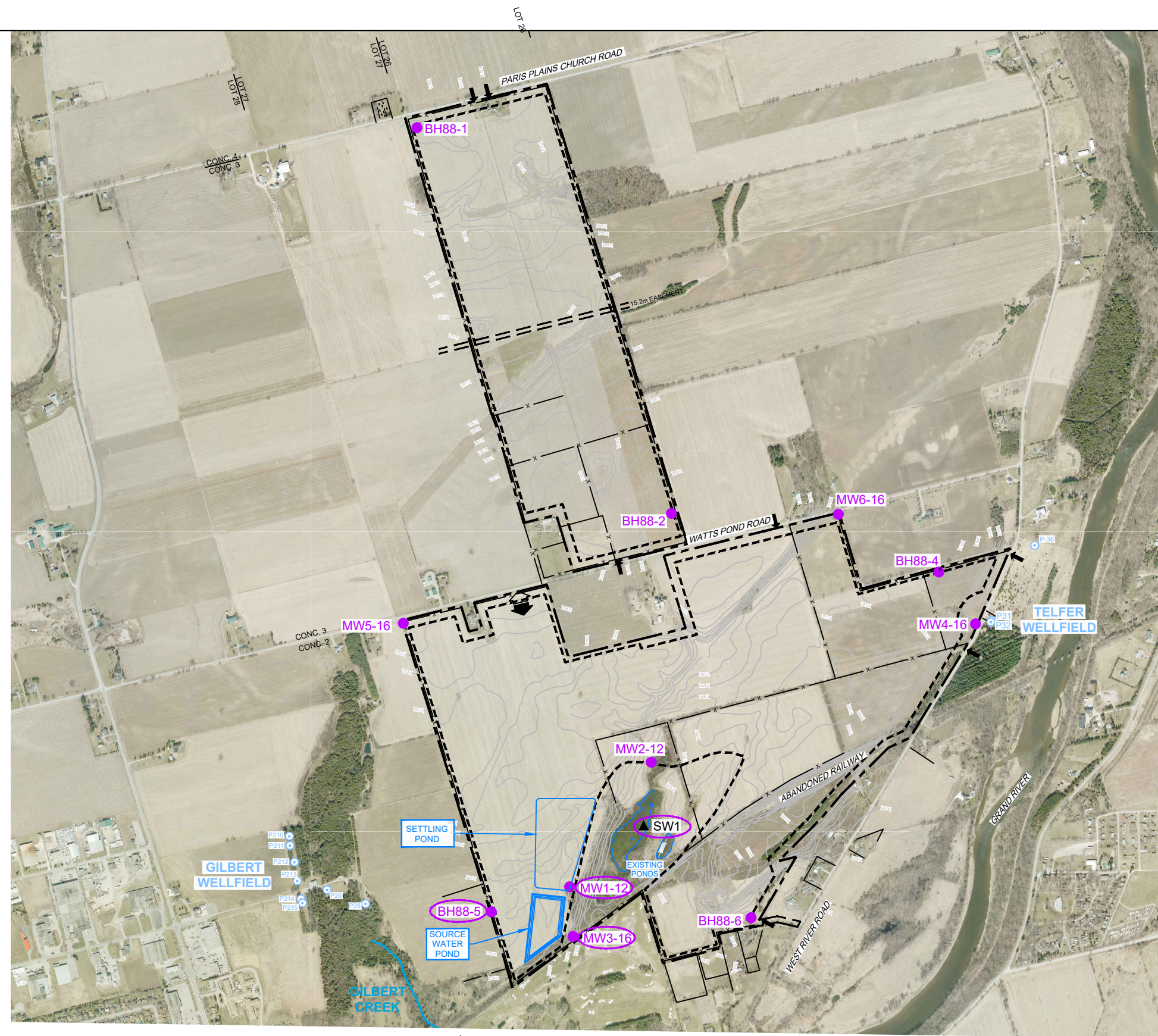
J. Richard Murphy, M.A.Sc., P. Eng.

JRM/kf/4

Encl.

cc: Kevin Mitchell, CRH
 Martin Bradley, CRH
 Richard Erdmann, CRH

⁽⁴⁾ MOECC refers to the Ontario Water Resources Act (OWRA) Section 34.1 Signing Director.



- LEGEND**
- 253.0 — CONTOUR ELEVATION
 - LICENSED BOUNDARY
 - - - - - LIMIT OF EXTRACTION
 - LICENSED BOUNDARY AND LIMIT OF EXTRACTION BOUNDARY REFLECT JUNE 2015 SITE PLANS.
 - - - - - EASEMENT
 - ◻ PROPOSED ENTRANCE/EXIT
 - EXISTING FIELD ENTRANCE
 - P32 PUBLIC WATER SUPPLY WELL (COUNTY OF BRANT)
 - BH88-3/MW3-16 MONITORING WELL
 - ▲ SW1 STAFF GAUGE
 - MONITORING WELL/STAFF GAUGE INCLUDED IN THE TMC PLAN

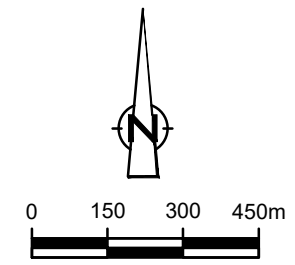


figure 1
 TMC PLAN MONITORING LOCATIONS
 DUFFERIN PARIS PIT
 County of Brant, Ontario

Table 1

**Groundwater Threshold and Trigger Levels
Dufferin Paris Pit
County of Brant, Ontario**

Monitoring Well Location	Month ⁽¹⁾	Historical Seasonal Low Groundwater Level⁽²⁾ (m AMSL)	Early-Warning Threshold Levels ⁽²⁾ (m AMSL)	Groundwater Trigger Level ⁽³⁾ (m AMSL)
BH88-5-I predicted drawdown: 0.6 m	January	not applicable	not applicable	not applicable
	February	243.83	243.94	243.23
	March	243.93	244.04	243.33
	April	244.04	244.14	243.44
	May	244.14	244.22	243.54
	June	244.07	244.16	243.47
	July	243.91	244.02	243.31
	August	243.81	243.92	243.21
	September	243.76	243.87	243.16
	October	243.71	243.82	243.11
	November	243.67	243.78	243.07
	December	243.65	243.76	243.05
MW1-12 predicted drawdown: 1.0 m	January	not applicable	not applicable	not applicable
	February	243.80	243.88	242.80
	March	243.88	243.96	242.88
	April	243.96	244.04	242.96
	May	244.04	244.10	243.04
	June	243.98	244.06	242.98
	July	243.86	243.95	242.86
	August	243.79	243.87	242.79
	September	243.75	243.84	242.75
	October	243.72	243.80	242.72
	November	243.68	243.76	242.68
	December	243.67	243.75	242.67
MW3-16 predicted drawdown: 0.75 m	January	not applicable	not applicable	not applicable
	February	243.75	243.83	243.00
	March	243.83	243.91	243.08
	April	243.91	243.98	243.16
	May	243.98	244.04	243.23
	June	243.93	244.00	243.18
	July	243.81	243.89	243.06
	August	243.74	243.82	242.99
	September	243.71	243.79	242.96
	October	243.67	243.75	242.92
	November	243.64	243.72	242.89
	December	243.63	243.70	242.88

Notes:

- (1) Threshold and Trigger Levels apply during period of required PTTW monitoring or from February 15 to December 15 each year.
- (2) Early-Warning Threshold Level is equal to the historical minimum monthly water level plus ten percent of the range observed within a given month based on analysis of monitoring data (1988 to August 2016). This analysis includes linear interpolation between physical measurements and statistical correlation analysis to calculate surrogate water levels for MW1-12 and MW3-16 to represent historic ground water level conditions at these monitoring well locations prior to actual well installation and measurement. The MW3-16 location presently has a limited data history and will be reviewed (and revised if necessary and approved by The Ontario Water Resources Act (OWRA) Section 34.1 Signing Director as more data is collected. The level was rounded to two decimal places after the calculation was complete.
- (3) Trigger Levels are based on using the Historical Seasonal Low Groundwater Level minus the maximum predicted drawdown at the monitoring well location.

Table 2

**Surface Water Threshold and Trigger Levels
 Dufferin Paris Pit
 County of Brant, Ontario**

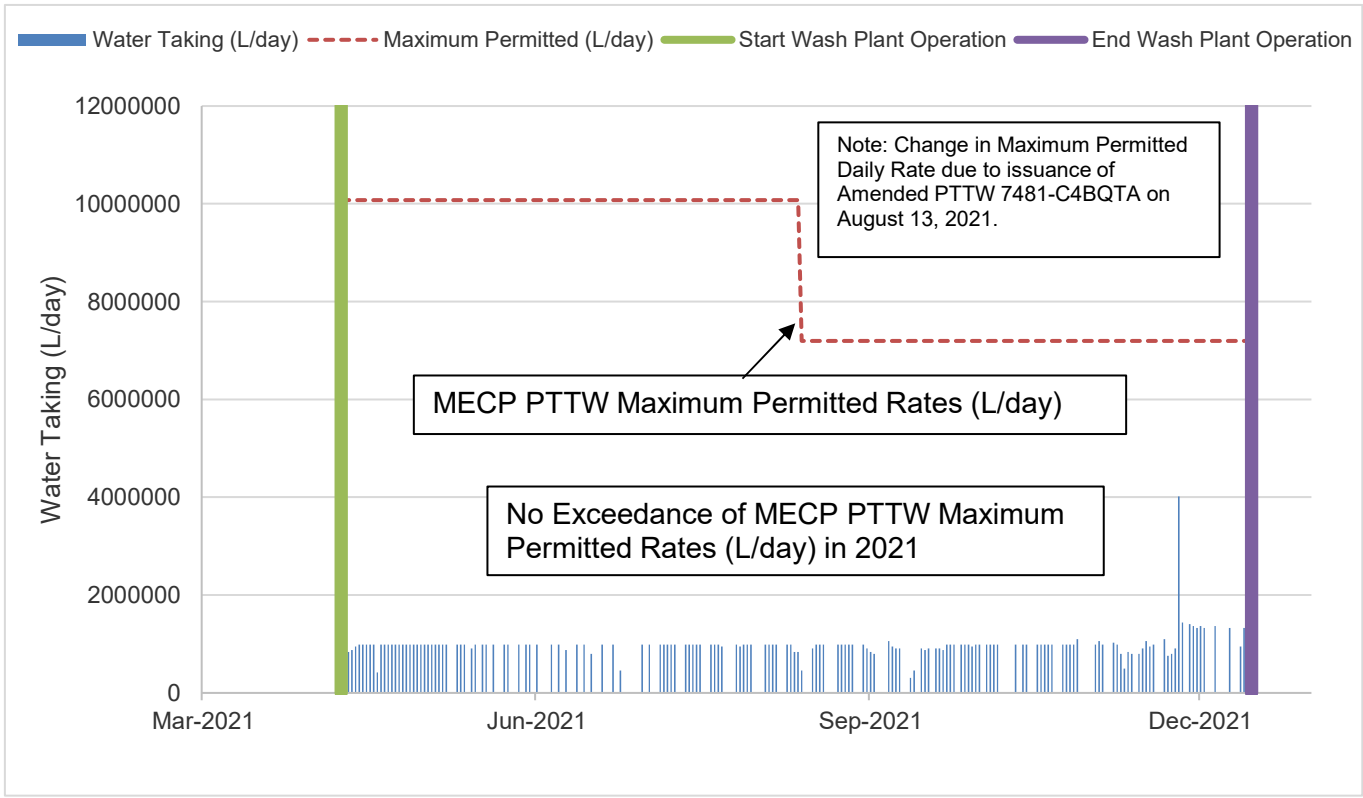
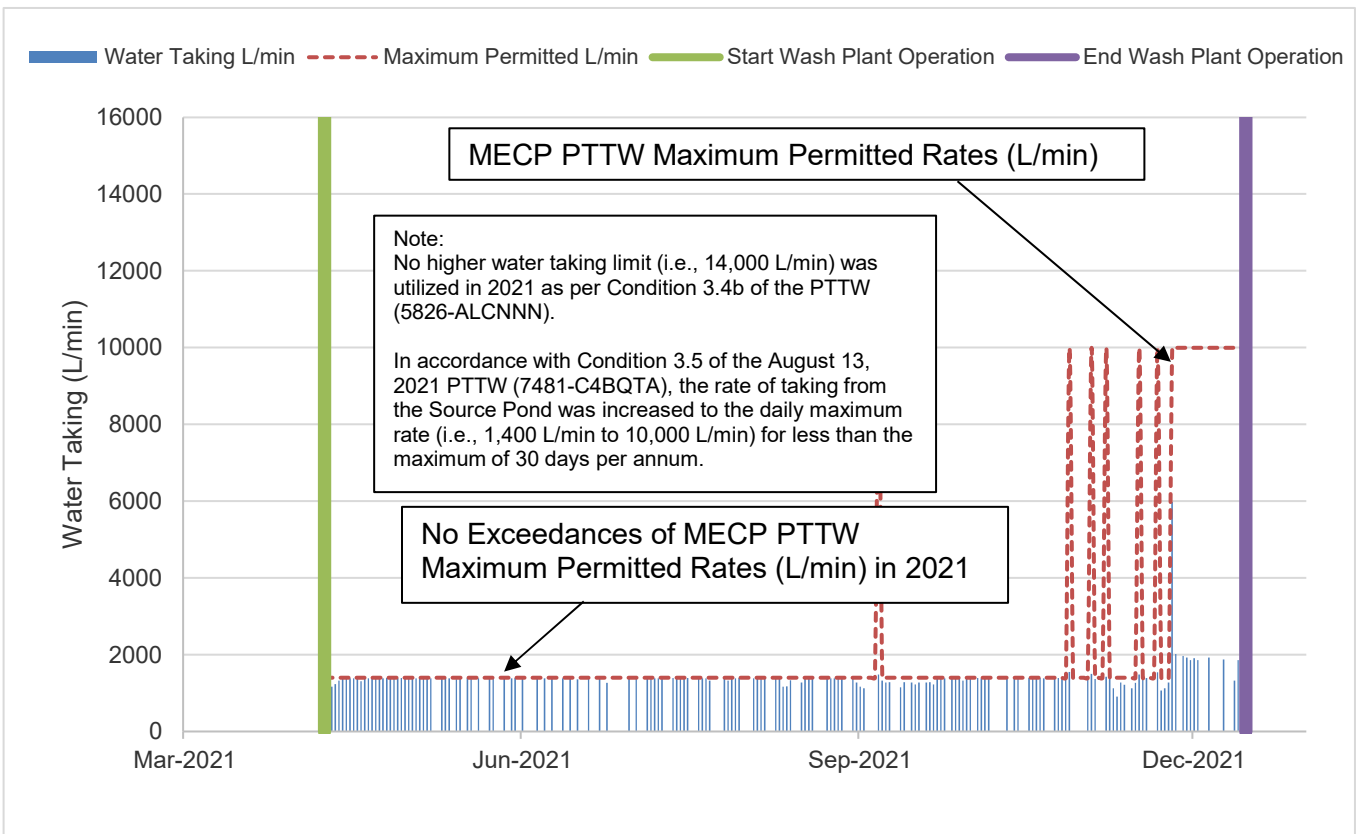
Monitoring Location	Month ⁽²⁾	Historical Seasonal Low Surface Water Level ⁽³⁾ (m AMSL)	Early-Warning Threshold Level ⁽⁴⁾ (m AMSL)	Surface Water Trigger Level ⁽⁵⁾ (m AMSL)
Existing Pond ⁽¹⁾	January	not applicable	not applicable	not applicable
	February	243.57	243.60	243.27
	March	243.70	243.76	243.40
	April	243.91	243.91	243.61
	May	243.82	243.84	243.52
	June	243.84	243.84	243.54
	July	243.72	243.75	243.42
	August	243.58	243.62	243.28
	September	243.56	243.60	243.26
	October	243.53	243.57	243.23
	November	243.61	243.64	243.31
	December	243.51	243.55	243.21

Notes:

- (1) Existing pond water elevation measured at SW1/SW1B or suitable alternate location in on-Site pond
- (2) Threshold and Trigger Levels apply during period of required PTTW monitoring or from February 15 to December 15 each year
- (3) Historical Seasonal Low Surface Water level is equal to the historical minimum measured monthly water level (August 2012 to August 2016)
- (4) Early-Warning Threshold Level is equal to the historical minimum measured monthly water level plus ten percent of the range observed within a given month. The level was rounded to two decimal places after the calculation was complete. (August 2012 to August 2016)
- (5) Trigger Level is equal to the Historical Seasonal Low Surface Water Level minus the maximum predicted drawdown in the on-Site pond surface water level (i.e., 0.3 metres)

Appendix F

Water Taking Data



DUFFERIN AGGREGATES PARIS PIT
COUNTY OF BRANT, ONTARIO

Project No. 78410
Date March 2022

SOURCE POND WATER TAKING FOR 2021

FIGURE F.1

Table F.1

Water Taking for 2021
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Friday January 01 2021	0.0	0	0	-
Saturday January 02 2021	0.0	0	0	-
Sunday January 03 2021	0.0	0	0	-
Monday January 04 2021	0.0	0	0	-
Tuesday January 05 2021	0.0	0	0	-
Wednesday January 06 2021	0.0	0	0	-
Thursday January 07 2021	0.0	0	0	-
Friday January 08 2021	0.0	0	0	-
Saturday January 09 2021	0.0	0	0	-
Sunday January 10 2021	0.0	0	0	-
Monday January 11 2021	0.0	0	0	-
Tuesday January 12 2021	0.0	0	0	-
Wednesday January 13 2021	0.0	0	0	-
Thursday January 14 2021	0.0	0	0	-
Friday January 15 2021	0.0	0	0	-
Saturday January 16 2021	0.0	0	0	-
Sunday January 17 2021	0.0	0	0	-
Monday January 18 2021	0.0	0	0	-
Tuesday January 19 2021	0.0	0	0	-
Wednesday January 20 2021	0.0	0	0	-
Thursday January 21 2021	0.0	0	0	-
Friday January 22 2021	0.0	0	0	-
Saturday January 23 2021	0.0	0	0	-
Sunday January 24 2021	0.0	0	0	-
Monday January 25 2021	0.0	0	0	-
Tuesday January 26 2021	0.0	0	0	-
Wednesday January 27 2021	0.0	0	0	-
Thursday January 28 2021	0.0	0	0	-
Friday January 29 2021	0.0	0	0	-
Saturday January 30 2021	0.0	0	0	-
Sunday January 31 2021	0.0	0	0	-
Monday February 01 2021	0.0	0	0	-
Tuesday February 02 2021	0.0	0	0	-
Wednesday February 03 2021	0.0	0	0	-
Thursday February 04 2021	0.0	0	0	-
Friday February 05 2021	0.0	0	0	-
Saturday February 06 2021	0.0	0	0	-
Sunday February 07 2021	0.0	0	0	-
Monday February 08 2021	0.0	0	0	-
Tuesday February 09 2021	0.0	0	0	-
Wednesday February 10 2021	0.0	0	0	-
Thursday February 11 2021	0.0	0	0	-
Friday February 12 2021	0.0	0	0	-
Saturday February 13 2021	0.0	0	0	-
Sunday February 14 2021	0.0	0	0	-
Monday February 15 2021	0.0	0	0	-
Tuesday February 16 2021	0.0	0	0	-
Wednesday February 17 2021	0.0	0	0	-
Thursday February 18 2021	0.0	0	0	-
Friday February 19 2021	0.0	0	0	-
Saturday February 20 2021	0.0	0	0	-
Sunday February 21 2021	0.0	0	0	-
Monday February 22 2021	0.0	0	0	-

Table F.1

Water Taking for 2021
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Tuesday February 23 2021	0.0	0	0	-
Wednesday February 24 2021	0.0	0	0	-
Thursday February 25 2021	0.0	0	0	-
Friday February 26 2021	0.0	0	0	-
Saturday February 27 2021	0.0	0	0	-
Sunday February 28 2021	0.0	0	0	-
Monday March 01 2021	0.0	0	0	-
Tuesday March 02 2021	0.0	0	0	-
Wednesday March 03 2021	0.0	0	0	-
Thursday March 04 2021	0.0	0	0	-
Friday March 05 2021	0.0	0	0	-
Saturday March 06 2021	0.0	0	0	-
Sunday March 07 2021	0.0	0	0	-
Monday March 08 2021	0.0	0	0	-
Tuesday March 09 2021	0.0	0	0	-
Wednesday March 10 2021	0.0	0	0	-
Thursday March 11 2021	0.0	0	0	-
Friday March 12 2021	0.0	0	0	-
Saturday March 13 2021	0.0	0	0	-
Sunday March 14 2021	0.0	0	0	-
Monday March 15 2021	0.0	0	0	-
Tuesday March 16 2021	0.0	0	0	-
Wednesday March 17 2021	0.0	0	0	-
Thursday March 18 2021	0.0	0	0	-
Friday March 19 2021	0.0	0	0	-
Saturday March 20 2021	0.0	0	0	-
Sunday March 21 2021	0.0	0	0	-
Monday March 22 2021	0.0	0	0	-
Tuesday March 23 2021	0.0	0	0	-
Wednesday March 24 2021	0.0	0	0	-
Thursday March 25 2021	0.0	0	0	-
Friday March 26 2021	0.0	0	0	-
Saturday March 27 2021	0.0	0	0	-
Sunday March 28 2021	0.0	0	0	-
Monday March 29 2021	0.0	0	0	-
Tuesday March 30 2021	0.0	0	0	-
Wednesday March 31 2021	0.0	0	0	-
Thursday April 01 2021	0.0	0	0	-
Friday April 02 2021	0.0	0	0	-
Saturday April 03 2021	0.0	0	0	-
Sunday April 04 2021	0.0	0	0	-
Monday April 05 2021	0.0	0	0	-
Tuesday April 06 2021	0.0	0	0	-
Wednesday April 07 2021	0.0	0	0	-
Thursday April 08 2021	11.9	1,325	946,350	Started small pump
Friday April 09 2021	11.9	1,219	870,642	-
Saturday April 10 2021	11.9	1,166	832,788	-
Sunday April 11 2021	11.8	1,230	870,642	-
Monday April 12 2021	11.9	1,325	946,350	-
Tuesday April 13 2021	11.9	1,378	984,204	-
Wednesday April 14 2021	11.8	1,390	984,204	-
Thursday April 15 2021	11.9	1,378	984,204	-
Friday April 16 2021	11.9	1,378	984,204	-

Table F.1

Water Taking for 2021
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Saturday April 17 2021	11.8	1,390	984,204	-
Sunday April 18 2021	5.3	1,309	416,394	Power outage caused pump to turn off prematurely
Monday April 19 2021	11.8	1,390	984,204	-
Tuesday April 20 2021	11.9	1,378	984,204	-
Wednesday April 21 2021	11.9	1,378	984,204	-
Thursday April 22 2021	11.9	1,378	984,204	-
Friday April 23 2021	11.8	1,390	984,204	-
Saturday April 24 2021	11.9	1,378	984,204	-
Sunday April 25 2021	11.8	1,390	984,204	-
Monday April 26 2021	11.9	1,378	984,204	-
Tuesday April 27 2021	11.9	1,378	984,204	-
Wednesday April 28 2021	11.9	1,378	984,204	-
Thursday April 29 2021	11.8	1,390	984,204	-
Friday April 30 2021	11.9	1,378	984,204	-
Saturday May 01 2021	11.9	1,378	984,204	-
Sunday May 02 2021	11.8	1,390	984,204	-
Monday May 03 2021	11.9	1,378	984,204	-
Tuesday May 04 2021	11.9	1,378	984,204	-
Wednesday May 05 2021	11.9	1,378	984,204	-
Thursday May 06 2021	11.8	1,390	984,204	-
Friday May 07 2021	11.9	1,378	984,204	-
Saturday May 08 2021	0.0	0	0	-
Sunday May 09 2021	0.0	0	0	-
Monday May 10 2021	11.9	1,378	984,204	-
Tuesday May 11 2021	11.8	1,390	984,204	-
Wednesday May 12 2021	11.9	1,378	984,204	-
Thursday May 13 2021	0.0	0	0	-
Friday May 14 2021	11.2	1,352	908,496	-
Saturday May 15 2021	11.9	1,378	984,204	-
Sunday May 16 2021	0.0	0	0	-
Monday May 17 2021	11.8	1,390	984,204	-
Tuesday May 18 2021	11.9	1,378	984,204	-
Wednesday May 19 2021	0.0	0	0	-
Thursday May 20 2021	11.9	1,378	984,204	-
Friday May 21 2021	0.0	0	0	-
Saturday May 22 2021	0.0	0	0	-
Sunday May 23 2021	11.9	1,378	984,204	-
Monday May 24 2021	11.8	1,390	984,204	-
Tuesday May 25 2021	0.0	0	0	-
Wednesday May 26 2021	0.0	0	0	-
Thursday May 27 2021	11.9	1,378	984,204	-
Friday May 28 2021	0.0	0	0	-
Saturday May 29 2021	11.9	1,378	984,204	-
Sunday May 30 2021	11.8	1,390	984,204	-
Monday May 31 2021	0.0	0	0	-
Tuesday June 01 2021	11.9	1,378	984,204	-
Wednesday June 02 2021	0.0	0	0	-
Thursday June 03 2021	0.0	0	0	-
Friday June 04 2021	0.0	0	0	-
Saturday June 05 2021	11.9	1,378	984,204	-
Sunday June 06 2021	0.0	0	0	-
Monday June 07 2021	11.9	1,378	984,204	-
Tuesday June 08 2021	0.0	0	0	-

Table F.1

Water Taking for 2021
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Wednesday June 09 2021	10.4	1,395	870,642	Hydro outage caused pump to turn off prematurely
Thursday June 10 2021	0.0	0	0	-
Friday June 11 2021	0.0	0	0	-
Saturday June 12 2021	11.9	1,378	984,204	-
Sunday June 13 2021	0.0	0	0	-
Monday June 14 2021	11.9	1,378	984,204	-
Tuesday June 15 2021	0.0	0	0	-
Wednesday June 16 2021	9.8	1,352	794,934	-
Thursday June 17 2021	0.0	0	0	-
Friday June 18 2021	0.0	0	0	-
Saturday June 19 2021	11.9	1,378	984,204	-
Sunday June 20 2021	0.0	0	0	-
Monday June 21 2021	0.0	0	0	-
Tuesday June 22 2021	11.8	1,390	984,204	-
Wednesday June 23 2021	0.0	0	0	-
Thursday June 24 2021	6.0	1,262	454,248	Only ran 6 hrs in an effort to stay above historic lows.
Friday June 25 2021	0.0	0	0	-
Saturday June 26 2021	0.0	0	0	-
Sunday June 27 2021	0.0	0	0	-
Monday June 28 2021	0.0	0	0	-
Tuesday June 29 2021	0.0	0	0	-
Wednesday June 30 2021	11.8	1,390	984,204	-
Thursday July 01 2021	0.0	0	0	-
Friday July 02 2021	11.9	1,378	984,204	-
Saturday July 03 2021	0.0	0	0	-
Sunday July 04 2021	0.0	0	0	-
Monday July 05 2021	11.9	1,378	984,204	-
Tuesday July 06 2021	11.8	1,390	984,204	-
Wednesday July 07 2021	11.9	1,378	984,204	-
Thursday July 08 2021	11.9	1,378	984,204	-
Friday July 09 2021	11.9	1,378	984,204	-
Saturday July 10 2021	0.0	0	0	-
Sunday July 11 2021	0.0	0	0	-
Monday July 12 2021	11.8	1,390	984,204	-
Tuesday July 13 2021	11.9	1,378	984,204	-
Wednesday July 14 2021	11.9	1,378	984,204	-
Thursday July 15 2021	11.9	1,378	984,204	-
Friday July 16 2021	11.8	1,390	984,204	-
Saturday July 17 2021	0.0	0	0	-
Sunday July 18 2021	0.0	0	0	-
Monday July 19 2021	11.9	1,378	984,204	-
Tuesday July 20 2021	11.9	1,378	984,204	-
Wednesday July 21 2021	11.9	1,378	984,204	-
Thursday July 22 2021	11.9	1,325	946,350	-
Friday July 23 2021	0.0	0	0	-
Saturday July 24 2021	0.0	0	0	-
Sunday July 25 2021	0.0	0	0	-
Monday July 26 2021	11.8	1,390	984,204	-
Tuesday July 27 2021	11.9	1,325	946,350	-
Wednesday July 28 2021	11.9	1,378	984,204	-
Thursday July 29 2021	11.9	1,378	984,204	-
Friday July 30 2021	11.8	1,390	984,204	-
Saturday July 31 2021	0.0	0	0	-

Table F.1

Water Taking for 2021
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Sunday August 01 2021	0.0	0	0	-
Monday August 02 2021	0.0	0	0	-
Tuesday August 03 2021	11.9	1,378	984,204	-
Wednesday August 04 2021	11.9	1,378	984,204	-
Thursday August 05 2021	11.9	1,378	984,204	-
Friday August 06 2021	11.8	1,390	984,204	-
Saturday August 07 2021	0.0	0	0	-
Sunday August 08 2021	0.0	0	0	-
Monday August 09 2021	11.9	1,378	984,204	-
Tuesday August 10 2021	11.9	1,378	984,204	-
Wednesday August 11 2021	11.9	1,166	832,788	-
Thursday August 12 2021	11.8	1,176	832,788	-
Friday August 13 2021	5.7	1,328	454,248	-
Saturday August 14 2021	0.0	0	0	-
Sunday August 15 2021	0.0	0	0	-
Monday August 16 2021	11.9	1,272	908,496	-
Tuesday August 17 2021	11.8	1,390	984,204	-
Wednesday August 18 2021	11.9	1,378	984,204	-
Thursday August 19 2021	11.9	1,378	984,204	-
Friday August 20 2021	0.0	0	0	-
Saturday August 21 2021	0.0	0	0	-
Sunday August 22 2021	0.0	0	0	-
Monday August 23 2021	11.8	1,390	984,204	-
Tuesday August 24 2021	11.9	1,378	984,204	-
Wednesday August 25 2021	11.9	1,378	984,204	-
Thursday August 26 2021	11.9	1,378	984,204	-
Friday August 27 2021	11.8	1,390	984,204	-
Saturday August 28 2021	0.0	0	0	-
Sunday August 29 2021	0.0	0	0	-
Monday August 30 2021	11.9	1,378	984,204	-
Tuesday August 31 2021	11.9	1,272	908,496	-
Wednesday September 01 2021	11.9	1,166	832,788	-
Thursday September 02 2021	11.8	1,123	794,934	-
Friday September 03 2021	0.0	0	0	-
Saturday September 04 2021	0.0	0	0	-
Sunday September 05 2021	0.0	0	0	-
Monday September 06 2021	11.9	1,484	1,059,912	Higher water taking permit using smaller pump with higher rate
Tuesday September 07 2021	11.9	1,325	946,350	-
Wednesday September 08 2021	11.9	1,272	908,496	-
Thursday September 09 2021	11.8	1,283	908,496	-
Friday September 10 2021	0.0	0	0	-
Saturday September 11 2021	0.0	0	0	-
Sunday September 12 2021	4.4	1,147	302,832	-
Monday September 13 2021	5.9	1,283	454,248	-
Tuesday September 14 2021	0.0	0	0	-
Wednesday September 15 2021	11.9	1,272	908,496	-
Thursday September 16 2021	11.9	1,219	870,642	-
Friday September 17 2021	11.9	1,272	908,496	-
Saturday September 18 2021	0.0	0	0	-
Sunday September 19 2021	11.9	1,272	908,496	-
Monday September 20 2021	11.8	1,283	908,496	-
Tuesday September 21 2021	11.9	1,219	870,642	-
Wednesday September 22 2021	11.9	1,378	984,204	-

Table F.1

Water Taking for 2021
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Thursday September 23 2021	11.8	1,390	984,204	-
Friday September 24 2021	11.9	1,378	984,204	-
Saturday September 25 2021	0.0	0	0	-
Sunday September 26 2021	11.9	1,378	984,204	-
Monday September 27 2021	11.9	1,378	984,204	-
Tuesday September 28 2021	11.8	1,390	984,204	-
Wednesday September 29 2021	11.9	1,325	946,350	-
Thursday September 30 2021	11.9	1,378	984,204	-
Friday October 01 2021	11.9	1,378	984,204	-
Saturday October 02 2021	0.0	0	0	-
Sunday October 03 2021	11.8	1,390	984,204	-
Monday October 04 2021	11.9	1,378	984,204	-
Tuesday October 05 2021	11.9	1,378	984,204	-
Wednesday October 06 2021	11.8	1,390	984,204	-
Thursday October 07 2021	0.0	0	0	-
Friday October 08 2021	0.0	0	0	-
Saturday October 09 2021	0.0	0	0	-
Sunday October 10 2021	0.0	0	0	-
Monday October 11 2021	11.9	1,378	984,204	-
Tuesday October 12 2021	0.0	0	0	-
Wednesday October 13 2021	11.9	1,378	984,204	-
Thursday October 14 2021	11.9	1,378	984,204	-
Friday October 15 2021	0.0	0	0	-
Saturday October 16 2021	0.0	0	0	-
Sunday October 17 2021	11.8	1,390	984,204	-
Monday October 18 2021	11.9	1,378	984,204	-
Tuesday October 19 2021	11.9	1,378	984,204	-
Wednesday October 20 2021	11.8	1,390	984,204	-
Thursday October 21 2021	11.9	1,378	984,204	-
Friday October 22 2021	0.0	0	0	-
Saturday October 23 2021	0.0	0	0	-
Sunday October 24 2021	11.9	1,378	984,204	-
Monday October 25 2021	11.8	1,390	984,204	-
Tuesday October 26 2021	11.9	1,378	984,204	-
Wednesday October 27 2021	12.0	1,367	984,204	-
Thursday October 28 2021	11.8	1,551	1,097,766	Higher water taking permit using smaller pump with higher rate
Friday October 29 2021	0.0	0	0	-
Saturday October 30 2021	0.0	0	0	-
Sunday October 31 2021	0.0	0	0	-
Monday November 01 2021	0.0	0	0	-
Tuesday November 02 2021	11.8	1,390	984,204	-
Wednesday November 03 2021	11.8	1,497	1,059,912	Higher water taking permit using smaller pump with higher rate
Thursday November 04 2021	12.0	1,367	984,204	-
Friday November 05 2021	0.0	0	0	-
Saturday November 06 2021	0.0	0	0	-
Sunday November 07 2021	12.0	1,420	1,022,058	Higher water taking permit using smaller pump with higher rate
Monday November 08 2021	11.8	1,390	984,204	-
Tuesday November 09 2021	11.8	1,123	794,934	-
Wednesday November 10 2021	9.1	901	492,102	-
Thursday November 11 2021	10.9	1,273	832,788	-
Friday November 12 2021	10.9	1,215	794,934	-
Saturday November 13 2021	0.0	0	0	-
Sunday November 14 2021	11.8	1,123	794,934	-

Water Taking for 2021
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Monday November 15 2021	12.0	1,262	908,496	-
Tuesday November 16 2021	11.9	1,484	1,059,912	Higher water taking permit using smaller pump with higher rate
Wednesday November 17 2021	11.8	1,337	946,350	-
Thursday November 18 2021	11.8	1,390	984,204	-
Friday November 19 2021	0.0	0	0	-
Saturday November 20 2021	0.0	0	0	-
Sunday November 21 2021	11.9	1,537	1,097,766	Higher water taking permit using smaller pump with higher rate
Monday November 22 2021	11.9	1,060	757,080	-
Tuesday November 23 2021	11.8	1,123	794,934	-
Wednesday November 24 2021	11.9	1,272	908,496	-
Thursday November 25 2021	11.2	5,971	4,012,524	Higher water taking permit using smaller pump with higher rate
Friday November 26 2021	11.9	2,015	1,438,452	Higher water taking permit using smaller pump with higher rate
Saturday November 27 2021	0.0	0	0	-
Sunday November 28 2021	11.9	1,962	1,400,598	Higher water taking permit using smaller pump with higher rate
Monday November 29 2021	11.8	1,925	1,362,744	Higher water taking permit using smaller pump with higher rate
Tuesday November 30 2021	11.9	1,856	1,324,890	Higher water taking permit using smaller pump with higher rate
Wednesday December 01 2021	11.9	1,909	1,362,744	Higher water taking permit using smaller pump with higher rate
Thursday December 02 2021	11.9	1,856	1,324,890	Higher water taking permit using smaller pump with higher rate
Friday December 03 2021	0.0	0	0	-
Saturday December 04 2021	0.0	0	0	-
Sunday December 05 2021	11.8	1,925	1,362,744	Higher water taking permit using smaller pump with higher rate
Monday December 06 2021	0.0	0	0	-
Tuesday December 07 2021	0.0	0	0	-
Wednesday December 08 2021	0.0	0	0	-
Thursday December 09 2021	11.8	1,871	1,324,890	Higher water taking permit using smaller pump with higher rate
Friday December 10 2021	0.0	0	0	-
Saturday December 11 2021	0.0	0	0	-
Sunday December 12 2021	11.9	1,325	946,350	-
Monday December 13 2021	11.9	1,856	1,324,890	Higher water taking permit using smaller pump with higher rate
Tuesday December 14 2021	11.9	1,856	1,324,890	Higher water taking permit using smaller pump with higher rate
Wednesday December 15 2021	11.8	1,871	1,324,890	Higher water taking permit using smaller pump with higher rate
Thursday December 16 2021	0.0	0	0	-
Friday December 17 2021	0.0	0	0	-
Saturday December 18 2021	0.0	0	0	-
Sunday December 19 2021	0.0	0	0	-
Monday December 20 2021	0.0	0	0	-
Tuesday December 21 2021	0.0	0	0	-
Wednesday December 22 2021	0.0	0	0	-
Thursday December 23 2021	0.0	0	0	-
Friday December 24 2021	0.0	0	0	-
Saturday December 25 2021	0.0	0	0	-
Sunday December 26 2021	0.0	0	0	-
Monday December 27 2021	0.0	0	0	-
Tuesday December 28 2021	0.0	0	0	-
Wednesday December 29 2021	0.0	0	0	-
Thursday December 30 2021	0.0	0	0	-
Friday December 31 2021	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Sunday January 01 2017	0.0	0	0	-
Monday January 02 2017	0.0	0	0	-
Tuesday January 03 2017	0.0	0	0	-
Wednesday January 04 2017	0.0	0	0	-
Thursday January 05 2017	0.0	0	0	-
Friday January 06 2017	0.0	0	0	-
Saturday January 07 2017	0.0	0	0	-
Sunday January 08 2017	0.0	0	0	-
Monday January 09 2017	0.0	0	0	-
Tuesday January 10 2017	0.0	0	0	-
Wednesday January 11 2017	0.0	0	0	-
Thursday January 12 2017	0.0	0	0	-
Friday January 13 2017	0.0	0	0	-
Saturday January 14 2017	0.0	0	0	-
Sunday January 15 2017	0.0	0	0	-
Monday January 16 2017	0.0	0	0	-
Tuesday January 17 2017	0.0	0	0	-
Wednesday January 18 2017	0.0	0	0	-
Thursday January 19 2017	0.0	0	0	-
Friday January 20 2017	0.0	0	0	-
Saturday January 21 2017	0.0	0	0	-
Sunday January 22 2017	0.0	0	0	-
Monday January 23 2017	0.0	0	0	-
Tuesday January 24 2017	0.0	0	0	-
Wednesday January 25 2017	0.0	0	0	-
Thursday January 26 2017	0.0	0	0	-
Friday January 27 2017	0.0	0	0	-
Saturday January 28 2017	0.0	0	0	-
Sunday January 29 2017	0.0	0	0	-
Monday January 30 2017	0.0	0	0	-
Tuesday January 31 2017	0.0	0	0	-
Wednesday February 01 2017	0.0	0	0	-
Thursday February 02 2017	0.0	0	0	-
Friday February 03 2017	0.0	0	0	-
Saturday February 04 2017	0.0	0	0	-
Sunday February 05 2017	0.0	0	0	-
Monday February 06 2017	0.0	0	0	-
Tuesday February 07 2017	0.0	0	0	-
Wednesday February 08 2017	0.0	0	0	-
Thursday February 09 2017	0.0	0	0	-
Friday February 10 2017	0.0	0	0	-
Saturday February 11 2017	0.0	0	0	-
Sunday February 12 2017	0.0	0	0	-
Monday February 13 2017	0.0	0	0	-
Tuesday February 14 2017	0.0	0	0	-
Wednesday February 15 2017	0.0	0	0	-
Thursday February 16 2017	0.0	0	0	-
Friday February 17 2017	0.0	0	0	-
Saturday February 18 2017	0.0	0	0	-
Sunday February 19 2017	0.0	0	0	-
Monday February 20 2017	0.0	0	0	-
Tuesday February 21 2017	0.0	0	0	-
Wednesday February 22 2017	0.0	0	0	-
Thursday February 23 2017	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Friday February 24 2017	0.0	0	0	-
Saturday February 25 2017	0.0	0	0	-
Sunday February 26 2017	0.0	0	0	-
Monday February 27 2017	0.0	0	0	-
Tuesday February 28 2017	0.0	0	0	-
Wednesday March 01 2017	0.0	0	0	-
Thursday March 02 2017	0.0	0	0	-
Friday March 03 2017	0.0	0	0	-
Saturday March 04 2017	0.0	0	0	-
Sunday March 05 2017	0.0	0	0	-
Monday March 06 2017	0.0	0	0	-
Tuesday March 07 2017	0.0	0	0	-
Wednesday March 08 2017	0.0	0	0	-
Thursday March 09 2017	0.0	0	0	-
Friday March 10 2017	0.0	0	0	-
Saturday March 11 2017	0.0	0	0	-
Sunday March 12 2017	0.0	0	0	-
Monday March 13 2017	0.0	0	0	-
Tuesday March 14 2017	0.0	0	0	-
Wednesday March 15 2017	0.0	0	0	-
Thursday March 16 2017	0.0	0	0	-
Friday March 17 2017	0.0	0	0	-
Saturday March 18 2017	0.0	0	0	-
Sunday March 19 2017	0.0	0	0	-
Monday March 20 2017	0.0	0	0	-
Tuesday March 21 2017	0.0	0	0	-
Wednesday March 22 2017	0.0	0	0	-
Thursday March 23 2017	0.0	0	0	-
Friday March 24 2017	0.0	0	0	-
Saturday March 25 2017	0.0	0	0	-
Sunday March 26 2017	0.0	0	0	-
Monday March 27 2017	0.0	0	0	-
Tuesday March 28 2017	0.0	0	0	-
Wednesday March 29 2017	0.0	0	0	-
Thursday March 30 2017	0.0	0	0	-
Friday March 31 2017	0.0	0	0	-
Saturday April 01 2017	0.0	0	0	-
Sunday April 02 2017	0.0	0	0	-
Monday April 03 2017	0.0	0	0	-
Tuesday April 04 2017	0.0	0	0	-
Wednesday April 05 2017	0.0	0	0	-
Thursday April 06 2017	0.0	0	0	-
Friday April 07 2017	0.0	0	0	-
Saturday April 08 2017	0.0	0	0	-
Sunday April 09 2017	0.0	0	0	-
Monday April 10 2017	0.0	0	0	-
Tuesday April 11 2017	0.0	0	0	-
Wednesday April 12 2017	0.0	0	0	-
Thursday April 13 2017	0.0	0	0	-
Friday April 14 2017	0.0	0	0	-
Saturday April 15 2017	0.0	0	0	-
Sunday April 16 2017	0.0	0	0	-
Monday April 17 2017	0.0	0	0	-
Tuesday April 18 2017	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Wednesday April 19 2017	0.0	0	0	-
Thursday April 20 2017	0.0	0	0	-
Friday April 21 2017	0.0	0	0	-
Saturday April 22 2017	0.0	0	0	-
Sunday April 23 2017	0.0	0	0	-
Monday April 24 2017	0.0	0	0	-
Tuesday April 25 2017	0.0	0	0	-
Wednesday April 26 2017	0.0	0	0	-
Thursday April 27 2017	0.0	0	0	-
Friday April 28 2017	0.0	0	0	-
Saturday April 29 2017	0.0	0	0	-
Sunday April 30 2017	0.0	0	0	-
Monday May 01 2017	0.0	0	0	-
Tuesday May 02 2017	0.0	0	0	-
Wednesday May 03 2017	0.0	0	0	-
Thursday May 04 2017	0.0	0	0	-
Friday May 05 2017	0.0	0	0	-
Saturday May 06 2017	0.0	0	0	-
Sunday May 07 2017	0.0	0	0	-
Monday May 08 2017	0.0	0	0	-
Tuesday May 09 2017	0.0	0	0	-
Wednesday May 10 2017	0.0	0	0	-
Thursday May 11 2017	0.0	0	0	-
Friday May 12 2017	0.0	0	0	-
Saturday May 13 2017	0.0	0	0	-
Sunday May 14 2017	0.0	0	0	-
Monday May 15 2017	0.0	0	0	-
Tuesday May 16 2017	0.0	0	0	-
Wednesday May 17 2017	0.0	0	0	-
Thursday May 18 2017	0.0	0	0	-
Friday May 19 2017	0.0	0	0	-
Saturday May 20 2017	0.0	0	0	-
Sunday May 21 2017	0.0	0	0	-
Monday May 22 2017	0.0	0	0	-
Tuesday May 23 2017	0.0	0	0	-
Wednesday May 24 2017	0.0	0	0	-
Thursday May 25 2017	0.0	0	0	-
Friday May 26 2017	0.0	0	0	-
Saturday May 27 2017	0.0	0	0	-
Sunday May 28 2017	0.0	0	0	-
Monday May 29 2017	0.0	0	0	-
Tuesday May 30 2017	0.0	0	0	-
Wednesday May 31 2017	0.0	0	0	-
Thursday June 01 2017	0.0	0	0	-
Friday June 02 2017	0.0	0	0	-
Saturday June 03 2017	0.0	0	0	-
Sunday June 04 2017	0.0	0	0	-
Monday June 05 2017	0.0	0	0	-
Tuesday June 06 2017	0.0	0	0	-
Wednesday June 07 2017	0.0	0	0	-
Thursday June 08 2017	0.0	0	0	-
Friday June 09 2017	0.0	0	0	-
Saturday June 10 2017	0.0	0	0	-
Sunday June 11 2017	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Monday June 12 2017	0.0	0	0	-
Tuesday June 13 2017	0.0	0	0	-
Wednesday June 14 2017	0.0	0	0	-
Thursday June 15 2017	0.0	0	0	-
Friday June 16 2017	0.0	0	0	-
Saturday June 17 2017	0.0	0	0	-
Sunday June 18 2017	0.0	0	0	-
Monday June 19 2017	0.0	0	0	-
Tuesday June 20 2017	0.0	0	0	-
Wednesday June 21 2017	0.0	0	0	-
Thursday June 22 2017	0.0	0	0	-
Friday June 23 2017	0.0	0	0	-
Saturday June 24 2017	0.0	0	0	-
Sunday June 25 2017	0.0	0	0	-
Monday June 26 2017	0.0	0	0	-
Tuesday June 27 2017	0.0	0	0	-
Wednesday June 28 2017	0.0	0	0	-
Thursday June 29 2017	0.0	0	0	-
Friday June 30 2017	0.0	0	0	-
Saturday July 01 2017	0.0	0	0	-
Sunday July 02 2017	0.0	0	0	-
Monday July 03 2017	0.0	0	0	-
Tuesday July 04 2017	0.0	0	0	-
Wednesday July 05 2017	0.0	0	0	-
Thursday July 06 2017	0.0	0	0	-
Friday July 07 2017	0.0	0	0	-
Saturday July 08 2017	0.0	0	0	-
Sunday July 09 2017	0.0	0	0	-
Monday July 10 2017	0.0	0	0	-
Tuesday July 11 2017	0.0	0	0	-
Wednesday July 12 2017	0.0	0	0	-
Thursday July 13 2017	0.0	0	0	-
Friday July 14 2017	0.0	0	0	-
Saturday July 15 2017	0.0	0	0	-
Sunday July 16 2017	0.0	0	0	-
Monday July 17 2017	0.0	0	0	-
Tuesday July 18 2017	0.0	0	0	-
Wednesday July 19 2017	0.0	0	0	-
Thursday July 20 2017	0.0	0	0	-
Friday July 21 2017	0.0	0	0	-
Saturday July 22 2017	0.0	0	0	-
Sunday July 23 2017	0.0	0	0	-
Monday July 24 2017	0.0	0	0	-
Tuesday July 25 2017	0.0	0	0	-
Wednesday July 26 2017	0.0	0	0	-
Thursday July 27 2017	0.0	0	0	-
Friday July 28 2017	0.0	0	0	-
Saturday July 29 2017	0.0	0	0	-
Sunday July 30 2017	0.0	0	0	-
Monday July 31 2017	0.0	0	0	-
Tuesday August 01 2017	0.0	0	0	-
Wednesday August 02 2017	0.0	0	0	-
Thursday August 03 2017	0.0	0	0	-
Friday August 04 2017	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Saturday August 05 2017	0.0	0	0	-
Sunday August 06 2017	0.0	0	0	-
Monday August 07 2017	0.0	0	0	-
Tuesday August 08 2017	0.0	0	0	-
Wednesday August 09 2017	0.0	0	0	-
Thursday August 10 2017	0.0	0	0	-
Friday August 11 2017	0.0	0	0	-
Saturday August 12 2017	0.0	0	0	-
Sunday August 13 2017	0.0	0	0	-
Monday August 14 2017	0.0	0	0	-
Tuesday August 15 2017	0.0	0	0	-
Wednesday August 16 2017	0.0	0	0	-
Thursday August 17 2017	0.0	0	0	-
Friday August 18 2017	0.0	0	0	-
Saturday August 19 2017	0.0	0	0	-
Sunday August 20 2017	0.0	0	0	-
Monday August 21 2017	0.0	0	0	-
Tuesday August 22 2017	0.0	0	0	-
Wednesday August 23 2017	0.0	0	0	-
Thursday August 24 2017	0.0	0	0	-
Friday August 25 2017	0.0	0	0	-
Saturday August 26 2017	0.0	0	0	-
Sunday August 27 2017	0.0	0	0	-
Monday August 28 2017	0.0	0	0	-
Tuesday August 29 2017	0.0	0	0	-
Wednesday August 30 2017	0.0	0	0	-
Thursday August 31 2017	0.0	0	0	-
Friday September 01 2017	0.0	0	0	-
Saturday September 02 2017	0.0	0	0	-
Sunday September 03 2017	0.0	0	0	-
Monday September 04 2017	0.0	0	0	-
Tuesday September 05 2017	0.0	0	0	-
Wednesday September 06 2017	0.0	0	0	-
Thursday September 07 2017	0.0	0	0	-
Friday September 08 2017	0.0	0	0	-
Saturday September 09 2017	0.0	0	0	-
Sunday September 10 2017	0.0	0	0	-
Monday September 11 2017	0.0	0	0	-
Tuesday September 12 2017	11.6	10,769	7,495,092	First day of source pond pumping
Wednesday September 13 2017	8.7	13,923	7,267,968	Shutdown at approx 2:30 to monitor wells
Thursday September 14 2017	11.1	9,549	6,359,472	Continuing to fill ponds
Friday September 15 2017	11.8	8,662	6,132,348	Reduce pumping rate to continue to fill ponds
Saturday September 16 2017	0.0	0	0	-
Sunday September 17 2017	0.0	0	0	-
Monday September 18 2017	1.8	9,814	1,059,912	Changed to pumping direct to washplant (pump configuration)
Tuesday September 19 2017	3.8	4,151	946,350	Made changes to pump system
Wednesday September 20 2017	12.0	8,938	6,435,180	First day fully running pumps
Thursday September 21 2017	11.7	8,412	5,905,224	-
Friday September 22 2017	9.9	8,476	5,034,582	Shut down early regarding source pond level
Saturday September 23 2017	0.0	0	0	-
Sunday September 24 2017	0.0	0	0	-
Monday September 25 2017	11.9	8,854	6,321,618	-
Tuesday September 26 2017	11.1	8,526	5,678,100	Flow meter correctly installed on Monday night
Wednesday September 27 2017	9.1	7,280	3,974,670	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Thursday September 28 2017	11.1	7,275	4,845,312	Shut down source pump at 12PM to install VFD
Friday September 29 2017	5.8	12,183	4,239,648	Hour meter installed by electricians part way thru the day (shutdown) to continue regular recording
Saturday September 30 2017	0.0	0	0	-
Sunday October 01 2017	0.0	0	0	-
Monday October 02 2017	8.6	6,236	3,217,590	-
Tuesday October 03 2017	12.0	6,467	4,656,042	-
Wednesday October 04 2017	11.9	6,521	4,656,042	-
Thursday October 05 2017	12.0	6,730	4,845,312	-
Friday October 06 2017	10.8	8,295	5,375,268	-
Saturday October 07 2017	0.0	0	0	-
Sunday October 08 2017	0.0	0	0	-
Monday October 09 2017	0.0	0	0	-
Tuesday October 10 2017	11.8	8,020	5,678,100	-
Wednesday October 11 2017	11.9	8,377	5,980,932	-
Thursday October 12 2017	11.6	8,376	5,829,516	-
Friday October 13 2017	11.8	8,287	5,867,370	-
Saturday October 14 2017	0.0	0	0	-
Sunday October 15 2017	0.0	0	0	-
Monday October 16 2017	11.8	8,234	5,829,516	-
Tuesday October 17 2017	10.7	8,373	5,375,268	-
Wednesday October 18 2017	11.8	8,448	5,980,932	-
Thursday October 19 2017	12.0	8,465	6,094,494	-
Friday October 20 2017	11.8	8,394	5,943,078	-
Saturday October 21 2017	0.0	0	0	-
Sunday October 22 2017	0.0	0	0	-
Monday October 23 2017	11.9	8,218	5,867,370	-
Tuesday October 24 2017	10.4	8,250	5,148,144	-
Wednesday October 25 2017	12.0	8,570	6,170,202	-
Thursday October 26 2017	9.5	8,567	4,883,166	-
Friday October 27 2017	11.7	8,736	6,132,348	-
Saturday October 28 2017	0.0	0	0	-
Sunday October 29 2017	0.0	0	0	-
Monday October 30 2017	11.8	8,768	6,208,056	-
Tuesday October 31 2017	12.0	8,833	6,359,472	-
Wednesday November 01 2017	11.8	8,608	6,094,494	-
Thursday November 02 2017	12.0	8,622	6,208,056	-
Friday November 03 2017	11.8	8,715	6,170,202	-
Saturday November 04 2017	0.0	0	0	-
Sunday November 05 2017	0.0	0	0	-
Monday November 06 2017	9.0	8,622	4,656,042	-
Tuesday November 07 2017	12.0	8,307	5,980,932	-
Wednesday November 08 2017	12.0	8,412	6,056,640	-
Thursday November 09 2017	9.4	7,987	4,504,626	-
Friday November 10 2017	0.4	0	0	Pioneer 12x12 would not prime. Fixed priming pump Saturday
Saturday November 11 2017	0.0	0	0	-
Sunday November 12 2017	0.0	0	0	-
Monday November 13 2017	6.1	8,274	3,028,320	-
Tuesday November 14 2017	11.9	8,801	6,283,764	-
Wednesday November 15 2017	12.0	8,780	6,321,618	-
Thursday November 16 2017	12.0	8,780	6,321,618	-
Friday November 17 2017	6.3	9,514	3,596,130	-
Saturday November 18 2017	0.0	0	0	-
Sunday November 19 2017	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Monday November 20 2017	11.0	10,496	6,927,282	-
Tuesday November 21 2017	12.0	9,411	6,775,866	-
Wednesday November 22 2017	12.0	9,253	6,662,304	-
Thursday November 23 2017	11.0	8,947	5,905,224	-
Friday November 24 2017	11.3	8,207	5,564,538	-
Saturday November 25 2017	0.0	0	0	-
Sunday November 26 2017	0.0	0	0	-
Monday November 27 2017	11.8	8,662	6,132,348	-
Tuesday November 28 2017	11.9	8,271	5,905,224	-
Wednesday November 29 2017	11.7	5,554	3,898,962	-
Thursday November 30 2017	8.0	11,751	5,640,246	Ran production for 8 hours
Friday December 01 2017	11.8	8,287	5,867,370	-
Saturday December 02 2017	0.0	0	0	-
Sunday December 03 2017	0.0	0	0	-
Monday December 04 2017	11.7	8,304	5,829,516	-
Tuesday December 05 2017	11.7	8,142	5,715,954	-
Wednesday December 06 2017	11.8	8,180	5,791,662	-
Thursday December 07 2017	12.0	14,000	10,080,000	-
Friday December 08 2017	0.0	0	0	Pump wouldn't prime. Plant shutdown for year
Saturday December 09 2017	0.0	0	0	-
Sunday December 10 2017	0.0	0	0	-
Monday December 11 2017	0.0	0	0	-
Tuesday December 12 2017	0.0	0	0	-
Wednesday December 13 2017	0.0	0	0	-
Thursday December 14 2017	0.0	0	0	-
Friday December 15 2017	0.0	0	0	-
Saturday December 16 2017	0.0	0	0	-
Sunday December 17 2017	0.0	0	0	-
Monday December 18 2017	0.0	0	0	-
Tuesday December 19 2017	0.0	0	0	-
Wednesday December 20 2017	0.0	0	0	-
Thursday December 21 2017	0.0	0	0	-
Friday December 22 2017	0.0	0	0	-
Saturday December 23 2017	0.0	0	0	-
Sunday December 24 2017	0.0	0	0	-
Monday December 25 2017	0.0	0	0	-
Tuesday December 26 2017	0.0	0	0	-
Wednesday December 27 2017	0.0	0	0	-
Thursday December 28 2017	0.0	0	0	-
Friday December 29 2017	0.0	0	0	-
Saturday December 30 2017	0.0	0	0	-
Sunday December 31 2017	0.0	0	0	-
Monday January 01 2018	0.0	0	0	-
Tuesday January 02 2018	0.0	0	0	-
Wednesday January 03 2018	0.0	0	0	-
Thursday January 04 2018	0.0	0	0	-
Friday January 05 2018	0.0	0	0	-
Saturday January 06 2018	0.0	0	0	-
Sunday January 07 2018	0.0	0	0	-
Monday January 08 2018	0.0	0	0	-
Tuesday January 09 2018	0.0	0	0	-
Wednesday January 10 2018	0.0	0	0	-
Thursday January 11 2018	0.0	0	0	-
Friday January 12 2018	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Saturday January 13 2018	0.0	0	0	-
Sunday January 14 2018	0.0	0	0	-
Monday January 15 2018	0.0	0	0	-
Tuesday January 16 2018	0.0	0	0	-
Wednesday January 17 2018	0.0	0	0	-
Thursday January 18 2018	0.0	0	0	-
Friday January 19 2018	0.0	0	0	-
Saturday January 20 2018	0.0	0	0	-
Sunday January 21 2018	0.0	0	0	-
Monday January 22 2018	0.0	0	0	-
Tuesday January 23 2018	0.0	0	0	-
Wednesday January 24 2018	0.0	0	0	-
Thursday January 25 2018	0.0	0	0	-
Friday January 26 2018	0.0	0	0	-
Saturday January 27 2018	0.0	0	0	-
Sunday January 28 2018	0.0	0	0	-
Monday January 29 2018	0.0	0	0	-
Tuesday January 30 2018	0.0	0	0	-
Wednesday January 31 2018	0.0	0	0	-
Thursday February 01 2018	0.0	0	0	-
Friday February 02 2018	0.0	0	0	-
Saturday February 03 2018	0.0	0	0	-
Sunday February 04 2018	0.0	0	0	-
Monday February 05 2018	0.0	0	0	-
Tuesday February 06 2018	0.0	0	0	-
Wednesday February 07 2018	0.0	0	0	-
Thursday February 08 2018	0.0	0	0	-
Friday February 09 2018	0.0	0	0	-
Saturday February 10 2018	0.0	0	0	-
Sunday February 11 2018	0.0	0	0	-
Monday February 12 2018	0.0	0	0	-
Tuesday February 13 2018	0.0	0	0	-
Wednesday February 14 2018	0.0	0	0	-
Thursday February 15 2018	0.0	0	0	-
Friday February 16 2018	0.0	0	0	-
Saturday February 17 2018	0.0	0	0	-
Sunday February 18 2018	0.0	0	0	-
Monday February 19 2018	0.0	0	0	-
Tuesday February 20 2018	0.0	0	0	-
Wednesday February 21 2018	0.0	0	0	-
Thursday February 22 2018	0.0	0	0	-
Friday February 23 2018	0.0	0	0	-
Saturday February 24 2018	0.0	0	0	-
Sunday February 25 2018	0.0	0	0	-
Monday February 26 2018	0.0	0	0	-
Tuesday February 27 2018	0.0	0	0	-
Wednesday February 28 2018	0.0	0	0	-
Thursday March 01 2018	0.0	0	0	-
Friday March 02 2018	0.0	0	0	-
Saturday March 03 2018	0.0	0	0	-
Sunday March 04 2018	0.0	0	0	-
Monday March 05 2018	0.0	0	0	-
Tuesday March 06 2018	0.0	0	0	-
Wednesday March 07 2018	0.0	0	0	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Thursday March 08 2018	0.0	0	0	-
Friday March 09 2018	0.0	0	0	-
Saturday March 10 2018	0.0	0	0	-
Sunday March 11 2018	0.0	0	0	-
Monday March 12 2018	0.0	0	0	-
Tuesday March 13 2018	0.0	0	0	-
Wednesday March 14 2018	0.0	0	0	-
Thursday March 15 2018	0.0	0	0	-
Friday March 16 2018	0.0	0	0	-
Saturday March 17 2018	0.0	0	0	-
Sunday March 18 2018	0.0	0	0	-
Monday March 19 2018	0.0	0	0	-
Tuesday March 20 2018	0.0	0	0	-
Wednesday March 21 2018	0.0	0	0	-
Thursday March 22 2018	0.0	0	0	-
Friday March 23 2018	0.0	0	0	-
Saturday March 24 2018	0.0	0	0	-
Sunday March 25 2018	0.0	0	0	-
Monday March 26 2018	10.0	1,262	757,080	First day of source pond pumping
Tuesday March 27 2018	11.6	1,308	908,496	-
Wednesday March 28 2018	11.7	1,243	870,642	-
Thursday March 29 2018	8.7	1,310	681,372	-
Friday March 30 2018	11.8	1,339	946,350	-
Saturday March 31 2018	11.8	1,340	946,350	-
Sunday April 01 2018	0.0	0	0	-
Monday April 02 2018	7.3	1,213	529,956	-
Tuesday April 03 2018	11.4	5,294	3,633,984	-
Wednesday April 04 2018	11.4	9,005	6,170,202	-
Thursday April 05 2018	10.3	8,002	4,921,020	-
Friday April 06 2018	7.4	8,696	3,861,108	-
Saturday April 07 2018	0.0	0	0	-
Sunday April 08 2018	0.0	0	0	-
Monday April 09 2018	11.9	9,036	6,435,180	-
Tuesday April 10 2018	11.0	9,234	6,094,494	-
Wednesday April 11 2018	12.0	9,095	6,548,742	-
Thursday April 12 2018	12.0	7,676	5,526,684	-
Friday April 13 2018	11.9	7,780	5,564,538	-
Saturday April 14 2018	2.5	10,259	1,514,160	-
Sunday April 15 2018	0.0	0	0	-
Monday April 16 2018	12.0	8,517	6,132,348	-
Tuesday April 17 2018	11.9	10,215	7,305,822	-
Wednesday April 18 2018	11.9	11,736	8,365,734	-
Thursday April 19 2018	11.9	8,695	6,208,056	-
Friday April 20 2018	10.1	9,307	5,640,246	-
Saturday April 21 2018	0.0	0	0	-
Sunday April 22 2018	0.0	0	0	-
Monday April 23 2018	11.9	9,421	6,738,012	-
Tuesday April 24 2018	11.9	9,429	6,738,012	-
Wednesday April 25 2018	11.9	6,833	4,883,166	-
Thursday April 26 2018	11.9	6,798	4,845,312	-
Friday April 27 2018	11.8	8,998	6,359,472	-
Saturday April 28 2018	0.0	0	0	-
Sunday April 29 2018	0.0	0	0	-
Monday April 30 2018	12.0	6,992	5,034,582	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Tuesday May 01 2018	11.8	9,598	6,775,866	-
Wednesday May 02 2018	12.0	10,936	7,873,632	-
Thursday May 03 2018	11.1	1,194	794,934	-
Friday May 04 2018	11.5	4,169	2,876,904	Power outage (wind storm) stopped the pumps at approx. 3pm. The large pump was accidentally turned on when the power returned and ran for 3.3 hours - this resulted in the exceedance
Saturday May 05 2018	10.3	1,108	681,372	-
Sunday May 06 2018	0.0	0	0	-
Monday May 07 2018	12.0	1,367	984,204	-
Tuesday May 08 2018	11.9	1,381	984,204	-
Wednesday May 09 2018	11.3	1,284	870,642	-
Thursday May 10 2018	11.6	1,360	946,350	-
Friday May 11 2018	11.8	1,390	984,204	-
Saturday May 12 2018	11.8	1,390	984,204	-
Sunday May 13 2018	0.0	0	0	-
Monday May 14 2018	12.0	1,393	1,003,131	-
Tuesday May 15 2018	11.5	1,399	965,277	-
Wednesday May 16 2018	12.0	1,397	1,003,131	-
Thursday May 17 2018	11.9	1,394	995,560	-
Friday May 18 2018	11.8	1,397	991,775	-
Saturday May 19 2018	12.0	1,367	984,204	-
Sunday May 20 2018	11.8	1,387	984,204	-
Monday May 21 2018	11.5	1,372	946,350	-
Tuesday May 22 2018	11.9	1,329	946,350	-
Wednesday May 23 2018	11.8	1,334	946,350	-
Thursday May 24 2018	12.0	1,373	984,204	-
Friday May 25 2018	11.8	1,390	984,204	-
Saturday May 26 2018	11.3	1,396	946,350	-
Sunday May 27 2018	0.0	0	0	-
Monday May 28 2018	11.3	1,396	946,350	-
Tuesday May 29 2018	11.8	1,337	946,350	-
Wednesday May 30 2018	10.6	1,309	832,788	-
Thursday May 31 2018	11.8	1,283	908,496	-
Friday June 01 2018	11.9	1,219	870,642	-
Saturday June 02 2018	11.0	1,204	794,934	-
Sunday June 03 2018	10.6	1,190	757,080	-
Monday June 04 2018	11.8	1,230	870,642	-
Tuesday June 05 2018	11.3	1,340	908,496	-
Wednesday June 06 2018	10.7	1,297	832,788	-
Thursday June 07 2018	11.9	1,325	946,350	-
Friday June 08 2018	11.9	1,219	870,642	-
Saturday June 09 2018	11.0	1,262	832,788	-
Sunday June 10 2018	0.0	0	0	-
Monday June 11 2018	11.9	1,272	908,496	-
Tuesday June 12 2018	11.9	1,272	908,496	-
Wednesday June 13 2018	11.9	1,219	870,642	-
Thursday June 14 2018	12.0	1,209	870,642	-
Friday June 15 2018	11.8	1,283	908,496	-
Saturday June 16 2018	8.6	1,247	643,518	-
Sunday June 17 2018	12.0	1,209	870,642	-
Monday June 18 2018	11.8	1,230	870,642	-
Tuesday June 19 2018	11.8	1,230	870,642	-
Wednesday June 20 2018	11.8	1,176	832,788	-
Thursday June 21 2018	11.9	1,219	870,642	-

**Historical Water Taking
2021 Combined Annual Monitoring Report
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Friday June 22 2018	11.7	1,186	832,788	-
Saturday June 23 2018	11.4	1,218	832,788	-
Sunday June 24 2018	0.0	0	0	-
Monday June 25 2018	11.9	1,219	870,642	-
Tuesday June 26 2018	11.9	1,272	908,496	-
Wednesday June 27 2018	11.8	1,230	870,642	-
Thursday June 28 2018	11.8	1,176	832,788	-
Friday June 29 2018	11.8	1,176	832,788	-
Saturday June 30 2018	0.0	0	0	-
Sunday July 01 2018	0.0	0	0	-
Monday July 02 2018	0.0	0	0	-
Tuesday July 03 2018	11.4	1,162	794,934	-
Wednesday July 04 2018	0.0	0	0	Washplant down for the majority of the day, source pump was not started to save the pumping day
Thursday July 05 2018	11.8	1,176	832,788	-
Friday July 06 2018	11.7	1,132	794,934	-
Saturday July 07 2018	10.3	1,225	757,080	-
Sunday July 08 2018	0.0	0	0	-
Monday July 09 2018	11.9	1,166	832,788	-
Tuesday July 10 2018	0.0	0	0	Granular A production, did not use source pump
Wednesday July 11 2018	0.0	0	0	Granular A production, did not use source pump
Thursday July 12 2018	11.7	1,132	794,934	-
Friday July 13 2018	11.6	1,197	832,788	-
Saturday July 14 2018	0.0	0	0	-
Sunday July 15 2018	0.0	0	0	-
Monday July 16 2018	11.8	962	681,372	-
Tuesday July 17 2018	11.8	1,230	870,642	-
Wednesday July 18 2018	11.8	1,230	870,642	-
Thursday July 19 2018	11.9	1,272	908,496	-
Friday July 20 2018	11.9	1,219	870,642	-
Saturday July 21 2018	0.0	0	0	-
Sunday July 22 2018	0.0	0	0	-
Monday July 23 2018	11.9	1,325	946,350	-
Tuesday July 24 2018	11.9	1,272	908,496	-
Wednesday July 25 2018	11.5	1,262	870,642	-
Thursday July 26 2018	9.3	1,221	681,372	Did not run for full 12 hours due to power outage
Friday July 27 2018	11.8	1,283	908,496	-
Saturday July 28 2018	0.0	0	0	-
Sunday July 29 2018	0.0	0	0	-
Monday July 30 2018	11.9	1,325	946,350	-
Tuesday July 31 2018	11.9	1,272	908,496	-
Wednesday August 01 2018	11.9	1,272	908,496	-
Thursday August 02 2018	12.0	1,314	946,350	-
Friday August 03 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Saturday August 04 2018	0.0	0	0	-
Sunday August 05 2018	0.0	0	0	-
Monday August 06 2018	0.0	0	0	-
Tuesday August 07 2018	12.0	1,209	870,642	-
Wednesday August 08 2018	12.0	1,262	908,496	-
Thursday August 09 2018	12.0	1,262	908,496	-
Friday August 10 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Saturday August 11 2018	0.0	0	0	-

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Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Sunday August 12 2018	0.0	0	0	-
Monday August 13 2018	11.8	1,230	870,642	-
Tuesday August 14 2018	11.8	1,230	870,642	-
Wednesday August 15 2018	11.8	1,230	870,642	-
Thursday August 16 2018	11.8	1,230	870,642	-
Friday August 17 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Saturday August 18 2018	0.0	0	0	-
Sunday August 19 2018	0.0	0	0	-
Monday August 20 2018	11.8	1,283	908,496	-
Tuesday August 21 2018	11.8	1,283	908,496	-
Wednesday August 22 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Thursday August 23 2018	12.0	1,262	908,496	-
Friday August 24 2018	12.0	1,314	946,350	-
Saturday August 25 2018	0.0	0	0	-
Sunday August 26 2018	0.0	0	0	-
Monday August 27 2018	12.0	1,262	908,496	-
Tuesday August 28 2018	11.7	1,240	870,642	-
Wednesday August 29 2018	11.8	1,283	908,496	-
Thursday August 30 2018	11.9	1,272	908,496	-
Friday August 31 2018	11.7	1,294	908,496	-
Saturday September 01 2018	0.0	0	0	-
Sunday September 02 2018	0.0	0	0	-
Monday September 03 2018	0.0	0	0	-
Tuesday September 04 2018	11.7	1,240	870,642	-
Wednesday September 05 2018	11.6	1,251	870,642	-
Thursday September 06 2018	11.9	1,166	832,788	-
Friday September 07 2018	11.9	1,272	908,496	-
Saturday September 08 2018	0.0	0	0	-
Sunday September 09 2018	0.0	0	0	-
Monday September 10 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Tuesday September 11 2018	11.7	1,240	870,642	-
Wednesday September 12 2018	11.8	1,230	870,642	-
Thursday September 13 2018	11.7	1,240	870,642	-
Friday September 14 2018	11.9	1,272	908,496	-
Saturday September 15 2018	0.0	0	0	-
Sunday September 16 2018	0.0	0	0	-
Monday September 17 2018	11.8	1,230	870,642	-
Tuesday September 18 2018	11.8	1,176	832,788	-
Wednesday September 19 2018	11.9	1,219	870,642	-
Thursday September 20 2018	11.9	1,219	870,642	-
Friday September 21 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Saturday September 22 2018	0.0	0	0	-
Sunday September 23 2018	0.0	0	0	-
Monday September 24 2018	11.8	1,176	832,788	-
Tuesday September 25 2018	11.8	1,283	908,496	-
Wednesday September 26 2018	12.0	1,314	946,350	-
Thursday September 27 2018	11.9	1,272	908,496	-
Friday September 28 2018	11.8	1,283	908,496	-
Saturday September 29 2018	0.0	0	0	-
Sunday September 30 2018	0.0	0	0	-

**Historical Water Taking
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Dufferin Aggregates Paris Pit
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Monday October 01 2018	11.4	1,328	908,496	-
Tuesday October 02 2018	11.8	1,283	908,496	-
Wednesday October 03 2018	11.3	1,396	946,350	-
Thursday October 04 2018	11.9	1,272	908,496	-
Friday October 05 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Saturday October 06 2018	0.0	0	0	-
Sunday October 07 2018	0.0	0	0	-
Monday October 08 2018	11.4	1,328	908,496	-
Tuesday October 09 2018	11.8	1,283	908,496	-
Wednesday October 10 2018	11.9	1,325	946,350	-
Thursday October 11 2018	11.7	1,294	908,496	-
Friday October 12 2018	11.8	1,283	908,496	-
Saturday October 13 2018	11.9	1,325	946,350	-
Sunday October 14 2018	0.0	0	0	-
Monday October 15 2018	11.9	1,325	946,350	-
Tuesday October 16 2018	12.0	1,314	946,350	-
Wednesday October 17 2018	11.8	1,337	946,350	-
Thursday October 18 2018	11.9	1,325	946,350	-
Friday October 19 2018	11.7	1,348	946,350	-
Saturday October 20 2018	11.3	1,396	946,350	-
Sunday October 21 2018	0.0	0	0	-
Monday October 22 2018	12.0	1,104	794,934	-
Tuesday October 23 2018	12.0	1,157	832,788	-
Wednesday October 24 2018	10.2	1,361	832,788	-
Thursday October 25 2018	11.7	1,348	946,350	-
Friday October 26 2018	11.7	1,348	946,350	-
Saturday October 27 2018	0.0	0	0	-
Sunday October 28 2018	0.0	0	0	-
Monday October 29 2018	11.9	1,325	946,350	-
Tuesday October 30 2018	11.7	1,348	946,350	-
Wednesday October 31 2018	11.5	1,317	908,496	-
Thursday November 01 2018	0.0	0	0	Did not use source pump due to heavy rains throughout the week
Friday November 02 2018	12.0	1,262	908,496	-
Saturday November 03 2018	11.5	1,207	832,788	-
Sunday November 04 2018	0.0	0	0	-
Monday November 05 2018	11.1	1,307	870,642	-
Tuesday November 06 2018	10.9	1,273	832,788	-
Wednesday November 07 2018	11.9	1,219	870,642	-
Thursday November 08 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Friday November 09 2018	11.8	1,337	946,350	-
Saturday November 10 2018	0.0	0	0	Did not run source pond pump in an effort to conserve pumping days
Sunday November 11 2018	0.0	0	0	-
Monday November 12 2018	11.8	1,283	908,496	-
Tuesday November 13 2018	11.9	1,272	908,496	-
Wednesday November 14 2018	11.9	1,325	946,350	-
Thursday November 15 2018	11.2	1,352	908,496	-
Friday November 16 2018	10.8	1,285	832,788	-
Saturday November 17 2018	11.2	1,296	870,642	-
Sunday November 18 2018	0.0	0	0	-
Monday November 19 2018	0.0	0	0	Shut down washplant for the season

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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Tuesday November 20 2018	0.0	0	0	-
Wednesday November 21 2018	0.0	0	0	-
Thursday November 22 2018	0.0	0	0	-
Friday November 23 2018	0.0	0	0	-
Saturday November 24 2018	0.0	0	0	-
Sunday November 25 2018	0.0	0	0	-
Monday November 26 2018	0.0	0	0	-
Tuesday November 27 2018	0.0	0	0	-
Wednesday November 28 2018	0.0	0	0	-
Thursday November 29 2018	0.0	0	0	-
Friday November 30 2018	0.0	0	0	-
Saturday December 01 2018	0.0	0	0	-
Sunday December 02 2018	0.0	0	0	-
Monday December 03 2018	0.0	0	0	-
Tuesday December 04 2018	0.0	0	0	-
Wednesday December 05 2018	0.0	0	0	-
Thursday December 06 2018	0.0	0	0	-
Friday December 07 2018	0.0	0	0	-
Saturday December 08 2018	0.0	0	0	-
Sunday December 09 2018	0.0	0	0	-
Monday December 10 2018	0.0	0	0	-
Tuesday December 11 2018	0.0	0	0	-
Wednesday December 12 2018	0.0	0	0	-
Thursday December 13 2018	0.0	0	0	-
Friday December 14 2018	0.0	0	0	-
Saturday December 15 2018	0.0	0	0	-
Sunday December 16 2018	0.0	0	0	-
Monday December 17 2018	0.0	0	0	-
Tuesday December 18 2018	0.0	0	0	-
Wednesday December 19 2018	0.0	0	0	-
Thursday December 20 2018	0.0	0	0	-
Friday December 21 2018	0.0	0	0	-
Saturday December 22 2018	0.0	0	0	-
Sunday December 23 2018	0.0	0	0	-
Monday December 24 2018	0.0	0	0	-
Tuesday December 25 2018	0.0	0	0	-
Wednesday December 26 2018	0.0	0	0	-
Thursday December 27 2018	0.0	0	0	-
Friday December 28 2018	0.0	0	0	-
Saturday December 29 2018	0.0	0	0	-
Sunday December 30 2018	0.0	0	0	-
Monday December 31 2018	0.0	0	0	-
Tuesday January 01 2019	0.0	0	0	-
Wednesday January 02 2019	0.0	0	0	-
Thursday January 03 2019	0.0	0	0	-
Friday January 04 2019	0.0	0	0	-
Saturday January 05 2019	0.0	0	0	-
Sunday January 06 2019	0.0	0	0	-
Monday January 07 2019	0.0	0	0	-
Tuesday January 08 2019	0.0	0	0	-
Wednesday January 09 2019	0.0	0	0	-
Thursday January 10 2019	0.0	0	0	-
Friday January 11 2019	0.0	0	0	-
Saturday January 12 2019	0.0	0	0	-

**Historical Water Taking
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Dufferin Aggregates Paris Pit
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Sunday January 13 2019	0.0	0	0	-
Monday January 14 2019	0.0	0	0	-
Tuesday January 15 2019	0.0	0	0	-
Wednesday January 16 2019	0.0	0	0	-
Thursday January 17 2019	0.0	0	0	-
Friday January 18 2019	0.0	0	0	-
Saturday January 19 2019	0.0	0	0	-
Sunday January 20 2019	0.0	0	0	-
Monday January 21 2019	0.0	0	0	-
Tuesday January 22 2019	0.0	0	0	-
Wednesday January 23 2019	0.0	0	0	-
Thursday January 24 2019	0.0	0	0	-
Friday January 25 2019	0.0	0	0	-
Saturday January 26 2019	0.0	0	0	-
Sunday January 27 2019	0.0	0	0	-
Monday January 28 2019	0.0	0	0	-
Tuesday January 29 2019	0.0	0	0	-
Wednesday January 30 2019	0.0	0	0	-
Thursday January 31 2019	0.0	0	0	-
Friday February 01 2019	0.0	0	0	-
Saturday February 02 2019	0.0	0	0	-
Sunday February 03 2019	0.0	0	0	-
Monday February 04 2019	0.0	0	0	-
Tuesday February 05 2019	0.0	0	0	-
Wednesday February 06 2019	0.0	0	0	-
Thursday February 07 2019	0.0	0	0	-
Friday February 08 2019	0.0	0	0	-
Saturday February 09 2019	0.0	0	0	-
Sunday February 10 2019	0.0	0	0	-
Monday February 11 2019	0.0	0	0	-
Tuesday February 12 2019	0.0	0	0	-
Wednesday February 13 2019	0.0	0	0	-
Thursday February 14 2019	0.0	0	0	-
Friday February 15 2019	0.0	0	0	-
Saturday February 16 2019	0.0	0	0	-
Sunday February 17 2019	0.0	0	0	-
Monday February 18 2019	0.0	0	0	-
Tuesday February 19 2019	0.0	0	0	-
Wednesday February 20 2019	0.0	0	0	-
Thursday February 21 2019	0.0	0	0	-
Friday February 22 2019	0.0	0	0	-
Saturday February 23 2019	0.0	0	0	-
Sunday February 24 2019	0.0	0	0	-
Monday February 25 2019	0.0	0	0	-
Tuesday February 26 2019	0.0	0	0	-
Wednesday February 27 2019	0.0	0	0	-
Thursday February 28 2019	0.0	0	0	-
Friday March 01 2019	0.0	0	0	-
Saturday March 02 2019	0.0	0	0	-
Sunday March 03 2019	0.0	0	0	-
Monday March 04 2019	0.0	0	0	-
Tuesday March 05 2019	0.0	0	0	-
Wednesday March 06 2019	0.0	0	0	-
Thursday March 07 2019	0.0	0	0	-

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Dufferin Aggregates Paris Pit
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Friday March 08 2019	0.0	0	0	-
Saturday March 09 2019	0.0	0	0	-
Sunday March 10 2019	0.0	0	0	-
Monday March 11 2019	0.0	0	0	-
Tuesday March 12 2019	0.0	0	0	-
Wednesday March 13 2019	0.0	0	0	-
Thursday March 14 2019	0.0	0	0	-
Friday March 15 2019	0.0	0	0	-
Saturday March 16 2019	0.0	0	0	-
Sunday March 17 2019	0.0	0	0	-
Monday March 18 2019	0.0	0	0	-
Tuesday March 19 2019	0.0	0	0	-
Wednesday March 20 2019	0.0	0	0	-
Thursday March 21 2019	0.0	0	0	-
Friday March 22 2019	11.6	13,869	9,652,770	First day of source pond pumping
Saturday March 23 2019	11.8	9,196	6,510,888	-
Sunday March 24 2019	11.7	7,765	5,450,976	-
Monday March 25 2019	11.8	7,699	5,450,976	-
Tuesday March 26 2019	12.0	8,990	6,473,034	-
Wednesday March 27 2019	11.8	7,646	5,413,122	-
Thursday March 28 2019	11.9	9,649	6,889,428	-
Friday March 29 2019	11.7	9,383	6,586,596	-
Saturday March 30 2019	11.7	10,461	7,343,676	-
Sunday March 31 2019	11.7	9,383	6,586,596	-
Monday April 01 2019	11.7	11,000	7,722,216	-
Tuesday April 02 2019	11.8	10,907	7,722,216	-
Wednesday April 03 2019	11.8	11,923	8,441,442	-
Thursday April 04 2019	11.3	13,009	8,819,982	-
Friday April 05 2019	11.9	10,974	7,835,778	-
Saturday April 06 2019	11.8	10,800	7,646,508	-
Sunday April 07 2019	11.0	11,930	7,873,632	-
Monday April 08 2019	10.5	9,433	5,943,078	-
Tuesday April 09 2019	10.5	9,433	5,943,078	-
Wednesday April 10 2019	11.1	8,753	5,829,516	-
Thursday April 11 2019	11.7	7,981	5,602,392	-
Friday April 12 2019	11.3	9,659	6,548,742	-
Saturday April 13 2019	5.4	7,594	2,460,510	-
Sunday April 14 2019	11.3	7,705	5,223,852	-
Monday April 15 2019	11.7	8,789	6,170,202	-
Tuesday April 16 2019	8.8	8,603	4,542,480	-
Wednesday April 17 2019	11.1	8,810	5,867,370	-
Thursday April 18 2019	9.8	8,627	5,072,436	-
Friday April 19 2019	8.8	8,603	4,542,480	-
Saturday April 20 2019	10.7	10,672	6,851,574	-
Sunday April 21 2019	0.0	0	0	-
Monday April 22 2019	11.9	1,113	794,934	-
Tuesday April 23 2019	11.8	1,123	794,934	-
Wednesday April 24 2019	11.9	1,166	832,788	-
Thursday April 25 2019	11.9	1,166	832,788	-
Friday April 26 2019	11.8	1,176	832,788	-
Saturday April 27 2019	11.9	1,113	794,934	-
Sunday April 28 2019	0.0	0	0	-
Monday April 29 2019	11.9	1,166	832,788	-
Tuesday April 30 2019	11.9	1,272	908,496	-

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Dufferin Aggregates Paris Pit
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Wednesday May 01 2019	11.8	1,283	908,496	-
Thursday May 02 2019	11.9	1,272	908,496	-
Friday May 03 2019	11.8	1,283	908,496	-
Saturday May 04 2019	11.9	1,272	908,496	-
Sunday May 05 2019	11.9	1,272	908,496	-
Monday May 06 2019	11.9	1,219	870,642	-
Tuesday May 07 2019	11.9	1,272	908,496	-
Wednesday May 08 2019	12.0	1,393	1,003,131	-
Thursday May 09 2019	11.6	1,398	972,848	-
Friday May 10 2019	12.0	1,388	999,346	-
Saturday May 11 2019	12.0	1,398	1,006,916	-
Sunday May 12 2019	11.7	1,391	976,633	-
Monday May 13 2019	11.9	1,378	984,204	-
Tuesday May 14 2019	11.8	1,390	984,204	-
Wednesday May 15 2019	11.9	1,378	984,204	-
Thursday May 16 2019	11.9	1,378	984,204	-
Friday May 17 2019	11.9	1,378	984,204	-
Saturday May 18 2019	11.8	1,390	984,204	-
Sunday May 19 2019	11.9	1,325	946,350	-
Monday May 20 2019	11.9	1,378	984,204	-
Tuesday May 21 2019	11.9	1,378	984,204	-
Wednesday May 22 2019	11.8	1,337	946,350	-
Thursday May 23 2019	11.9	1,378	984,204	-
Friday May 24 2019	11.9	1,325	946,350	-
Saturday May 25 2019	11.9	1,378	984,204	-
Sunday May 26 2019	11.8	1,390	984,204	-
Monday May 27 2019	11.9	1,325	946,350	-
Tuesday May 28 2019	11.9	1,378	984,204	-
Wednesday May 29 2019	11.9	1,325	946,350	-
Thursday May 30 2019	11.8	1,390	984,204	-
Friday May 31 2019	11.9	1,325	946,350	-
Saturday June 01 2019	11.9	1,325	946,350	-
Sunday June 02 2019	11.8	1,337	946,350	-
Monday June 03 2019	0.0	0	0	-
Tuesday June 04 2019	11.9	1,378	984,204	-
Wednesday June 05 2019	11.9	1,325	946,350	-
Thursday June 06 2019	11.9	1,272	908,496	-
Friday June 07 2019	11.9	1,378	984,204	-
Saturday June 08 2019	11.8	1,337	946,350	-
Sunday June 09 2019	11.9	1,325	946,350	-
Monday June 10 2019	11.9	1,325	946,350	-
Tuesday June 11 2019	11.8	1,337	946,350	-
Wednesday June 12 2019	11.9	1,325	946,350	-
Thursday June 13 2019	11.9	1,325	946,350	-
Friday June 14 2019	11.9	1,272	908,496	-
Saturday June 15 2019	11.8	1,337	946,350	-
Sunday June 16 2019	11.9	1,325	946,350	-
Monday June 17 2019	1.4	1,352	113,562	Power outage stopped pump early.
Tuesday June 18 2019	11.8	1,337	946,350	-
Wednesday June 19 2019	11.9	1,272	908,496	-
Thursday June 20 2019	11.8	1,337	946,350	-
Friday June 21 2019	11.9	1,325	946,350	-
Saturday June 22 2019	11.9	1,272	908,496	-
Sunday June 23 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.

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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Monday June 24 2019	11.9	1,325	946,350	-
Tuesday June 25 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Wednesday June 26 2019	11.8	1,283	908,496	-
Thursday June 27 2019	11.9	1,272	908,496	-
Friday June 28 2019	11.9	1,325	946,350	-
Saturday June 29 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Sunday June 30 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday July 01 2019	11.9	1,325	946,350	-
Tuesday July 02 2019	11.9	1,325	946,350	-
Wednesday July 03 2019	0.0	0	0	-
Thursday July 04 2019	11.8	1,283	908,496	-
Friday July 05 2019	11.9	1,325	946,350	-
Saturday July 06 2019	11.9	1,378	984,204	-
Sunday July 07 2019	0.0	0	0	-
Monday July 08 2019	11.9	1,325	946,350	-
Tuesday July 09 2019	11.8	1,337	946,350	-
Wednesday July 10 2019	11.9	1,378	984,204	-
Thursday July 11 2019	11.9	1,325	946,350	-
Friday July 12 2019	11.8	1,337	946,350	-
Saturday July 13 2019	11.9	1,378	984,204	-
Sunday July 14 2019	0.0	0	0	-
Monday July 15 2019	11.9	1,325	946,350	-
Tuesday July 16 2019	11.9	1,378	984,204	-
Wednesday July 17 2019	11.9	1,325	946,350	-
Thursday July 18 2019	11.8	1,337	946,350	-
Friday July 19 2019	11.9	1,378	984,204	-
Saturday July 20 2019	11.9	1,325	946,350	-
Sunday July 21 2019	0.0	0	0	-
Monday July 22 2019	11.9	1,378	984,204	-
Tuesday July 23 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Wednesday July 24 2019	11.8	1,390	984,204	-
Thursday July 25 2019	11.9	1,378	984,204	-
Friday July 26 2019	11.9	1,378	984,204	-
Saturday July 27 2019	11.9	1,378	984,204	-
Sunday July 28 2019	0.0	0	0	-
Monday July 29 2019	11.9	1,378	984,204	-
Tuesday July 30 2019	11.8	1,390	984,204	-
Wednesday July 31 2019	11.8	1,390	984,204	-
Thursday August 01 2019	11.9	1,392	993,668	-
Friday August 02 2019	11.7	1,389	974,741	-
Saturday August 03 2019	11.8	1,390	984,204	-
Sunday August 04 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday August 05 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Tuesday August 06 2019	12.0	1,393	1,003,131	-
Wednesday August 07 2019	12.0	1,393	1,003,131	-
Thursday August 08 2019	12.0	1,393	1,003,131	-
Friday August 09 2019	11.9	1,398	993,668	-
Saturday August 10 2019	11.8	1,398	993,668	-
Sunday August 11 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday August 12 2019	12.0	1,393	1,003,131	-
Tuesday August 13 2019	11.9	1,392	993,668	-
Wednesday August 14 2019	11.7	1,389	974,741	-
Thursday August 15 2019	12.0	1,393	1,003,131	-
Friday August 16 2019	12.0	1,393	1,003,131	-

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County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Saturday August 17 2019	11.9	1,392	993,668	-
Sunday August 18 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday August 19 2019	11.9	1,392	993,668	-
Tuesday August 20 2019	11.9	1,392	993,668	-
Wednesday August 21 2019	11.9	1,392	993,668	-
Thursday August 22 2019	11.7	1,389	974,741	-
Friday August 23 2019	11.8	1,390	984,204	-
Saturday August 24 2019	11.8	1,390	984,204	-
Sunday August 25 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday August 26 2019	11.9	1,392	993,668	-
Tuesday August 27 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Wednesday August 28 2019	11.9	1,378	984,204	-
Thursday August 29 2019	11.8	1,390	984,204	-
Friday August 30 2019	11.9	1,392	993,668	-
Saturday August 31 2019	11.9	1,392	993,668	-
Sunday September 01 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday September 02 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Tuesday September 03 2019	11.9	1,378	984,204	-
Wednesday September 04 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Thursday September 05 2019	11.8	1,337	946,350	-
Friday September 06 2019	11.9	1,378	984,204	-
Saturday September 07 2019	11.9	1,325	946,350	-
Sunday September 08 2019	11.8	1,390	984,204	-
Monday September 09 2019	11.9	1,378	984,204	-
Tuesday September 10 2019	11.9	1,325	946,350	-
Wednesday September 11 2019	11.9	1,378	984,204	-
Thursday September 12 2019	11.9	1,325	946,350	-
Friday September 13 2019	11.8	1,390	984,204	-
Saturday September 14 2019	11.9	1,325	946,350	-
Sunday September 15 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday September 16 2019	11.9	1,378	984,204	-
Tuesday September 17 2019	11.8	1,390	984,204	-
Wednesday September 18 2019	11.9	1,378	984,204	-
Thursday September 19 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Friday September 20 2019	11.9	1,325	946,350	-
Saturday September 21 2019	11.9	1,378	984,204	-
Sunday September 22 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday September 23 2019	11.8	1,390	984,204	-
Tuesday September 24 2019	11.9	1,325	946,350	-
Wednesday September 25 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Thursday September 26 2019	11.9	1,378	984,204	-
Friday September 27 2019	11.8	1,337	946,350	-
Saturday September 28 2019	11.9	1,378	984,204	-
Sunday September 29 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday September 30 2019	11.9	1,325	946,350	-
Tuesday October 01 2019	11.9	1,378	984,204	-
Wednesday October 02 2019	11.8	1,337	946,350	-
Thursday October 03 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Friday October 04 2019	11.9	1,378	984,204	-
Saturday October 05 2019	11.9	1,325	946,350	-
Sunday October 06 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday October 07 2019	11.9	1,378	984,204	-
Tuesday October 08 2019	11.8	1,337	946,350	-
Wednesday October 09 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.

**Historical Water Taking
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Thursday October 10 2019	11.9	1,378	984,204	-
Friday October 11 2019	11.9	1,325	946,350	-
Saturday October 12 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Sunday October 13 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday October 14 2019	11.9	1,325	946,350	-
Tuesday October 15 2019	11.8	1,390	984,204	-
Wednesday October 16 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Thursday October 17 2019	11.9	1,325	946,350	-
Friday October 18 2019	12.0	1,367	984,204	-
Saturday October 19 2019	11.8	1,337	946,350	-
Sunday October 20 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Monday October 21 2019	0.0	0	0	Did not run pump in an effort to conserve pumping days.
Tuesday October 22 2019	11.8	1,390	984,204	Last permitted day of pumping
Wednesday October 23 2019	0.0	0	0	-
Thursday October 24 2019	0.0	0	0	-
Friday October 25 2019	0.0	0	0	-
Saturday October 26 2019	0.0	0	0	-
Sunday October 27 2019	0.0	0	0	-
Monday October 28 2019	0.0	0	0	-
Tuesday October 29 2019	0.0	0	0	-
Wednesday October 30 2019	0.0	0	0	-
Thursday October 31 2019	0.0	0	0	-
Friday November 01 2019	0.0	0	0	-
Saturday November 02 2019	0.0	0	0	-
Sunday November 03 2019	0.0	0	0	-
Monday November 04 2019	0.0	0	0	-
Tuesday November 05 2019	0.0	0	0	-
Wednesday November 06 2019	0.0	0	0	-
Thursday November 07 2019	0.0	0	0	-
Friday November 08 2019	0.0	0	0	-
Saturday November 09 2019	0.0	0	0	-
Sunday November 10 2019	0.0	0	0	-
Monday November 11 2019	0.0	0	0	-
Tuesday November 12 2019	0.0	0	0	-
Wednesday November 13 2019	0.0	0	0	-
Thursday November 14 2019	0.0	0	0	-
Friday November 15 2019	0.0	0	0	-
Saturday November 16 2019	0.0	0	0	-
Sunday November 17 2019	0.0	0	0	-
Monday November 18 2019	0.0	0	0	-
Tuesday November 19 2019	0.0	0	0	-
Wednesday November 20 2019	0.0	0	0	-
Thursday November 21 2019	0.0	0	0	-
Friday November 22 2019	0.0	0	0	-
Saturday November 23 2019	0.0	0	0	-
Sunday November 24 2019	0.0	0	0	-
Monday November 25 2019	0.0	0	0	-
Tuesday November 26 2019	0.0	0	0	-
Wednesday November 27 2019	0.0	0	0	-
Thursday November 28 2019	0.0	0	0	-
Friday November 29 2019	0.0	0	0	-
Saturday November 30 2019	0.0	0	0	-
Sunday December 01 2019	0.0	0	0	-
Monday December 02 2019	0.0	0	0	-

**Historical Water Taking
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Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Tuesday December 03 2019	0.0	0	0	-
Wednesday December 04 2019	0.0	0	0	-
Thursday December 05 2019	0.0	0	0	-
Friday December 06 2019	0.0	0	0	-
Saturday December 07 2019	0.0	0	0	-
Sunday December 08 2019	0.0	0	0	-
Monday December 09 2019	0.0	0	0	-
Tuesday December 10 2019	0.0	0	0	-
Wednesday December 11 2019	0.0	0	0	-
Thursday December 12 2019	0.0	0	0	-
Friday December 13 2019	0.0	0	0	-
Saturday December 14 2019	0.0	0	0	-
Sunday December 15 2019	0.0	0	0	-
Monday December 16 2019	0.0	0	0	-
Tuesday December 17 2019	0.0	0	0	-
Wednesday December 18 2019	0.0	0	0	-
Thursday December 19 2019	0.0	0	0	-
Friday December 20 2019	0.0	0	0	-
Saturday December 21 2019	0.0	0	0	-
Sunday December 22 2019	0.0	0	0	-
Monday December 23 2019	0.0	0	0	-
Tuesday December 24 2019	0.0	0	0	-
Wednesday December 25 2019	0.0	0	0	-
Thursday December 26 2019	0.0	0	0	-
Friday December 27 2019	0.0	0	0	-
Saturday December 28 2019	0.0	0	0	-
Sunday December 29 2019	0.0	0	0	-
Monday December 30 2019	0.0	0	0	-
Tuesday December 31 2019	0.0	0	0	-
Wednesday January 01 2020	0.0	0	0	-
Thursday January 02 2020	0.0	0	0	-
Friday January 03 2020	0.0	0	0	-
Saturday January 04 2020	0.0	0	0	-
Sunday January 05 2020	0.0	0	0	-
Monday January 06 2020	0.0	0	0	-
Tuesday January 07 2020	0.0	0	0	-
Wednesday January 08 2020	0.0	0	0	-
Thursday January 09 2020	0.0	0	0	-
Friday January 10 2020	0.0	0	0	-
Saturday January 11 2020	0.0	0	0	-
Sunday January 12 2020	0.0	0	0	-
Monday January 13 2020	0.0	0	0	-
Tuesday January 14 2020	0.0	0	0	-
Wednesday January 15 2020	0.0	0	0	-
Thursday January 16 2020	0.0	0	0	-
Friday January 17 2020	0.0	0	0	-
Saturday January 18 2020	0.0	0	0	-
Sunday January 19 2020	0.0	0	0	-
Monday January 20 2020	0.0	0	0	-
Tuesday January 21 2020	0.0	0	0	-
Wednesday January 22 2020	0.0	0	0	-
Thursday January 23 2020	0.0	0	0	-
Friday January 24 2020	0.0	0	0	-
Saturday January 25 2020	0.0	0	0	-

**Historical Water Taking
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Sunday January 26 2020	0.0	0	0	-
Monday January 27 2020	0.0	0	0	-
Tuesday January 28 2020	0.0	0	0	-
Wednesday January 29 2020	0.0	0	0	-
Thursday January 30 2020	0.0	0	0	-
Friday January 31 2020	0.0	0	0	-
Saturday February 01 2020	0.0	0	0	-
Sunday February 02 2020	0.0	0	0	-
Monday February 03 2020	0.0	0	0	-
Tuesday February 04 2020	0.0	0	0	-
Wednesday February 05 2020	0.0	0	0	-
Thursday February 06 2020	0.0	0	0	-
Friday February 07 2020	0.0	0	0	-
Saturday February 08 2020	0.0	0	0	-
Sunday February 09 2020	0.0	0	0	-
Monday February 10 2020	0.0	0	0	-
Tuesday February 11 2020	0.0	0	0	-
Wednesday February 12 2020	0.0	0	0	-
Thursday February 13 2020	0.0	0	0	-
Friday February 14 2020	0.0	0	0	-
Saturday February 15 2020	0.0	0	0	-
Sunday February 16 2020	0.0	0	0	-
Monday February 17 2020	0.0	0	0	-
Tuesday February 18 2020	0.0	0	0	-
Wednesday February 19 2020	0.0	0	0	-
Thursday February 20 2020	0.0	0	0	-
Friday February 21 2020	0.0	0	0	-
Saturday February 22 2020	0.0	0	0	-
Sunday February 23 2020	0.0	0	0	-
Monday February 24 2020	0.0	0	0	-
Tuesday February 25 2020	0.0	0	0	-
Wednesday February 26 2020	0.0	0	0	-
Thursday February 27 2020	0.0	0	0	-
Friday February 28 2020	0.0	0	0	-
Saturday February 29 2020	0.0	0	0	-
Sunday March 01 2020	0.0	0	0	-
Monday March 02 2020	0.0	0	0	-
Tuesday March 03 2020	0.0	0	0	-
Wednesday March 04 2020	0.0	0	0	-
Thursday March 05 2020	0.0	0	0	-
Friday March 06 2020	0.0	0	0	-
Saturday March 07 2020	0.0	0	0	-
Sunday March 08 2020	0.0	0	0	-
Monday March 09 2020	0.0	0	0	-
Tuesday March 10 2020	0.0	0	0	-
Wednesday March 11 2020	0.0	0	0	-
Thursday March 12 2020	0.0	0	0	-
Friday March 13 2020	0.0	0	0	-
Saturday March 14 2020	0.0	0	0	-
Sunday March 15 2020	0.0	0	0	-
Monday March 16 2020	0.0	0	0	-
Tuesday March 17 2020	0.0	0	0	-
Wednesday March 18 2020	0.0	0	0	-
Thursday March 19 2020	0.0	0	0	-

**Historical Water Taking
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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Friday March 20 2020	0.0	0	0	-
Saturday March 21 2020	0.0	0	0	-
Sunday March 22 2020	0.0	0	0	-
Monday March 23 2020	0.0	0	0	-
Tuesday March 24 2020	0.0	0	0	-
Wednesday March 25 2020	0.0	0	0	-
Thursday March 26 2020	0.0	0	0	-
Friday March 27 2020	0.0	0	0	-
Saturday March 28 2020	0.0	0	0	-
Sunday March 29 2020	0.0	0	0	-
Monday March 30 2020	12.0	13,459	9,690,624	Started large pump
Tuesday March 31 2020	11.7	11,917	8,365,734	-
Wednesday April 01 2020	7.5	10,094	4,542,480	-
Thursday April 02 2020	8.5	8,684	4,428,918	-
Friday April 03 2020	7.1	8,797	3,747,546	-
Saturday April 04 2020	9.2	7,406	4,088,232	-
Sunday April 05 2020	0.0	0	0	-
Monday April 06 2020	9.6	10,646	6,132,348	-
Tuesday April 07 2020	5.7	10,736	3,671,838	-
Wednesday April 08 2020	8.0	8,911	4,277,502	-
Thursday April 09 2020	8.3	7,601	3,785,400	-
Friday April 10 2020	0.0	0	0	Holiday
Saturday April 11 2020	8.0	11,514	5,526,684	-
Sunday April 12 2020	1.2	8,938	643,518	Power outage turned pump off prematurely
Monday April 13 2020	9.2	11,727	6,473,034	-
Tuesday April 14 2020	9.3	8,683	4,845,312	-
Wednesday April 15 2020	6.8	8,628	3,520,422	-
Thursday April 16 2020	7.5	9,001	4,050,378	-
Friday April 17 2020	5.5	8,947	2,952,612	-
Saturday April 18 2020	0.0	0	0	-
Sunday April 19 2020	0.0	0	0	-
Monday April 20 2020	11.5	9,271	6,397,326	-
Tuesday April 21 2020	8.8	9,033	4,769,604	-
Wednesday April 22 2020	9.2	9,189	5,072,436	-
Thursday April 23 2020	7.3	8,729	3,823,254	-
Friday April 24 2020	7.7	8,439	3,898,962	-
Saturday April 25 2020	7.4	8,696	3,861,108	-
Sunday April 26 2020	7.8	8,008	3,747,546	-
Monday April 27 2020	8.3	8,513	4,239,648	-
Tuesday April 28 2020	7.7	8,685	4,012,524	-
Wednesday April 29 2020	11.9	1,272	908,496	-
Thursday April 30 2020	11.8	1,283	908,496	-
Friday May 01 2020	11.9	1,378	984,204	-
Saturday May 02 2020	11.9	1,378	984,204	-
Sunday May 03 2020	11.9	1,378	984,204	-
Monday May 04 2020	11.8	1,390	984,204	-
Tuesday May 05 2020	11.9	1,378	984,204	-
Wednesday May 06 2020	11.9	1,378	984,204	-
Thursday May 07 2020	11.8	1,390	984,204	-
Friday May 08 2020	11.9	1,378	984,204	-
Saturday May 09 2020	11.9	1,378	984,204	-
Sunday May 10 2020	11.9	1,378	984,204	-
Monday May 11 2020	11.8	1,390	984,204	-
Tuesday May 12 2020	11.9	1,378	984,204	-

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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Wednesday May 13 2020	11.9	1,378	984,204	-
Thursday May 14 2020	11.8	1,390	984,204	-
Friday May 15 2020	11.9	1,378	984,204	-
Saturday May 16 2020	11.9	1,378	984,204	-
Sunday May 17 2020	11.8	1,390	984,204	-
Monday May 18 2020	11.9	1,378	984,204	-
Tuesday May 19 2020	11.9	1,378	984,204	-
Wednesday May 20 2020	11.9	1,378	984,204	-
Thursday May 21 2020	11.9	1,378	984,204	-
Friday May 22 2020	11.8	1,390	984,204	-
Saturday May 23 2020	11.9	1,378	984,204	-
Sunday May 24 2020	11.9	1,378	984,204	-
Monday May 25 2020	11.9	1,378	984,204	-
Tuesday May 26 2020	11.8	1,390	984,204	-
Wednesday May 27 2020	11.9	1,378	984,204	-
Thursday May 28 2020	11.9	1,378	984,204	-
Friday May 29 2020	11.8	1,390	984,204	-
Saturday May 30 2020	11.9	1,378	984,204	-
Sunday May 31 2020	11.9	1,378	984,204	-
Monday June 01 2020	11.9	1,378	984,204	-
Tuesday June 02 2020	11.9	1,378	984,204	-
Wednesday June 03 2020	11.8	1,390	984,204	-
Thursday June 04 2020	11.9	1,378	984,204	-
Friday June 05 2020	11.8	1,390	984,204	-
Saturday June 06 2020	11.9	1,378	984,204	-
Sunday June 07 2020	11.9	1,378	984,204	-
Monday June 08 2020	11.9	1,378	984,204	-
Tuesday June 09 2020	11.9	1,378	984,204	-
Wednesday June 10 2020	11.9	1,378	984,204	-
Thursday June 11 2020	11.8	1,390	984,204	-
Friday June 12 2020	11.9	1,378	984,204	-
Saturday June 13 2020	11.9	1,378	984,204	-
Sunday June 14 2020	11.9	1,378	984,204	-
Monday June 15 2020	11.8	1,390	984,204	-
Tuesday June 16 2020	11.9	1,378	984,204	-
Wednesday June 17 2020	11.9	1,378	984,204	-
Thursday June 18 2020	11.9	1,378	984,204	-
Friday June 19 2020	11.8	1,390	984,204	-
Saturday June 20 2020	11.9	1,378	984,204	-
Sunday June 21 2020	11.9	1,378	984,204	-
Monday June 22 2020	11.9	1,378	984,204	-
Tuesday June 23 2020	11.8	1,390	984,204	-
Wednesday June 24 2020	11.9	1,378	984,204	-
Thursday June 25 2020	11.9	1,378	984,204	-
Friday June 26 2020	11.8	1,390	984,204	-
Saturday June 27 2020	11.9	1,378	984,204	-
Sunday June 28 2020	11.9	1,378	984,204	-
Monday June 29 2020	11.9	1,378	984,204	-
Tuesday June 30 2020	11.8	1,390	984,204	-
Wednesday July 01 2020	11.9	1,378	984,204	-
Thursday July 02 2020	11.9	1,378	984,204	-
Friday July 03 2020	11.9	1,378	984,204	-
Saturday July 04 2020	11.9	1,378	984,204	-
Sunday July 05 2020	11.8	1,390	984,204	-

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Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Monday July 06 2020	11.9	1,378	984,204	-
Tuesday July 07 2020	11.9	1,378	984,204	-
Wednesday July 08 2020	11.9	1,378	984,204	-
Thursday July 09 2020	11.9	1,378	984,204	-
Friday July 10 2020	11.8	1,390	984,204	-
Saturday July 11 2020	11.9	1,378	984,204	-
Sunday July 12 2020	11.9	1,378	984,204	-
Monday July 13 2020	11.9	1,378	984,204	-
Tuesday July 14 2020	11.8	1,390	984,204	-
Wednesday July 15 2020	11.9	1,378	984,204	-
Thursday July 16 2020	11.9	1,378	984,204	-
Friday July 17 2020	11.9	1,378	984,204	-
Saturday July 18 2020	11.9	1,378	984,204	-
Sunday July 19 2020	3.1	1,221	227,124	Power outage turned pump off prematurely
Monday July 20 2020	11.9	1,378	984,204	-
Tuesday July 21 2020	11.9	1,378	984,204	-
Wednesday July 22 2020	11.9	1,378	984,204	-
Thursday July 23 2020	11.9	1,378	984,204	-
Friday July 24 2020	11.8	1,390	984,204	-
Saturday July 25 2020	11.9	1,378	984,204	-
Sunday July 26 2020	11.9	1,378	984,204	-
Monday July 27 2020	11.7	1,348	946,350	-
Tuesday July 28 2020	11.9	1,378	984,204	-
Wednesday July 29 2020	11.9	1,378	984,204	-
Thursday July 30 2020	11.9	1,378	984,204	-
Friday July 31 2020	11.8	1,390	984,204	-
Saturday August 01 2020	0.0	0	0	Did not run pump.
Sunday August 02 2020	0.0	0	0	Did not run pump.
Monday August 03 2020	11.9	1,378	984,204	-
Tuesday August 04 2020	11.9	1,378	984,204	-
Wednesday August 05 2020	0.0	0	0	Did not run pump.
Thursday August 06 2020	11.9	1,378	984,204	-
Friday August 07 2020	11.8	1,390	984,204	-
Saturday August 08 2020	0.0	0	0	Did not run pump.
Sunday August 09 2020	0.0	0	0	Did not run pump.
Monday August 10 2020	11.9	1,378	984,204	-
Tuesday August 11 2020	11.9	1,378	984,204	-
Wednesday August 12 2020	11.9	1,378	984,204	-
Thursday August 13 2020	11.8	1,390	984,204	-
Friday August 14 2020	11.9	1,378	984,204	-
Saturday August 15 2020	11.9	1,378	984,204	-
Sunday August 16 2020	11.9	1,378	984,204	-
Monday August 17 2020	11.8	1,390	984,204	-
Tuesday August 18 2020	11.9	1,378	984,204	-
Wednesday August 19 2020	11.9	1,378	984,204	-
Thursday August 20 2020	11.9	1,378	984,204	-
Friday August 21 2020	11.8	1,390	984,204	-
Saturday August 22 2020	0.0	0	0	Did not run pump.
Sunday August 23 2020	0.0	0	0	Did not run pump.
Monday August 24 2020	11.9	1,378	984,204	-
Tuesday August 25 2020	11.9	1,378	984,204	-
Wednesday August 26 2020	11.9	1,378	984,204	-
Thursday August 27 2020	11.3	1,396	946,350	-
Friday August 28 2020	11.9	1,378	984,204	-

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County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Saturday August 29 2020	0.0	0	0	Did not run pump.
Sunday August 30 2020	0.0	0	0	Did not run pump.
Monday August 31 2020	11.9	1,378	984,204	-
Tuesday September 01 2020	11.9	1,378	984,204	-
Wednesday September 02 2020	11.8	1,390	984,204	-
Thursday September 03 2020	11.9	1,378	984,204	-
Friday September 04 2020	11.9	1,378	984,204	-
Saturday September 05 2020	0.0	0	0	Did not run pump.
Sunday September 06 2020	0.0	0	0	Did not run pump.
Monday September 07 2020	0.0	0	0	Holiday
Tuesday September 08 2020	0.0	0	0	Did not run pump.
Wednesday September 09 2020	11.9	1,378	984,204	-
Thursday September 10 2020	11.8	1,390	984,204	-
Friday September 11 2020	11.9	1,378	984,204	-
Saturday September 12 2020	0.0	0	0	Did not run pump.
Sunday September 13 2020	0.0	0	0	Did not run pump.
Monday September 14 2020	11.9	1,378	984,204	-
Tuesday September 15 2020	11.9	1,378	984,204	-
Wednesday September 16 2020	11.8	1,390	984,204	-
Thursday September 17 2020	11.9	1,378	984,204	-
Friday September 18 2020	11.9	1,378	984,204	-
Saturday September 19 2020	0.0	0	0	Did not run pump.
Sunday September 20 2020	0.0	0	0	Did not run pump.
Monday September 21 2020	11.8	1,390	984,204	-
Tuesday September 22 2020	11.9	1,378	984,204	-
Wednesday September 23 2020	11.9	1,378	984,204	-
Thursday September 24 2020	11.9	1,378	984,204	-
Friday September 25 2020	11.8	1,390	984,204	-
Saturday September 26 2020	0.0	0	0	Did not run pump.
Sunday September 27 2020	0.0	0	0	Did not run pump.
Monday September 28 2020	11.9	1,378	984,204	-
Tuesday September 29 2020	11.9	1,378	984,204	-
Wednesday September 30 2020	11.9	1,378	984,204	-
Thursday October 01 2020	11.8	1,390	984,204	-
Friday October 02 2020	11.9	1,378	984,204	-
Saturday October 03 2020	0.0	0	0	Did not run pump.
Sunday October 04 2020	0.0	0	0	Did not run pump.
Monday October 05 2020	11.9	1,378	984,204	-
Tuesday October 06 2020	11.8	1,390	984,204	-
Wednesday October 07 2020	0.0	0	0	Did not run pump.
Thursday October 08 2020	11.9	1,378	984,204	-
Friday October 09 2020	0.0	0	0	Did not run pump.
Saturday October 10 2020	0.0	0	0	Did not run pump.
Sunday October 11 2020	0.0	0	0	Did not run pump.
Monday October 12 2020	0.0	0	0	Holiday
Tuesday October 13 2020	0.0	0	0	Did not run pump.
Wednesday October 14 2020	0.0	0	0	Did not run pump.
Thursday October 15 2020	11.9	1,378	984,204	-
Friday October 16 2020	0.0	0	0	Did not run pump.
Saturday October 17 2020	0.0	0	0	Did not run pump.
Sunday October 18 2020	0.0	0	0	Did not run pump.
Monday October 19 2020	11.8	1,390	984,204	-
Tuesday October 20 2020	11.9	1,378	984,204	-
Wednesday October 21 2020	0.0	0	0	Did not run pump.

**Historical Water Taking
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County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Thursday October 22 2020	11.9	1,378	984,204	-
Friday October 23 2020	0.0	0	0	Did not run pump.
Saturday October 24 2020	0.0	0	0	Did not run pump.
Sunday October 25 2020	0.0	0	0	Did not run pump.
Monday October 26 2020	11.9	1,378	984,204	-
Tuesday October 27 2020	10.9	1,389	908,496	-
Wednesday October 28 2020	0.0	0	0	Did not run pump.
Thursday October 29 2020	0.0	0	0	Did not run pump.
Friday October 30 2020	10.6	1,309	832,788	-
Saturday October 31 2020	0.0	0	0	Did not run pump.
Sunday November 01 2020	0.0	0	0	Did not run pump.
Monday November 02 2020	11.9	1,272	908,496	-
Tuesday November 03 2020	0.0	0	0	Did not run pump.
Wednesday November 04 2020	11.8	1,283	908,496	-
Thursday November 05 2020	11.9	1,272	908,496	-
Friday November 06 2020	0.0	0	0	Did not run pump.
Saturday November 07 2020	0.0	0	0	Did not run pump.
Sunday November 08 2020	0.0	0	0	Did not run pump.
Monday November 09 2020	7.4	1,364	605,664	-
Tuesday November 10 2020	11.9	1,219	870,642	-
Wednesday November 11 2020	11.8	1,123	794,934	Last day of pumping for 2020
Thursday November 12 2020	0.0	0	0	-
Friday November 13 2020	0.0	0	0	-
Saturday November 14 2020	0.0	0	0	-
Sunday November 15 2020	0.0	0	0	-
Monday November 16 2020	0.0	0	0	-
Tuesday November 17 2020	0.0	0	0	-
Wednesday November 18 2020	0.0	0	0	-
Thursday November 19 2020	0.0	0	0	-
Friday November 20 2020	0.0	0	0	-
Saturday November 21 2020	0.0	0	0	-
Sunday November 22 2020	0.0	0	0	-
Monday November 23 2020	0.0	0	0	-
Tuesday November 24 2020	0.0	0	0	-
Wednesday November 25 2020	0.0	0	0	-
Thursday November 26 2020	0.0	0	0	-
Friday November 27 2020	0.0	0	0	-
Saturday November 28 2020	0.0	0	0	-
Sunday November 29 2020	0.0	0	0	-
Monday November 30 2020	0.0	0	0	-
Tuesday December 01 2020	0.0	0	0	-
Wednesday December 02 2020	0.0	0	0	-
Thursday December 03 2020	0.0	0	0	-
Friday December 04 2020	0.0	0	0	-
Saturday December 05 2020	0.0	0	0	-
Sunday December 06 2020	0.0	0	0	-
Monday December 07 2020	0.0	0	0	-
Tuesday December 08 2020	0.0	0	0	-
Wednesday December 09 2020	0.0	0	0	-
Thursday December 10 2020	0.0	0	0	-
Friday December 11 2020	0.0	0	0	-
Saturday December 12 2020	0.0	0	0	-
Sunday December 13 2020	0.0	0	0	-
Monday December 14 2020	0.0	0	0	-

**Historical Water Taking
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Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Date	Hours of Taking (hrs)	Rate of Taking (Lpm)	Amount of Taking (Lpd)	Comments
Tuesday December 15 2020	0.0	0	0	-
Wednesday December 16 2020	0.0	0	0	-
Thursday December 17 2020	0.0	0	0	-
Friday December 18 2020	0.0	0	0	-
Saturday December 19 2020	0.0	0	0	-
Sunday December 20 2020	0.0	0	0	-
Monday December 21 2020	0.0	0	0	-
Tuesday December 22 2020	0.0	0	0	-
Wednesday December 23 2020	0.0	0	0	-
Thursday December 24 2020	0.0	0	0	-
Friday December 25 2020	0.0	0	0	-
Saturday December 26 2020	0.0	0	0	-
Sunday December 27 2020	0.0	0	0	-
Monday December 28 2020	0.0	0	0	-
Tuesday December 29 2020	0.0	0	0	-
Wednesday December 30 2020	0.0	0	0	-
Thursday December 31 2020	0.0	0	0	-

Appendix G

Historical Analytical Data

Appendix G.1

Water Analytical Data

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-1-I 13-Dec-90	BH88-1-I 27-Mar-91	BH88-1-I 30-Jul-91	BH88-1-I 22-Nov-91	BH88-1-I 16-Jul-92	BH88-1-I 6-Jul-93	BH88-1-I 6-Apr-95	BH88-1-I 17-Apr-97	BH88-1-I 28-Apr-98	BH88-1-I 26-Apr-01	BH88-1-I 18-Nov-04	BH88-1-I 14-Nov-05	BH88-1-I 26-Sep-06	BH88-1-I 25-Oct-06	BH88-1-I 22-Nov-06	BH88-1-I 6-Jun-08	BH88-1-I 11-Sep-08	BH88-1-I 18-Nov-08	BH88-1-I 5-Jun-09	BH88-1-I 2-Sep-09	BH88-1-I 7-Dec-09	BH88-1-I 4-Jun-10	BH88-1-I 28-Aug-10	BH88-1-I 3-Dec-10
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
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Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-1-1 2-Jun-11	BH88-1-1 2-Sep-11	BH88-1-1 1-Dec-11	BH88-1-1 30-May-13	BH88-1-1 20-Aug-13	BH88-1-1 5-Dec-13	BH88-1-1 21-May-14	BH88-1-1 28-Aug-14	BH88-1-1 10-Dec-14	BH88-1-1 10-Dec-14 Duplicate	BH88-1-1 11-May-15	BH88-1-1 31-Aug-15	BH88-1-1 31-Aug-15 Duplicate	BH88-1-1 9-Dec-15	BH88-1-1 26-May-16	BH88-1-1 17-Aug-16	BH88-1-1 1-Dec-16	BH88-1-1 31-May-17	BH88-1-1 8-Aug-17	BH88-1-1 7-Dec-17	BH88-1-1 17-May-18	BH88-1-1 9-Aug-18	BH88-1-1 12-Dec-18	BH88-1-1 29-May-19	
Field Parameters																										
Conductivity (field)	mS	NA	NA	NA	520	521	623	573	615	468	468	471	444	444	464	490	484	536	502	602	611	443	574	642	448	
Conductivity	µmhos/cm	603	600	574	595	636.0	580	626	617	599	604	598	604	604	588	588	596	589	608	616	586	594	616	614	624	
Dissolved Oxygen (field)	mg/L	NA	NA	NA	10.70	11.20	10.70	9.22	7.70	6.25	6.25	10.00	8.03	8.03	5.02	4.50	3.37	6.09	7.45	12.05	12.50	16.55	10.37	8.68	14.61	
ORP	mV	NA	NA	NA	-40	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	249	148	151	236	-27	
pH (field)	unitless	NA	NA	NA	7.33	7.19	7.69	8.08	7.34	7.34	7.34	6.79	6.99	6.99	7.76	7.66	7.85	7.65	6.87	8.83	7.52	6.04	6.70	7.51	6.73	
pH		8.0	8.3	8.0	7.8	7.9	7.9	7.7	7.9	7.9	7.8	8.0	8.1	8.3	8.0	8.0	7.8	8.00	7.86	7.98	8.02	7.96	7.90	7.9	7.9	
Temperature (field)	Celsius	NA	NA	NA	11.9	12.2	8.3	10.2	9.6	8.1	8.1	10.4	11.2	11.2	9.2	10.1	10.4	8.9	9.9	10.0	7.4	8.5	11.8	8.5	9.8	
Turbidity (field)	NTU	NA	NA	NA	63.0	0.0	-10.0	-10.0	2.0	14.0	14.0	34.0	604.0	604.0	37.0	65.0	NA	29.0	0.0	0.0	0.0	0.0	0.0	3.6	8.7	
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.92	1.38	1.12	2.49	1.45	4.8	5.55	
General Chemistry																										
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO3/L	251	257	241	273	250.0	285	266	270	269	274	277	275	267	275	264	265	248	309	259	258	257	260	276	269	
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO3/L	3	2	2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO3/L	NA	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	
Alkalinity, Total (as CaCO ₃)	mg CaCO3/L	253	259	244	274	251	<0.050	267	272	269	274	277	275	267	275	264	265	248	309	259	258	257	260	276	269	
Ammonia, Total (as N)	mg/L	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.058	<0.050	<0.050	<0.020	<0.020	<0.020	0.022	<0.020	0.128	0.455	<0.020	<0.020	<0.010	
Unionized ammonia	mg/L	NA	NA	NA	<0.00028	<0.00021	<0.00048	<0.0014	<0.00024	<0.00021	<0.00021	<0.00097	0.00014	<0.00012	<0.00060	<0.00021	<0.00033	<0.00018	0.000037	<0.00027	0.00077	0.0000998	<0.00026	<0.00013	<0.00012	
Anion Sum	meq/L	6.29	6.47	6.1	5.75	5.4	6.00	5.64	5.74	5.65	5.72	5.83	5.77	5.66	5.82	5.57	5.58	5.35	5.93	5.56	5.65	5.74	6	5.88	8	
Cation - Anion Balance	%	1.57	3.46	2.94	10.2	8.9	7.8	9.3	7.1	5.0	4.5	5.0	5.3	7.0	4.6	5.9	3.2	6.7	3.3	10.4	7.6	6.3	5.2	8.7	8	
Cation Sum	meq/L	6.49	6.03	6.47	7.05	6.5	7.02	6.80	6.61	6.25	6.25	6.45	6.41	6.51	6.38	6.27	5.95	6.12	6.33	6.85	6.58	6.46	6.37	7.15	6.93	
Chloride	mg/L	12	13	13	12.2	12.7	12.3	11.5	11.3	11.5	11.3	11.3	10.7	11.0	10.7	10.8	11.1	10.8	11.3	11.7	12.9	14.2	14.1	15.1	14.2	
Dissolved Organic Carbon	mg/L	0.5	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	1.3	2.5	1.1	<1.0	<1.0	<1.0	1.1	<1.0	R	0.78 J	0.55	<1.05	
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	310	290	310	343	314	340	330	321	303	303	313	310	315	309	304	288	297	307	332	319	313	309	347	337	
Nitrate-N	mg/L	5.9	6.5	6.3	6.23	6.3	6.60	6.66	6.97	6.75	6.75	6.99	6.81	6.99	7.24	7.07	6.93	7.97	7.80	7.81	8.99	9.01	8.83	8.6	8.47	
Nitrite-N	mg/L	<0.01	<0.01	<0.01	<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	<0.10	
Nitrate & Nitrite(as N)	mg/L	5.9	6.5	6.3	6.23	6.3	6.60	6.66	6.97	6.75	6.75	6.99	6.81	6.99	7.24	7.07	6.93	7.97	7.8	7.81	8.99	9.01	8.83	8.6	8.47	
Phosphate-P (ortho)	mg/L	<0.01	<0.01	<0.01	<0.0030	0.0038	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	
Sulphate	mg/L	23	22	20	21.1	22.1	21.9	21.0	20.6	19.0	19.0	21.0	19.7	20.2	19.2	18.2	18.7	17.9	17.9	19.1	17.6	18.5	19.4	19.5	20.7	
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	338	336	331	356	384	360	351	354	350	352	339	340	331	302	373	346	340	330	336	340	355 J	365	344	369	
Total Organic Carbon	mg/L	NA	NA	NA	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	<1.0	1.4	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	1	1.29	1.18	<1.19	
Total Suspended Solids	mg/L	NA	NA	NA	183	2.4	<2.0	4.8	2.8	4.9	3.7	4.9	8.8	8.0	<2.0	17.2	9.6	3.5	4.5	2.4	3.5	9.5	4.5	3	38.7	
Dissolved Metals																										
Aluminum (Al)-Dissolved	mg/L	0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.0050	<0.0050	0.0126	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Antimony (Sb)-Dissolved	mg/L	<0.0005	<0.0005	0.00059	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	
Barium (Ba)-Dissolved	mg/L	0.13	0.12	0.03	0.151	0.138	0.134	0.132	0.148	0.136	0.137	0.143	0.140	0.138	0.142	0.134	0.127	0.129	0.135	0.151	0.140	0.136	0.134	0.144	0.157	
Beryllium (Be)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	
Bismuth (Bi)-Dissolved	mg/L	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	
Boron (B)-Dissolved	mg/L	0.03	0.011	0.013	0.014	0.012	0.011	0.013	0.016	0.012	0.012	0.012	0.013	0.014	0.011	0.013	0.013	0.013	0.012	0.013	0.011	0.013	0.012	0.014	0.012	
Cadmium (Cd)-Dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	0.000036	0.000036	0.000024	0.000067	0.000056	0.000032	0.000032	0.000041	0.000021	0.000022	0.000015	0.000017	0.000018	
Calcium (Ca)-Dissolved	mg/L	82	78	82	91.2	83.5	88.0	88.6	80.0	79.6	81.9	80.0	82.1	80.0	82.1	78.2	75.5	80.3	81.6	87.1	84.7	84.5	82.1	92.6	88.8	
Chromium (Cr)-Dissolved	mg/L	<0.005	<0.005	<0.005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00067	0.00081	0.00071	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00172	<0.00050	<0.00050	<0.00050	
Cobalt (Co)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005																					

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-1-I 2-Jun-11	BH88-1-I 2-Sep-11	BH88-1-I 1-Dec-11	BH88-1-I 30-May-13	BH88-1-I 20-Aug-13	BH88-1-I 5-Dec-13	BH88-1-I 21-May-14	BH88-1-I 28-Aug-14	BH88-1-I 10-Dec-14	BH88-1-I 10-Dec-14 Duplicate	BH88-1-I 11-May-15	BH88-1-I 31-Aug-15	BH88-1-I 31-Aug-15 Duplicate	BH88-1-I 9-Dec-15	BH88-1-I 26-May-16	BH88-1-I 17-Aug-16	BH88-1-I 1-Dec-16	BH88-1-I 31-May-17	BH88-1-I 8-Aug-17	BH88-1-I 7-Dec-17	BH88-1-I 17-May-18	BH88-1-I 9-Aug-18	BH88-1-I 12-Dec-18	BH88-1-I 29-May-19
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temphos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a

Historical Analytical Data - Water Analytical Data (Groundwater)
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Parameter	Units	BH88-1-1 8-Aug-19	BH88-1-1 4-Dec-19	BH88-1-1 21-May-20	BH88-1-1 12-Aug-20	BH88-1-1 1-Dec-20	BH88-1-1 27-May-21	BH88-1-1 19-Aug-21	BH88-1-1 8-Dec-21	BH88-2-1 13-Dec-90	BH88-2-1 26-Mar-91	BH88-2-1 30-Jul-91	BH88-2-1 22-Nov-91	BH88-2-1 16-Jul-92	BH88-2-1 6-Jul-93	BH88-2-1 6-Apr-95	BH88-2-1 17-Apr-97	BH88-2-1 28-Apr-98	BH88-2-1 26-Apr-01	BH88-2-1 18-Nov-04	BH88-2-1 14-Nov-05	BH88-2-1 26-Sep-06	BH88-2-1 25-Oct-06
Field Parameters																							
Conductivity (field)	mS	582	634	612	624	588	637	612	675	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conductivity	µmhos/cm	605	604	608	642	610	577	632	652	859	976	1040	979	872	763	978	623	625	610	581	586	624	629
Dissolved Oxygen (field)	mg/L	7.00	8.73	6.84	6.52	7.59	6.24	8.47	4.72	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ORP	mV	198	232	225	180	254	164	165	155	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (field)	unitless	7.42	7.43	7.21	6.97	7.56	7.81	7.37	7.55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	pH	7.61	8.02	7.75	7.86	7.86	7.94	7.77	7.94	7.5	7.9	7.9	7.6	7.4	7.5	7.4	7.7	7.5	7.6	7.9	8.1	8.0	8.1
Temperature (field)	Celsius	13.5	8.7	11.2	15.2	9.2	11.13	13.18	7.56	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity (field)	NTU	5.1	0.0	0.7	20.3	0.0	8	0	18	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity	NTU	5.13 J+	1.26	0.36	6.75	1.14	0.34	0.34	0.85	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																							
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	265	269	261	257	261	211	289	259	209	219	198	209	224	259	293	264	263	294	253	267	321	308
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	<10	<2	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<1.0	1.45	1.48	0.78	0.53	0.77	1	1	<1	1	2	3	3	3
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	<10	<2	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	265	269	261	257	261	211	289	259	210	220	200	210	225	260	298	265	264	295	255	270	325	311
Ammonia, Total (as N)	mg/L	0.013	<0.010	0.013	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	<0.05	0.12	0.06	<0.05	<0.05	<0.05	0.06	0.2	0.06	<0.03	0.05	0.21	0.65	0.97
Unionized ammonia	mg/L	0.000101	<0.000052	0.000054	ND (0.000010)	ND (0.000076)	ND (0.00016)	ND (0.000067)	ND (0.000067)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anion Sum	meq/L	5.8	5.87	5.66	5.58	5.71	4.94	6.26	5.86	7.64	9.69	9.71	8.46	8.26	7.42	8.7	7.07	6.78	7.9	6.47	6.45	7.49	7.3
Cation - Anion Balance	%	6	6	7	11	4	17	5	8	1.1	2.38	3.18	1.8	0.98	0.19	2.66	2.54	0.26	1.21	2.11	0.255	1.33	3.74
Cation Sum	meq/L	6.52	6.56	6.46	6.92	6.23	6.98	6.98	6.82	7.81	9.24	9.11	8.77	8.1	7.45	8.25	6.72	6.75	7.71	6.48	7.29	7.87	7.87
Chloride	mg/L	14.2	13.8	13.1	12.7	13.1	13.4	13.8	14.2	20	9.3	28.6	21.8	22.5	19.7	18.7	10.1	8.4	10.5	8.9	8	8	8
Dissolved Organic Carbon	mg/L	0.8	0.77	0.95	0.97	0.92	ND (1.96)	0.97	ND (1.36)	2	<1.0	1	0.7	<0.5	1.2	1	1.4	12.8	1.1	1.4	2.1	2.6	2.6
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	316	318	315	336	302	338	338	330	382	420	446	431	395	365	415	328	331	378	330	310	340	370
Nitrate-N	mg/L	8.53	8.53	8.21	8.25	8.78	8.89	8.88	9.55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.4	4.8
Nitrite-N	mg/L	<0.010	<0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.11	0.12
Nitrate & Nitrite(as N)	mg/L	8.53	8.53	8.21	8.25	8.78	8.89	8.88	9.55	28	1.7	57	38.5	31.5	12	19	13	10.4	16.4	8	4.89	4.5	4.9
Phosphate-P (ortho)	mg/L	<0.0030	<0.0030	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.05	<0.01	<0.3	<0.3	0.008	0.04	0.02
Sulphate	mg/L	20.9	19.6	19.8	19.3	19.6	21	22.5	23.6	42	236	40	43	42	39	41	27	25	25.8	26.2	22	21	24
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	351	339	370	384	355	362	374	374	457	569	609	526	491	406	379	365	433	352	309	374	380	380
Total Organic Carbon	mg/L	0.72	2.34	1.38	ND (5.0)	3.85	ND (1.97)	1.06	ND (1.93)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids	mg/L	20.2	<2	5.3	89	ND (3.0)	ND (3.0)	3.5	4.9	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Metals																							
Aluminum (Al)-Dissolved	mg/L	<0.0050	<0.0050	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.005	<0.005
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001
Arsenic (As)-Dissolved	mg/L	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001
Barium (Ba)-Dissolved	mg/L	0.138	0.143	0.143	0.133	0.136	0.145	0.147	0.143	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.09	0.099	0.094
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0005	<0.0005
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001
Boron (B)-Dissolved	mg/L	0.011	0.011	0.01	0.012	0.013	0.012	0.012	0.011	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	0.014	0.015
Cadmium (Cd)-Dissolved	mg/L	0.0000158	0.0000172	0.0000147	0.0000132	0.0000155	0.0000136	0.0000194	0.000012	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0001	<0.0001
Calcium (Ca)-Dissolved	mg/L	81.8	82.5	86.6	88.7	78.8	87.2	87.3	85.3	99	124	118	119	108	93.9	109	84.7	91.2	103	90.4	85.8	92	98
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	0.00135	ND (0.00050)	ND (0.00050)	ND (0.00050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.005	<0.005
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.0005	<0.0005
Copper (Cu)-Dissolved	mg/L	0.0004	0.0004	0.00035	0.00082	0.00051	ND (0.00045)	0.00046	0.0005	<0.01	<0.01	<0.01	0.03	0.03	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.02	<0.001	<0.001
Iron (Fe)-Dissolved	mg/L	<0.010	<0.010	ND (0.010)	ND (0.010)	0.014	ND (0.010)	ND (0.010)	ND (0.010)	0.14	0.05	0.07	2.35	3.29	0.77	0.13	0.14	<0.02	0.02	0.4	0.26	0.62	0.62
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.0005	<0.0005
Lithium (Li)-Dissolved	mg/L	0.003	0.022	0.0023	0.0031	0.0031	0.0031	0.003	0.0026	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (Mg)-Dissolved	mg/L	27.1	27.2	23.8	27.8	25.6	29.3	29.2	28.5	32.7	26.8	36.9	32.4	30.5	31.7	34.6	28.3	25.1	29.1	25.2	23.4	27	30
Manganese (Mn)-Dissolved	mg/L	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00063	ND (0.00050)	ND (0.00050)	<0.01	0.05	<0.01	0.68	0.96	0.11	0.01	0.03	<0.01	<0.005	<0.005	0.05	0.027	0.045
Molybdenum (Mo)-Dissolved	mg/L	0.000247	0.000245	0.000253	0.000257	0.000236	0.000256	0.000265	0.000244	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.001	<0.001
Nickel (Ni)-Dissolved	mg/L	<0																					

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-1-I 8-Aug-19	BH88-1-I 4-Dec-19	BH88-1-I 21-May-20	BH88-1-I 12-Aug-20	BH88-1-I 1-Dec-20	BH88-1-I 27-May-21	BH88-1-I 19-Aug-21	BH88-1-I 8-Dec-21	BH88-2-I 13-Dec-90	BH88-2-I 26-Mar-91	BH88-2-I 30-Jul-91	BH88-2-I 22-Nov-91	BH88-2-I 16-Jul-92	BH88-2-I 6-Jul-93	BH88-2-I 6-Apr-95	BH88-2-I 17-Apr-97	BH88-2-I 28-Apr-98	BH88-2-I 26-Apr-01	BH88-2-I 18-Nov-04	BH88-2-I 14-Nov-05	BH88-2-I 26-Sep-06	BH88-2-I 25-Oct-06
Pesticides and Herbicides																							
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-2-I 22-Nov-06	BH88-2-I 5-Jun-08	BH88-2-I 10-Sep-08	BH88-2-I 19-Nov-08	BH88-2-I 5-Jun-09	BH88-2-I 2-Sep-09	BH88-2-I 8-Dec-09	BH88-2-I 4-Jun-10	BH88-2-I 28-Aug-10	BH88-2-I 3-Dec-10	BH88-2-I 2-Jun-11	BH88-2-I 2-Sep-11	BH88-2-I 1-Dec-11	BH88-2-I 30-May-13	BH88-2-I 20-Aug-13	BH88-2-I 5-Dec-13	BH88-2-I 21-May-14	BH88-2-I 28-Aug-14	BH88-2-I 10-Dec-14	BH88-2-I 11-May-15	BH88-2-I 31-Aug-15	BH88-2-I 9-Dec-15	BH88-2-I 26-May-16	BH88-2-I 17-Aug-16
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop (MCPP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlorane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-3-I 6-Apr-95	BH88-3-I 17-Apr-97	BH88-3-I 28-Apr-98	BH88-3-I 26-Apr-01	BH88-3-I 18-Nov-04	BH88-3-I 14-Nov-05	BH88-3-I 26-Sep-06	BH88-3-I 25-Oct-06	BH88-3-I 22-Nov-06	BH88-3-I 6-Jun-08	BH88-3-I 10-Sep-08	BH88-3-I 18-Nov-08	BH88-3-I 4-Jun-09	BH88-3-I 1-Sep-09	BH88-3-I 7-Dec-09	BH88-3-I 3-Jun-10	BH88-3-I 27-Aug-10	BH88-3-I 2-Dec-10	BH88-3-I 2-Jun-11	BH88-3-I 1-Sep-11	BH88-3-I 1-Dec-11	BH88-4-I 14-Dec-90	BH88-4-I 27-Mar-91	BH88-4-I 30-Jul-91
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temphos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

**Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	BH88-4-I 22-Nov-91	BH88-4-I 16-Jul-92	BH88-4-I 6-Jul-93	BH88-4-I 6-Apr-95	BH88-4-I 17-Apr-97	BH88-4-I 28-Apr-98	BH88-4-I 26-Apr-01	BH88-4-I 18-Nov-04	BH88-4-I 14-Nov-05	BH88-4-I 26-Sep-06	BH88-4-I 25-Oct-06	BH88-4-I 22-Nov-06	BH88-4-I 5-Jun-08	BH88-4-I 10-Sep-08	BH88-4-I 18-Nov-08	BH88-4-I 3-Jun-09	BH88-4-I 1-Sep-09	BH88-4-I 8-Dec-09	BH88-4-I 3-Jun-10	BH88-4-I 27-Aug-10	BH88-4-I 2-Dec-10	BH88-4-I 2-Jun-11	BH88-4-I 1-Sep-11	BH88-4-I 30-Nov-11
Field Parameters																									
Conductivity (field)	mS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conductivity	µmhos/cm	697	745	652	703	601	643	600	646	659	622	643	654	638	629	637	604	610	627	601	607	617	631	630	638
Dissolved Oxygen (field)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ORP	mV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (field)	unitless	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH		7.5	7.3	7.6	7.7	7.8	7.6	7.9	8.1	8.1	8.1	8.1	8.1	8.2	8.2	8.2	7.8	7.9	8.0	8.0	8.0	7.9	8.0	8.0	8.1
Temperature (field)	Celsius	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity (field)	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																									
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	249	257	225	254	249	260	263	254	250	258	252	261	242	245	242	234	236	241	232	232	241	239	245	245
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	0.74	0.48	0.84	1	1	<1	2	3	3	3	3	3	3	3	3	1	2	2	2	2	2	2	2	3
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	250	257	226	254	250	261	265	257	253	261	255	264	246	248	245	235	238	243	235	235	243	242	247	248
Ammonia, Total (as N)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.05	<0.05	0.07	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05
Unionized ammonia	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anion Sum	meq/L	6.76	7.19	6.54	7	6.87	7.07	7.33	7.3	6.92	7.05	7.11	7.37	6.64	6.77	6.83	6.39	6.51	6.75	6.18	6.39	6.54	6.57	6.7	6.66
Cation - Anion Balance	%	1.77	0.07	1.71	3.26	0.06	1.86	1.59	1.63	0.166	1.85	0.56	1.31	0.85	1.46	0.77	0.65	2.45	3.46	0.15	1.12	0.75	1.38	3.51	0.03
Cation Sum	meq/L	6.53	7.18	6.32	6.56	6.88	6.82	7.1	7.54	6.94	6.79	7.19	7.17	6.76	6.97	6.94	6.47	6.2	6.3	6.2	6.25	6.45	6.75	6.24	6.67
Chloride	mg/L	16.7	19.5	19.4	18.5	21.9	19.2	25.3	25.2	16	17	20	22	18	16	18	19	19	19	19	19	17	20	19	19
Dissolved Organic Carbon	mg/L	0.5	<0.5	1	0.7	<0.5	0.7	1.2	0.6	0.4	0.6	0.5	0.6	0.4	0.5	0.4	0.6	0.5	0.5	0.6	0.4	0.6	0.5	1	0.7
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	318	350	307	348	333	331	341	360	330	320	340	340	320	330	330	310	290	300	300	290	300	320	300	320
Nitrate-N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	13	13	14	10	12	12	10	11	12	7.6	10	10	9.9	10	9.9
Nitrite-N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.1	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate & Nitrite(as N)	mg/L	10.5	14	12.5	12	10.5	11.6	10.9	13.6	12	13	13	14	10	12	12	10	11	12	7.6	10	10	9.9	10	9.9
Phosphate-P (ortho)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	0.007	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	26	24	28	26	24	23	25.9	22.9	24	23	24	24	23	25	26	21	23	23	20	21	22	22	23	21
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	365	396	358	NA	376	382	397	408	317	372	384	392	366	377	380	351	353	365	334	348	356	362	358	363
Total Organic Carbon	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Metals																									
Aluminium (Al)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Antimony (Sb)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (As)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (Ba)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.21	0.21	0.21	0.21	0.2	0.21	0.2	0.19	0.19	0.19	0.19	0.19	0.19	0.2	0.19	0.21
Beryllium (Be)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bismuth (Bi)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	0.002	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001
Boron (B)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.026	<0.01	<0.01	0.029	0.079	<0.01	<0.01	<0.01	<0.01	<0.01
Cadmium (Cd)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0002	0.00011
Calcium (Ca)-Dissolved	mg/L	85.3	91.8	76.1	91	90.9	89.6	91.7	96.5	88.9	87	93	89	85	88	82	78	81	79	81	87	81	87	81	85
Chromium (Cr)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (Co)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (Cu)-Dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.02	0.001	0.001	<0.001	0.004	0.003	0.002	0.002	0.003	<0.001	<0.001	<0.001	<0.001	0.002	<0.001	<0.001
Iron (Fe)-Dissolved	mg/L	0.4	0.1	0.18	0.03	0.02	<0.02	0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (Pb)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Lithium(Li)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (Mg)-Dissolved	mg/L	25.6	29.3	28.3	29.3	25.8	26	27.2	28.8	25.6	25	26	27	26	26	27	26	24	24	24	24	25	26	23	26
Manganese (Mn)-Dissolved	mg/L	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.00																	

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4-I 22-Nov-91	BH88-4-I 16-Jul-92	BH88-4-I 6-Jul-93	BH88-4-I 6-Apr-95	BH88-4-I 17-Apr-97	BH88-4-I 28-Apr-98	BH88-4-I 26-Apr-01	BH88-4-I 18-Nov-04	BH88-4-I 14-Nov-05	BH88-4-I 26-Sep-06	BH88-4-I 25-Oct-06	BH88-4-I 22-Nov-06	BH88-4-I 5-Jun-08	BH88-4-I 10-Sep-08	BH88-4-I 18-Nov-08	BH88-4-I 3-Jun-09	BH88-4-I 1-Sep-09	BH88-4-I 8-Dec-09	BH88-4-I 3-Jun-10	BH88-4-I 27-Aug-10	BH88-4-I 2-Dec-10	BH88-4-I 2-Jun-11	BH88-4-I 1-Sep-11	BH88-4-I 30-Nov-11
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCPP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4-I 30-May-13	BH88-4-I 20-Aug-13	BH88-4-I 20-Aug-13 Duplicate	BH88-4-I 5-Dec-13	BH88-4-I 21-May-14	BH88-4-I 28-Aug-14	BH88-4-I 10-Dec-14	BH88-4-I 11-May-15	BH88-4-I 11-May-15 Duplicate	BH88-4-I 31-Aug-15	BH88-4-I 9-Dec-15	BH88-4-I 26-May-16	BH88-4-I 17-Aug-16	BH88-4-I 1-Dec-16	BH88-4-I 31-May-17	BH88-4-I 9-Aug-17	BH88-4-I 8-Dec-17	BH88-4-I 17-May-18	BH88-4-I 9-Aug-18	BH88-4-I 12-Dec-18	BH88-4-I 29-May-19	BH88-4-I 8-Aug-19	BH88-4-I 3-Dec-19	BH88-4-I 21-May-20
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
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Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4-I 12-Aug-20	BH88-4-I 2-Dec-20	BH88-4-I 27-May-21	BH88-4-I 19-Aug-21	BH88-4-I 8-Dec-21	BH88-4A-I 13-Dec-90	BH88-4A-I 27-Mar-91	BH88-4A-I 30-Jul-91	BH88-4A-I 22-Nov-91	BH88-4A-I 16-Jul-92	BH88-4A-I 6-Jul-93	BH88-4A-I 6-Apr-95	BH88-4A-I 17-Apr-97	BH88-4A-I 28-Apr-98	BH88-4A-I 26-Apr-01	BH88-4A-I 18-Nov-04	BH88-4A-I 14-Nov-05	BH88-4A-I 26-Sep-06	BH88-4A-I 25-Oct-06	BH88-4A-I 22-Nov-06	BH88-4A-I 5-Jun-08
Field Parameters																						
Conductivity (field)	mS	627	618	635	579	664	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conductivity	µmhos/cm	648	629	536	609	653	600	595	690	611	700	657	681	609	644	600	648	669	628	660	673	638
Dissolved Oxygen (field)	mg/L	6.95	11.13	8.57	6.74	4.8	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ORP	mV	159	235	173	1	184	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (field)	unitless	7.53	6.21	7.65	7.33	7.57	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	pH	8.05	7.88	8.07	7.75	7.96	7.5	7.7	7.8	7.7	7.5	7.5	7.6	7.7	7.4	7.8	8.0	8.2	8.0	8.0	8.1	8.1
Temperature (field)	Celsius	12.3	8.9	11.55	14.41	7.78	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity (field)	NTU	0.0	86.0	5.9	5.4	31.1	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity	NTU	0.8	1.7	ND (0.10)	0.45	0.13	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																						
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	239	252	172	269	245	219	229	239	239	252	229	236	248	264	268	257	255	263	261	263	242
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<1	1.03	1.41	1.13	0.75	0.68	1	1	<1	2	2	3	3	2	3	3
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	239	252	172	269	245	220	230	240	240	253	230	236	249	265	270	259	258	266	263	266	245
Ammonia, Total (as N)	mg/L	ND (0.010)	0.01	ND (0.010)	ND (0.010)	ND (0.010)	<0.05	<0.05	0.1	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.05	<0.05	0.09	<0.05	<0.05
Unionized ammonia	mg/L	ND (0.000091)	0.0000034	ND (0.00011)	ND (0.000067)	ND (0.000071)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anion Sum	meq/L	5.54	5.84	4.52	6.05	5.76	6.15	6.45	6.64	6.59	6.99	6.54	6.66	6.86	7.02	7.44	7.32	6.28	7.52	7.4	7.47	6.64
Cation - Anion Balance	%	12	4	21	6	6	3.93	1.2	0.34	0.66	0.42	1.06	2.48	0.71	0.75	0.31	0.6	5.59	5.59	0.346	0.06	3.69
Cation Sum	meq/L	7.1	6.33	6.91	6.79	6.49	6.65	6.29	6.6	6.51	6.93	6.41	6.34	6.95	6.92	7.39	7.41	7.02	6.64	7.35	7.48	7.14
Chloride	mg/L	21.6	23.6	23.5	21.7	22.4	16	17	17.1	17.3	18.5	19.3	18.9	20.4	16.8	24.4	25.9	23	23	25	24	19
Dissolved Organic Carbon	mg/L	3.16	1.49	ND (1.26)	2.46 J	ND (1.38)	1.3	<1	<1	<0.5	<0.5	0.7	1.5	0.5	<0.5	0.7	0.6	0.4	0.5	0.5	0.6	0.4
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	335	300	327	321	309	323	306	319	317	337	310	331	337	336	356	353	340	310	350	360	340
Nitrate-N	mg/L	9.05	9.29	9.46	9.33	9.7	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14	13	14	10
Nitrite-N	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.1	<0.01	<0.1
Nitrate & Nitrite(as N)	mg/L	9.05	9.29	9.46	9.33	9.7	10	11	11.2	10.7	11.8	12.3	11.9	11.1	10.8	11.2	13.1	13	14	13	14	10
Phosphate-P (ortho)	mg/L	ND (0.0030)	0.0058	ND (0.0030)	ND (0.0030)	ND (0.0030)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	0.007	<0.01	<0.01	<0.01	0.01
Sulphate	mg/L	15.9	17	15.7	16.3	18	28	28	26	27	25	27	25	27	23	25	26.4	23	24	25	24	24
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	374	379	373	371	364	347	352	365	361	383	358	379	379	379	406	405	326	382	394	400	372
Total Organic Carbon	mg/L	ND (5.0)	3.5	ND (1.73)	1.25 J	ND (1.34)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids	mg/L	ND (3.0)	6.4	ND (3.0)	3.3	ND (3.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Metals																						
Aluminum (Al)-Dissolved	mg/L	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.005	<0.005	<0.005	<0.005
Antimony (Sb)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.0005
Arsenic (As)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.001
Barium (Ba)-Dissolved	mg/L	0.174	0.211	0.215	0.213	0.21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.22	0.23	0.23	0.22	0.22
Beryllium (Be)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0005	<0.0005	<0.0005	<0.0005
Bismuth (Bi)-Dissolved	mg/L	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.001
Boron (B)-Dissolved	mg/L	0.012	0.011	0.011	0.01	ND (0.010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	0.01	<0.01	<0.01	<0.01
Cadmium (Cd)-Dissolved	mg/L	0.0000175	0.0000097	0.0000075	0.0000087	0.0000057	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0001	<0.0001	<0.0001	<0.0001
Calcium (Ca)-Dissolved	mg/L	90.9	79.8	86.7	85.1	81.4	82.7	78.2	84	85.2	90.8	77.2	85.4	91.5	90.5	96.2	94.8	90.6	79	94	95	90
Chromium (Cr)-Dissolved	mg/L	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.005	<0.005	<0.005	<0.005
Cobalt (Co)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.0005	<0.0005	<0.0005	<0.0005
Copper (Cu)-Dissolved	mg/L	0.00065	0.00026	ND (0.00020)	0.00059	0.00043	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.02	0.001	<0.001	<0.001	<0.001
Iron (Fe)-Dissolved	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.05	0.19	<0.02	0.15	0.08	0.7	0.05	<0.02	<0.02	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.1
Lead (Pb)-Dissolved	mg/L	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005
Lithium (Li)-Dissolved	mg/L	0.0031	0.0027	0.0027	0.0025	0.0018	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (Mg)-Dissolved	mg/L	26.3	24.5	26.9	26.3	25.6	28.4	26.9	25.6	25.4	26.9	28.6	28.7	26.2	26.7	28.1	28.3	26.5	28	28	29	28
Manganese (Mn)-Dissolved	mg/L	0.00072	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	<0.01	<0.01	<0.01	<0.01	<0.01	0.08	<0.01	<0.01	<0.01	<0.005	<0.005	<0.01	<0.002	<0.002	<0.002	<0.002
Molybdenum (Mo)-Dissolved	mg/L	0.000228	0.000232	0.000236	0.000238	0.000216	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.001	<0.001	<0.001	<0.001
Nickel (Ni)-Dissolved	mg/L	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.001	<0.001	<0.001	<0.001
Phosphorus (P)-Dissolved	mg/L	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.05	<0.05	<0.05	<0.1
Potassium (K)-Dissolved	mg/L	1.28	1.07	1.19	1.16	1.05	1.0	1.0	1.1	1.0	1.0	1.0	1.0	1.9	1.0	2.0	1.0	1.1	1.1	1.2	1.2	1.

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4-I 12-Aug-20	BH88-4-I 2-Dec-20	BH88-4-I 27-May-21	BH88-4-I 19-Aug-21	BH88-4-I 8-Dec-21	BH88-4A-I 13-Dec-90	BH88-4A-I 27-Mar-91	BH88-4A-I 30-Jul-91	BH88-4A-I 22-Nov-91	BH88-4A-I 16-Jul-92	BH88-4A-I 6-Jul-93	BH88-4A-I 6-Apr-95	BH88-4A-I 17-Apr-97	BH88-4A-I 28-Apr-98	BH88-4A-I 26-Apr-01	BH88-4A-I 18-Nov-04	BH88-4A-I 14-Nov-05	BH88-4A-I 26-Sep-06	BH88-4A-I 25-Oct-06	BH88-4A-I 22-Nov-06	BH88-4A-I 5-Jun-08
Pesticides and Herbicides																						
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temphos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
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Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4A-1 10-Sep-08	BH88-4A-1 18-Nov-08	BH88-4A-1 3-Jun-09	BH88-4A-1 1-Sep-09	BH88-4A-1 8-Dec-09	BH88-4A-1 3-Jun-10	BH88-4A-1 27-Aug-10	BH88-4A-1 2-Dec-10	BH88-4A-1 2-Jun-11	BH88-4A-1 1-Sep-11	BH88-4A-1 1-Dec-11	BH88-4A-1 30-May-13	BH88-4A-1 20-Aug-13	BH88-4A-1 5-Dec-13	BH88-4A-1 5-Dec-13 Duplicate	BH88-4A-1 21-May-14	BH88-4A-1 28-Aug-14	BH88-4A-1 10-Dec-14	BH88-4A-1 11-May-15	BH88-4A-1 31-Aug-15	BH88-4A-1 9-Dec-15	BH88-4A-1 26-May-16
Pesticides and Herbicides																							
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCPP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlorane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a

**Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	BH88-4A-I 17-Aug-16	BH88-4A-I 17-Aug-16 Duplicate	BH88-4A-I 1-Dec-16	BH88-4A-I 1-Dec-16 Duplicate	BH88-4A-I 31-May-17	BH88-4A-I 9-Aug-17	BH88-4A-I 8-Dec-17	BH88-4A-I 17-May-18	BH88-4A-I 9-Aug-18	BH88-4A-I 12-Dec-18	BH88-4A-I 29-May-19	BH88-4A-I 8-Aug-19	BH88-4A-I 3-Dec-19	BH88-4A-I 21-May-20	BH88-4A-I 12-Aug-20	BH88-4A-I 2-Dec-20	BH88-4A-I 27-May-21	BH88-4A-I 19-Aug-21	BH88-4A-I 8-Dec-21	BH88-4A-II 12-Dec-90	BH88-4A-II 27-Mar-91
Field Parameters																						
Conductivity (field)	mS	574	574	596	596	501	617	651	665	613	578	453	611	631	626	657	225	635	565	656	NA	NA
Conductivity	µmhos/cm	619	620	644	640	632	634	625	614	624	647	635	627	618	620	671	632	562	613	639	610	605
Dissolved Oxygen (field)	mg/L	3.39	3.39	7.62	7.62	8.23	13.41	15.71	9.63	5.71	11.30	13.84	7.34	7.21	3.15	10.86	11.11	9.4	9.96	7.1	NA	NA
ORP	mV	NA	NA	NA	NA	NA	NA	253	250	275	85	-28	230	21	226	164	225	196	260	171	NA	NA
pH (field)	unitless	7.90	7.90	7.67	7.67	7.35	7.49	7.55	6.86	7.51	7.46	6.72	7.46	7.25	7.21	7.43	8.72	7.54	6.96	7.57	NA	NA
pH		8.0	8.0	7.8	7.8	8.01	7.85	8.03	8.03	7.94	7.92	7.9	7.73	7.93	7.77	7.96	7.88	7.97	7.73	7.99	7.6	7.7
Temperature (field)	Celsius	10.3	10.3	9.4	9.4	11.7	13.9	9.0	13.3	12.2	9.2	10.6	12.0	9.5	11.7	11.6	6.2	11.19	13.57	8.16	NA	NA
Turbidity (field)	NTU	NA	NA	37.0	37.0	2.0	0.0	0.0	9.8	2.9	0.0	2.8	1.9	11.7	0.1	0.0	13.9	0	0	9.4	NA	NA
Turbidity	NTU	NA	NA	NA	NA	0.46	1.30	1.20	1.07	2.18	2.08	<2.35	92.5	1.5	0.31	1.35	1.44	0.29	0.28	0.12	NA	NA
General Chemistry																						
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	254	252	250	254	294	264	239	242	251	261	252	263	245	245	244	248	193	272	243	239	229
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<1	1.01
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	254	252	250	254	294	264	239	242	251	261	252	263	245	245	244	248	193	272	243	240	230
Ammonia, Total (as N)	mg/L	<0.020	0.026	<0.020	<0.020	0.022	<0.020	0.129	0.118	<0.020	0.104	<0.010	<0.010	0.017	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	<0.05	<0.05
Unionized ammonia	mg/L	<0.00036	0.00047	<0.00020	<0.00020	0.00013	<0.00019	0.00095	0.000248	<0.00017	0.00064	<0.00012	<0.000076	0.000067	ND (0.000042)	ND (0.000069)	ND (0.000035)	ND (0.000085)	ND (0.000027)	ND (0.000072)	NA	NA
Anion Sum	meq/L	5.76	5.74	5.95	6.01	6.06	6.01	5.82	5.76	5.84	6.08	5.88	6.06	5.88	5.71	5.72	5.82	4.82	6.08	5.73	6.56	6.47
Cation - Anion Balance	%	3	2.9	2.5	3.6	3.6	4.2	8.4	7	6	8.4	7	4	8	6	10	4	17	5	7	0.74	0.95
Cation Sum	meq/L	6.12	6.08	6.25	6.46	6.51	6.53	6.89	6.63	6.58	7.19	6.72	6.58	6.93	6.4	6.94	6.36	6.85	6.73	6.54	6.65	6.59
Chloride	mg/L	19.8	19.9	29.1	29.0	22.4	21.6	29.5	24.1	22.4	25.5	22.9	23	27.2	23.1	23.7	24.3	21.5	20.7	22.5	14	14
Dissolved Organic Carbon	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	R	0.74 J	0.67	<2.78	3.93 J	7.46	0.92	6.20 J	5.82 J	ND (2.22)	0.84	2.96 J+	1.3	<1
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	290	288	296	306	305	308	326	309	309	339	316	311	328	302	328	300	323	319	310	229	296
Nitrate-N	mg/L	8.27	8.33	8.41	8.41	8.46	8.88	9.01	9.7	9.44	9.28	9.33	9.5	9.29	9.1	8.98	9.24	9.08	8.81	9.28	NA	NA
Nitrite-N	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	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA	NA
Nitrate & Nitrite(as N)	mg/L	8.27	8.33	8.41	8.41	8.46	8.88	9.01	9.7	9.44	9.28	9.33	9.5	9.29	9.1	8.98	9.24	9.08	8.81	9.28	8	7.2
Phosphate-P (ortho)	mg/L	0.0031	0.0031	0.0033	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	<0.01	<0.01
Sulphate	mg/L	19.7	19.8	19.4	19.4	18.3	19.6	18.8	18.3	19.2	18.8	19.2	19.2	19	17.9	17.9	18	17.8	18.2	19.9	38	46
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	367	373	388	388	355	391	381	372	372	361	356	390	363	401	358	358	367	373	359	371	359
Total Organic Carbon	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	1.0	<1.0	1.14	1.06	<1.59	0.76 J	1.89	1.21	1.91 J	2.83 J	ND (1.90)	0.92	ND (2.29) J	NA	NA
Total Suspended Solids	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	2.5	<2.0	2.2	<2.0	<2.0	100	<2.0	2.7	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	NA	NA
Dissolved Metals																						
Aluminum (Al)-Dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND (0.0050)	ND (0.0050)	0.0324	ND (0.0050)	ND (0.0050)	ND (0.0050)	NA	NA
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA
Arsenic (As)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA
Barium (Ba)-Dissolved	mg/L	0.206	0.204	0.211	0.211	0.206	0.214	0.237	0.206	0.225	0.214	0.226	0.208	0.223	0.227	0.221	0.226	0.226	0.226	0.216	NA	NA
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA
Boron (B)-Dissolved	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	ND (0.010)	0.01	0.011	0.01	0.01	0.01	NA	NA
Cadmium (Cd)-Dissolved	mg/L	<0.000010	<0.000010	0.000017	0.000013	0.000022	0.000012	0.000015	0.000014	<0.000010	0.000012	0.0000058	0.0000058	0.0000276	ND (0.000050)	ND (0.000050)	0.0000076	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA
Calcium (Ca)-Dissolved	mg/L	77.4	79.8	82.1	82.1	82.6	82.1	85.4	81.8	84.2	85.4	87.7	85	82.4	87	87.3	80.1	83.8	84.5	81.5	58.8	74.3
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00054	<0.00050	0.00056	0.00067	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	NA	NA
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA
Copper (Cu)-Dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	0.00037	<0.00020	0.00022	0.00027	<0.00020	0.00033	0.00023	0.00028	0.00097	0.0002	0.00028	0.00058	ND (0.00096)	0.00024	0.0003	<0.01	<0.01
Iron (Fe)-Dissolved	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	ND (0.010)	ND (0.010)	0.021	ND (0.010)	ND (0.010)	ND (0.010)	0.16	0.07
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	0.000141	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA
Lithium (Li)-Dissolved	mg/L	0.0025	0.0025	0.0021	0.0021	0																

Table G.1a
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Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4A-I 17-Aug-16	BH88-4A-I 17-Aug-16 Duplicate	BH88-4A-I 1-Dec-16	BH88-4A-I 1-Dec-16 Duplicate	BH88-4A-I 31-May-17	BH88-4A-I 9-Aug-17	BH88-4A-I 8-Dec-17	BH88-4A-I 17-May-18	BH88-4A-I 9-Aug-18	BH88-4A-I 12-Dec-18	BH88-4A-I 29-May-19	BH88-4A-I 8-Aug-19	BH88-4A-I 3-Dec-19	BH88-4A-I 21-May-20	BH88-4A-I 12-Aug-20	BH88-4A-I 2-Dec-20	BH88-4A-I 27-May-21	BH88-4A-I 19-Aug-21	BH88-4A-I 8-Dec-21	BH88-4A-II 12-Dec-90	BH88-4A-II 27-Mar-91
Pesticides and Herbicides																						
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop (MCPPE)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table G.1a

**Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	BH88-4A-II 30-Jul-91	BH88-4A-II 22-Nov-91	BH88-4A-II 16-Jul-92	BH88-4A-II 6-Jul-93	BH88-4A-II 6-Apr-95	BH88-4A-II 17-Apr-97	BH88-4A-II 28-Apr-98	BH88-4A-II 26-Apr-01	BH88-4A-II 18-Nov-04	BH88-4A-II 15-Nov-05	BH88-4A-II 26-Sep-06	BH88-4A-II 25-Oct-06	BH88-4A-II 22-Nov-06	BH88-4A-II 5-Jun-08	BH88-4A-II 10-Sep-08	BH88-4A-II 18-Nov-08	BH88-4A-II 3-Jun-09	BH88-4A-II 1-Sep-09	BH88-4A-II 8-Dec-09	BH88-4A-II 3-Jun-10	BH88-4A-II 27-Aug-10
Field Parameters																						
Conductivity (field)	mS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conductivity	µmhos/cm	648	724	797	662	684	583	629	589	629	661	619	630	639	626	592	610	645	613	601	619	619
Dissolved Oxygen (field)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
ORP	mV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (field)	unitless	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH	pH	7.8	7.6	7.4	7.5	7.6	7.7	7.5	7.7	8.0	8.2	8.1	8.1	8.0	8.1	8.0	8.1	7.7	7.9	7.9	7.9	8.0
Temperature (field)	Celsius	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity (field)	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																						
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	239	259	255	227	241	237	244	272	250	249	248	252	257	236	214	230	244	240	231	238	235
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	1.41	0.97	0.6	0.68	1	1	<1	1	3	3	3	3	3	3	2	3	1	2	2	2	2
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	240	260	256	228	241	238	245	273	253	253	251	255	260	239	217	233	245	242	232	240	237
Ammonia, Total (as N)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.05	<0.03	0.05	<0.05	<0.05	0.11	0.06	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	0.14	<0.05
Unionized ammonia	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Anion Sum	meq/L	6.68	6.85	6.99	6.59	6.81	6.64	6.7	7.43	7.13	7.03	7.13	7.08	7.19	6.58	6.29	6.57	7.01	6.88	6.53	6.41	6.56
Cation - Anion Balance	%	0.53	0.32	1.43	1.53	2.13	0.24	0.77	2.23	1.55	0.411	7.57	0.833	0.842	3.51	5.24	4.49	0.74	2.47	0.51	0.1	0.7
Cation Sum	meq/L	6.76	6.9	7.19	6.8	6.53	6.67	6.8	7.11	7.35	7.09	6.13	7.2	7.31	7.06	6.99	7.19	7.11	6.55	6.6	6.42	6.65
Chloride	mg/L	14.2	15	16.7	18.4	18.5	20.1	17.1	20.3	22.4	21	22	19	20	21	20	19	21	21	20	20	20
Dissolved Organic Carbon	mg/L	<1	0.5	<0.5	0.7	<0.5	0.5	<0.5	0.5	0.9	0.4	0.5	0.5	0.6	0.7	0.6	0.3	0.6	0.5	1	0.6	0.4
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	293	314	326	320	336	323	327	344	353	340	290	340	350	340	330	340	340	310	320	310	320
Nitrate-N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12	12	12	9	12	11	13	12	11	7.5	10
Nitrite-N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.02	<0.1	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Nitrate & Nitrite(as N)	mg/L	6.5	8.8	10	12.2	11.9	10.5	9.05	10.7	12.3	11	12	12	12	9	12	11	13	12	11	7.5	10
Phosphate-P (ortho)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	0.009	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	29	33	33	31	30	27	32	30.6	26.7	27	29	29	27	28	29	28	27	27	27	24	25
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	370	375	388	370	386	366	368	400	398	326	362	381	385	369	364	374	392	376	362	347	362
Total Organic Carbon	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Suspended Solids	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dissolved Metals																						
Aluminum (Al)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	0.077	<0.005	0.007	0.008	<0.005
Antimony (Sb)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Arsenic (As)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (Ba)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.23	0.23	0.22	0.2	0.21	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Beryllium (Be)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Bismuth (Bi)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	NA	<0.001
Boron (B)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.029	0.063	<0.01
Cadmium (Cd)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Calcium (Ca)-Dissolved	mg/L	73.7	85	85	80	86.6	86.9	86.9	90.8	95.2	91.1	67	91.1	92	89	82	87	85	83	82	83	83
Chromium (Cr)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Cobalt (Co)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005
Copper (Cu)-Dissolved	mg/L	<0.01	0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.02	<0.001	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	0.004	<0.001	<0.001	<0.001
Iron (Fe)-Dissolved	mg/L	<0.02	0.56	3.14	0.93	0.15	0.14	0.05	<0.01	<0.01	<0.02	<0.05	<0.05	<0.05	<0.1	<0.1	0.11	<0.1	<0.1	<0.1	<0.1	<0.1
Lead (Pb)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005
Lithium(Li)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (Mg)-Dissolved	mg/L	26.4	24.8	27.6	29.2	29.1	25.7	26.7	28.4	28	26.8	29	28	29	28	28	29	30	26	25	25	26
Manganese (Mn)-Dissolved	mg/L	<0.01	0.02	0.93	0.13	0.02	<0.01	<0.01	<0.005	<0.005	<0.01	<0.002	<0.002	<0.002	<0.002	0.005	<0.002	0.008	<0.002	<0.002	<0.002	<0.002
Molybdenum (Mo)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (Ni)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Phosphorus (P)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Potassium (K)-Dissolved	mg/L	1.7	1.1	1.8	1.0	1.1	1.6	1.1	2.0	1.0	2.0	1.1	1.4	1.2	1.1	1.1	1.1	1.2	1.1	1.0	1.1	1.1
Selenium (Se)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002
Silicon (Si)-Dissolved	mg/L	12.2	11.5	11.7	11.2	13.1	11.5															

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4A-II 30-Jul-91	BH88-4A-II 22-Nov-91	BH88-4A-II 16-Jul-92	BH88-4A-II 6-Jul-93	BH88-4A-II 6-Apr-95	BH88-4A-II 17-Apr-97	BH88-4A-II 28-Apr-98	BH88-4A-II 26-Apr-01	BH88-4A-II 18-Nov-04	BH88-4A-II 15-Nov-05	BH88-4A-II 26-Sep-06	BH88-4A-II 25-Oct-06	BH88-4A-II 22-Nov-06	BH88-4A-II 5-Jun-08	BH88-4A-II 10-Sep-08	BH88-4A-II 18-Nov-08	BH88-4A-II 3-Jun-09	BH88-4A-II 1-Sep-09	BH88-4A-II 8-Dec-09	BH88-4A-II 3-Jun-10	BH88-4A-II 27-Aug-10
Pesticides and Herbicides																						
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCPP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

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 County of Brant, Ontario

Parameter	Units	BH88-4A-II 2-Dec-10	BH88-4A-II 2-Jun-11	BH88-4A-II 1-Sep-11	BH88-4A-II 1-Dec-11	BH88-4A-II 30-May-13	BH88-4A-II 20-Aug-13	BH88-4A-II 5-Dec-13	BH88-4A-II 21-May-14	BH88-4A-II 28-Aug-14	BH88-4A-II 10-Dec-14	BH88-4A-II 11-May-15	BH88-4A-II 31-Aug-15	BH88-4A-II 9-Dec-15	BH88-4A-II 26-May-16	BH88-4A-II 17-Aug-16	BH88-4A-II 1-Dec-16	BH88-4A-II 31-May-17	BH88-4A-II 9-Aug-17	BH88-4A-II 8-Dec-17	BH88-4A-II 17-May-18	BH88-4A-II 9-Aug-18
Field Parameters																						
Conductivity (field)	mS	NA	NA	NA	NA	606	504	608	571	604	477	501	463	469	504	500	560	513	605	622	591	579
Conductivity	µmhos/cm	609	580	616	630	595	617	606	620	611	606	596	605	568	593	595	597	612	624	599	601	623
Dissolved Oxygen (field)	mg/L	NA	NA	NA	NA	10.10	11.70	11.15	10.08	0.13	7.26	11.34	10.31	6.12	7.51	3.14	7.10	8.51	17.31	8.10	5.49	11.19
ORP	mV	NA	NA	NA	NA	55	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	256	237	99
pH (field)	unitless	NA	NA	NA	NA	NA	7.45	7.77	8.18	8.26	7.40	6.84	7.42	7.80	7.58	7.88	7.67	7.31	7.39	7.54	7.30	7.29
pH		8.0	8.0	8.0	7.9	8.0	7.9	7.9	8.7	8.0	7.9	7.9	8.1	8.1	7.9	7.9	7.9	7.9	7.92	7.80	8.05	8.04
Temperature (field)	Celsius	NA	NA	NA	NA	14.6	12.1	8.8	10.7	11.8	8.9	10.8	11.1	9.5	10.8	10.2	9.4	10.1	13.7	8.9	14.5	11.1
Turbidity (field)	NTU	NA	NA	NA	NA	-5.0	480.0	999.0	322.0	350.0	NA	7.0	7.0	7.0	7.0	NA	637.0	355.0	287.0	>1000	948.0	645.0
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	325	542	833	229	282
General Chemistry																						
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	237	212	239	246	252	225	243	239	241	239	241	243	256	244	249	245	279	261	231	247	236
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	2	2	2	2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	239	214	241	248	254	226	245	240	244	239	241	243	256	244	249	245	279	261	231	247	236
Ammonia, Total (as N)	mg/L	<0.05	<0.05	<0.05	<0.05	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	0.1	<0.050	<0.020	<0.020	<0.020	0.050	<0.020	0.021	0.025	0.086
Unionized ammonia	mg/L	NA	NA	NA	NA	<0.0010	<0.00037	<0.00060	<0.0018	<0.0023	<0.00026	<0.00083	0.00064	<0.00068	<0.00018	<0.00034	<0.00020	0.000231	<0.00015	0.00015	0.00016	0.000412
Anion Sum	meq/L	6.51	5.99	6.61	6.67	5.81	5.31	5.67	5.59	5.67	5.56	5.61	5.60	5.82	5.61	5.69	5.63	6.01	6.02	5.51	5.83	5.67
Cation - Anion Balance	%	0.25	4.36	3.31	1.58	7.6	8.2	6.9	11.5	5.1	4.9	6.3	7.3	4.2	7.4	2	3.1	4.1	6	8.3	5	6.6
Cation Sum	meq/L	6.48	6.54	6.19	6.46	6.77	6.26	6.50	7.04	6.28	6.14	6.36	6.49	6.34	6.51	5.92	5.99	6.52	6.79	6.52	6.44	6.47
Chloride	mg/L	19	19	20	19	17.9	18.2	19.7	20.3	20.2	21.0	20.9	20.9	20.5	20.9	20.5	20.9	22.6	23.7	23.5	23.9	24.7
Dissolved Organic Carbon	mg/L	0.5	0.4	1.2	0.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.4	2	1.2	<1.0	9.2	<1.0	3.9	1.1	1.5 J	0.71 J
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	310	310	300	310	321	298	310	337	300	293	302	307	301	308	280	284	310	322	308	305	305
Nitrate-N	mg/L	9.6	9.4	10	9.7	8.89	8.43	8.76	8.53	8.51	8.28	8.14	7.75	7.88	7.86	7.83	7.96	7.85	8.37	8.35	8.81	8.69
Nitrite-N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Nitrate & Nitrite(as N)	mg/L	9.6	9.4	10	9.7	8.89	8.43	8.76	8.53	8.51	8.28	8.14	7.75	7.88	7.86	7.83	7.96	7.85	8.37	8.35	8.81	8.69
Phosphate-P (ortho)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.0030	0.0040	0.0032	0.0033	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Sulphate	mg/L	24	24	25	23	22.4	22.2	23.0	22.3	21.6	22.8	21.3	20.8	20.9	20.8	20.3	20.3	21.4	20.8	20.9	20.9	21.3
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	355	340	354	359	358	464	359	345	359	347	318	313	335	411	358	364	352	391	341	400 J	354
Total Organic Carbon	mg/L	NA	NA	NA	NA	1.2	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<5.0	<1.0	<1.0	<1.0	<5.0	<1.0	1.3	<2.5
Total Suspended Solids	mg/L	NA	NA	NA	NA	5,910	1380	2800	399	432	869	997	1440	13500	24300	1050	1120	331	797	1690	766	776
Dissolved Metals																						
Aluminum (Al)-Dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	0.0051	<0.0050	<0.0050	<0.0050	0.601	0.353	<0.0050	<0.0050	<0.0050
Antimony (Sb)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Arsenic (As)-Dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00015	0.00012	0.00014	0.00013	0.00013	0.00029	0.00034	0.00015	0.00012	0.00013
Barium (Ba)-Dissolved	mg/L	0.18	0.18	0.19	0.19	0.19	0.188	0.218	0.218	0.206	0.206	0.218	0.209	0.202	0.192	0.192	0.202	0.184	0.211	0.204	0.204	0.201
Beryllium (Be)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth (Bi)-Dissolved	mg/L	NA	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Boron (B)-Dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.013	<0.010	<0.010	<0.010	<0.010
Cadmium (Cd)-Dissolved	mg/L	<0.0001	<0.0001	0.0002	<0.0001	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	0.000014	0.000019	0.00013	0.000029	0.00042	<0.000010	<0.000010	<0.000010
Calcium (Ca)-Dissolved	mg/L	81	82	79	80	83.2	79.1	81.7	81.6	77.9	81.6	80.1	81.3	80.5	75.2	75.2	80.5	80.5	84.5	80.9	83.1	82.9
Chromium (Cr)-Dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	0.00083	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00092	0.00087	<0.00050	<0.00050	<0.00050	0.00057	0.00062	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	0.0256	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00014	0.00019	<0.00050	<0.00050	<0.00050
Copper (Cu)-Dissolved	mg/L	0.001	0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00020	0.00032	<0.00020	0.00021	0.00023	0.00061	0.00081	0.00022	0.00022	<0.00032
Iron (Fe)-Dissolved	mg/L	<0.1	<0.1	<0.1	<0.1	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.010	<0.010	<0.010	<0.010	<0.010	0.347	0.237	<0.010	<0.010	<0.010
Lead (Pb)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00109	0.00158	<0.00050	0.00059	<0.00050
Lithium(Li)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10	<0.10	0.0034	0.0032	0.0027	0.0027	0.0021	0.0027	0.0032	0.0025		

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
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Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4A-II 2-Dec-10	BH88-4A-II 2-Jun-11	BH88-4A-II 1-Sep-11	BH88-4A-II 1-Dec-11	BH88-4A-II 30-May-13	BH88-4A-II 20-Aug-13	BH88-4A-II 5-Dec-13	BH88-4A-II 21-May-14	BH88-4A-II 28-Aug-14	BH88-4A-II 10-Dec-14	BH88-4A-II 11-May-15	BH88-4A-II 31-Aug-15	BH88-4A-II 9-Dec-15	BH88-4A-II 26-May-16	BH88-4A-II 17-Aug-16	BH88-4A-II 1-Dec-16	BH88-4A-II 31-May-17	BH88-4A-II 9-Aug-17	BH88-4A-II 8-Dec-17	BH88-4A-II 17-May-18	BH88-4A-II 9-Aug-18
Pesticides and Herbicides																						
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop (MCPP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4A-II 12-Dec-18	BH88-4A-II 29-May-19	BH88-4A-II 8-Aug-19	BH88-4A-II 3-Dec-19	BH88-4A-II 21-May-20	BH88-4A-II 12-Aug-20	BH88-4A-II 2-Dec-20	BH88-4A-II 27-May-21	BH88-4A-II 19-Aug-21	BH88-4A-II 8-Dec-21	BH88-5-I 12-Dec-90	BH88-5-I 26-Mar-91	BH88-5-I 30-Jul-91	BH88-5-I 22-Nov-91	BH88-5-I 16-Jul-92	BH88-5-I 6-Jul-93	BH88-5-I 6-Apr-95	BH88-5-I 26-Apr-97	BH88-5-I 28-Apr-98	BH88-5-I 26-Apr-01	BH88-5-I 18-Nov-04	BH88-5-I 14-Nov-05	
Field Parameters																								
Conductivity (field)	mS	660	454	608	621	666	640	600	628	572	654	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
Conductivity	µmhos/cm	622	627	627	595	616	646	600	558	604	616	692	606	650	708	684	691	732	626	660	598	642	693	
Dissolved Oxygen (field)	mg/L	8.89	13.84	6.90	8.07	6.52	6.42	NA	5.07	2.61	4.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
ORP	mV	251	-28	222	203	211	194	230	197	10	175	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
pH (field)	unitless	7.47	6.74	7.43	7.27	7.25	7.01	6.23	7.60	7.19	7.60	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA		
pH	pH	7.76	7.63	7.65	7.7	7.57	7.69	7.65	7.88	7.76	7.74	7.7	7.9	7.8	7.6	7.5	7.5	7.7	7.8	7.5	7.9	8.0	8.1	
Temperature (field)	Celsius	9.3	10.6	11.9	9.8	12.1	12.3	8.8	11.13	12.86	8.07	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Turbidity (field)	NTU	364.0	609.0	196.0	524.0	875.0	573.0	NA	741	446	1000 >	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Turbidity	NTU	129	279	235	535	386	201	1360	118	138	187	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
General Chemistry																								
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	258	270	271	257	254	249	316	208	275	255	249	238	219	259	267	261	261	257	258	266	262	263	
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	1.17	1.59	1.3	0.97	0.79	0.78	1	1	<1	2	3	3	
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	258	270	271	257	254	249	316	208	275	255	250	240	220	260	268	262	261	258	259	268	265	266	
Ammonia, Total (as N)	mg/L	0.036	<0.010	0.074	<0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	<0.05	<0.05	<0.05	<0.05	0.17	<0.05	<0.05	<0.05	<0.05	<0.03	<0.03	<0.05	
Unionized ammonia	mg/L	0.00022	<0.000013	0.000519	<0.000040	ND (0.000048)	ND (0.000028)	ND (0.000035)	ND (0.000097)	ND (0.000044)	ND (0.000077)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Anion Sum	meq/L	6.03	6.22	6.21	5.95	5.84	5.76	6.89	5.07	6.17	5.92	6.82	6.7	6.19	6.9	7.31	7.17	7.31	7.15	7.09	7.27	7.28	7.36	
Cation - Anion Balance	%	8.3	4	3	6	5	16	-5	17	6	4	3.87	0.28	2.89	1.22	1.28	2.01	4.01	0.65	0.03	1.38	0.97	0.409	
Cation Sum	meq/L	7.12	6.78	6.58	6.77	6.48	7.9	6.2	7.12	6.95	6.41	7.37	6.66	6.56	6.74	7.5	6.89	6.75	7.06	7.08	7.08	7.43	7.3	
Chloride	mg/L	24.8	24.4	23.9	23	23.2	23.2	22.9	22.3	22.2	21	21	21	19.7	19.5	22.4	21.8	23.7	24.4	21.4	22.6	23	23	
Dissolved Organic Carbon	mg/L	0.57	<1.18	0.87	2.08	3.26 J	4.24	ND (5.0)	ND (1.72)	1.55 J	ND (1.13)	<1	<1	<1	<0.5	<0.5	1.6	0.5	<0.5	<0.5	1.3	0.7	0.4	
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	336	320	310	320	308	378	293	337	329	303	353	319	312	323	360	328	352	336	337	335	352	340	
Nitrate-N	mg/L	9.09	9.01	9.07	8.98	8.53	8.53	8.67	8.67	8.58	9.25	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrite-N	mg/L	<0.010	<0.010	<0.010	<0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Nitrate & Nitrite(as N)	mg/L	9.09	9.01	9.07	8.98	8.53	8.53	8.67	8.67	8.58	9.25	8.7	9.3	9.2	8.3	10	10.3	11.5	10.8	11	10.3	10.9	11	
Phosphate-P (ortho)	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.3	<0.3	0.011	
Sulphate	mg/L	21	21.8	20.3	20.1	19.6	19.3	19.8	18.5	19.3	29	29	31	28	27	29	28	29	26	25	26	26.8	28	
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total Dissolved Solids	mg/L	359	373	383	373	414	352	369	396	401	369	380	365	347	370	399	385	NA	390	387	393	400	342	
Total Organic Carbon	mg/L	1.38	<1.78	<2.5	2.3	ND (2.5) J	ND (5.0)	17.6	2.9 J+	0.97 J	ND (3.8)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total Suspended Solids	mg/L	279	614	733	862	513	745	5030	678	445	502	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dissolved Metals																								
Aluminum (Al)-Dissolved	mg/L	0.0494	<0.0050	<0.0050	0.0057	0.0971	1.21	0.0224	0.446	0.439	ND (0.0050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	
Arsenic (As)-Dissolved	mg/L	0.00018	0.00016	0.00017	0.00014	0.0002	0.00084	0.00017	0.00034	0.00029	0.00013	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	
Barium (Ba)-Dissolved	mg/L	0.212	0.247	0.215	0.218	0.002	0.233	0.213	0.225	0.218	0.218	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.18	
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	0.00015	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	
Boron (B)-Dissolved	mg/L	<0.010	<0.010	<0.010	<0.010	ND (0.010)	0.012	0.011	0.01	ND (0.010)	ND (0.010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	
Cadmium (Cd)-Dissolved	mg/L	<0.000010	0.0000054	0.0000051	0.0000073	0.0000092	0.0000498	0.000008	0.0000139	0.0000145	ND (0.0000050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	
Calcium (Ca)-Dissolved	mg/L	89.9	85.2	81.8	84.2	84.9	101	77.9	89	86.6	79.1	93.2	81.3	80	87.5	93.8	84.7	92.4	92	90.3	94.6	93.5	<0.005	
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	0.00059	<0.00050	ND (0.00050)	0.00094	ND (0.00050)	0.00069	0.0006	ND (0.00050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	0.0005	ND (0.00010)	0.00013	0.00012	ND (0.00010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	
Copper (Cu)-Dissolved	mg/L	0.00059	<0.00020	0.00026	0.00052	0.0007	0.00162	0.00711	ND (0.00091)	0.0006	0.00038	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.02	
Iron (Fe)-Dissolved	mg/L	0.026	<0.010	<0.010	<0.010	0.056	0.895	0.02	0.23	0.251	ND (0.010)	0.02	0.02	0.22	0.12	<0.02	<0.02	0.06	<0.02	<0.02	<0.01	<0.01	<0.02	
Lead (Pb)-Dissolved	mg/L	0.000084	<0.000050	<0.000050	<0.000050	0.00022	0.00404	0.00015	0.000751	0.000742	ND (0.000050)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	
Lithium(Li)-Dissolved	mg/L	0.003	0.0021	0.0032	0.0024	0.0041	0.0033	0.0034	0.0033	0.0034	0.0024	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Magnesium (Mg)-Dissolved	mg/L	27.1	26.1	25.6	26.6	23.4	30.3	24	27.9	27.3	25.7	29.3	28.2	27.4	25.4	30.5	28.2	29.5	25.7	26.2	26.6	28	26.9	
Manganese (Mn)-Dissolved	mg/L	0.00846	<0.00050	<0.00050	0.00286	0.00655	0.06	0.00109	0.0146	0.013	ND (0.00050)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.01	
Molybdenum (Mo)-Dissolved	mg/L	0.000359	0.00036	0.000382	0.000368	0.000424	0.000178	0.000401	0.000333	0.000341	0.000401	NA	NA	NA										

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-4A-II 12-Dec-18	BH88-4A-II 29-May-19	BH88-4A-II 8-Aug-19	BH88-4A-II 3-Dec-19	BH88-4A-II 21-May-20	BH88-4A-II 12-Aug-20	BH88-4A-II 2-Dec-20	BH88-4A-II 27-May-21	BH88-4A-II 19-Aug-21	BH88-4A-II 8-Dec-21	BH88-5-I 12-Dec-90	BH88-5-I 26-Mar-91	BH88-5-I 30-Jul-91	BH88-5-I 22-Nov-91	BH88-5-I 16-Jul-92	BH88-5-I 6-Jul-93	BH88-5-I 6-Apr-95	BH88-5-I 26-Apr-97	BH88-5-I 28-Apr-98	BH88-5-I 26-Apr-01	BH88-5-I 18-Nov-04	BH88-5-I 14-Nov-05
Pesticides and Herbicides																							
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
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County of Brant, Ontario

Parameter	Units	BH88-5-I 26-Sep-06	BH88-5-I 25-Oct-06	BH88-5-I 22-Nov-06	BH88-5-I 5-Jun-08	BH88-5-I 10-Sep-08	BH88-5-I 18-Nov-08	BH88-5-I 3-Jun-09	BH88-5-I 1-Sep-09	BH88-5-I 8-Dec-09	BH88-5-I 3-Jun-10	BH88-5-I 27-Aug-10	BH88-5-I 2-Dec-10	BH88-5-I 2-Jun-11	BH88-5-I 1-Sep-11	BH88-5-I 30-Nov-11	BH88-5-I 30-May-13	BH88-5-I 21-Aug-13	BH88-5-I 5-Dec-13	BH88-5-I 21-May-14	BH88-5-I 28-Aug-14	BH88-5-I 10-Dec-14	BH88-5-I 11-May-15	BH88-5-I 31-Aug-15	BH88-5-I 9-Dec-15
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCPP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-5-I 9-Dec-15 Duplicate	BH88-5-I 26-May-16	BH88-5-I 17-Aug-16	BH88-5-I 1-Dec-16	BH88-5-I 30-May-17	BH88-5-I 8-Aug-17	BH88-5-I 8-Dec-17	BH88-5-I 17-May-18	BH88-5-I 9-Aug-18	BH88-5-I 12-Dec-18	BH88-5-I 29-May-19	BH88-5-I 9-Aug-19	BH88-5-I 4-Dec-19	BH88-5-I 20-May-20	BH88-5-I 12-Aug-20	BH88-5-I 1-Dec-20	BH88-5-I 27-May-21	BH88-5-I 19-Aug-21	BH88-5-I 8-Dec-21
Field Parameters																				
Conductivity (field)	mS	509	537	537	597	547	645	650	634	611	707	490	664	702	664	706	666	690	625	687
Conductivity	µmhos/cm	626	646	641	638	650	663	640	647	669	671	688	682	670	678 J	713	667	619	649	672
Dissolved Oxygen (field)	mg/L	4.70	7.50	2.96	7.14	7.93	11.04	8.36	4.67	11.98	8.90	15.47	7.12	9.26	11.00	7.39	11.95	5.45	8.24	7.74
ORP	mV	NA	NA	NA	NA	NA	NA	248	194	137	243	-31	189	161	267	33	266	267	160	191
pH (field)	unitless	7.80	7.60	7.90	7.72	7.07	8.62	7.54	7.20	6.85	7.44	6.76	7.46	7.38	7.44	6.86	7.10	7.20	7.41	7.51
pH		8.21	8.0	7.9	7.9	7.94	7.79	7.96	8.12	7.97	7.91	7.95	7.9	7.94 J	7.9	7.91	7.82	7.82	7.72	7.93
Temperature (field)	Celsius	7.6	9.6	9.7	8.8	10.2	11.4	8.5	13.7	10.6	8.7	9.9	10.9	9.7	11.0	11.7	6.2	9.05	13.45	8.2
Turbidity (field)	NTU	49.0	NA	NA	43.0	0.0	0.0	0.0	13.7	10.6	8.7	65.8	0.0	0.0	0.0	0.0	11.7	0	0	0
Turbidity	NTU	NA	NA	NA	NA	0.39	0.27	0.13	0.43	<0.47	0.65	<0.90	0.81	0.38	0.48 J	0.62	5.23	0.11	0.19	0.61
General Chemistry																				
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	281	259	264	273	300	263	267	269	255	266	261	262	262	257 J	252	253	208	277	250
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	281	259	264	273	300	263	267	269	255	266	261	262	262	257 J	252	253	208	277	250
Ammonia, Total (as N)	mg/L	<0.050	<0.020	0.034	<0.020	0.033	<0.020	<0.020	0.12	0.089	0.034	<0.010	0.083	0.016	0.010 J	ND (0.010)	ND (0.010)	ND (0.010)	0.019	ND (0.010)
Unionized ammonia	mg/L	<0.00058	<0.00017	0.00059	<0.00021	0.000088	<0.00019	<0.00014	0.000573	0.000149	0.00019	<0.000014	0.000578	0.000083	0.000068 J	ND (0.000018)	ND (0.000029)	ND (0.000033)	0.000139	ND (0.000063)
Anion Sum	meq/L	6.25	5.91	5.98	6.15	6.39	6.03	6.17	6.37	6.16	6.39	6.48	6.46	6.29 J	6.18	6.18	6.18	5.25	6.36	6.01
Cation - Anion Balance	%	3.9	8.2	3.6	3.1	1.9	8.3	7.3	4.4	4.3	57.6	5	5	5 J	10	3	15	6	7	
Cation Sum	meq/L	6.75	6.96	6.43	6.55	6.64	7.12	7.14	6.95	6.71	7.55	7.13	7.19	6.99	6.96 J	7.52	6.61	7.13	7.12	6.89
Chloride	mg/L	19.3	20.4	20.4	20.6	20.1	20.4	20.3	21.3	22.1	22.5	23.1	24.2	23.7 J	23.4	23.4	23.1	21.1	21.8	22.5
Dissolved Organic Carbon	mg/L	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	R	0.75 J	0.71	<1.13	0.9	0.89	1.34 J	2.85 J	1.2	ND (2.21)	2.21 J	ND (1.45)
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	318	328	302	308	313	336	336	328	315	356	337	338	329	331 J	354	311	336	335	323
Nitrate-N	mg/L	8.14	8.49	8.48	8.59	8.57	9.15	10.2	11.8	12.2	13.3	13.9	14.3	14	13.2 J	12.9	12.6	11.4	10.7	11
Nitrite-N	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.011	<0.010	0.014	<0.010	<0.010	<0.010	ND (0.010) J	ND (0.010)	ND (0.010)	ND (0.010)	0.016	ND (0.010)
Nitrate & Nitrite(as N)	mg/L	8.14	8.49	8.48	8.59	8.57	9.15	10.2	11.811	12.2	13.314	13.9	14.3	14	13.2 J	12.9	12.6	11.4	10.716	11
Phosphate-P (ortho)	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030) J	ND (0.0030)	0.0034	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulphate	mg/L	21.6	21.2	21.2	21.6	21.4	21.9	21.6	21.8	21.8	21.2	21.3	21.3	21.5	20.7	20.8	21.3	19.7	20.4	21.5
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	301	395	380	368	357	367	406	404 J	392	382	413	442	396	427 J	421	410	386	397	374
Total Organic Carbon	mg/L	1.4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.09	0.88	<1.27	0.75	2.1	1.72 J	2.06 J	5.1	ND (2.05)	0.94 J	ND (1.74)
Total Suspended Solids	mg/L	<2.0	<2.0	<2.0	<2.0	3.2	2.4	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	4.3 J	ND (3.0)	14.8	ND (3.0)	15	ND (3.0)
Dissolved Metals																				
Aluminum (Al)-Dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND (0.0050)	0.0065	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Arsenic (As)-Dissolved	mg/L	<0.00010	<0.00010	0.00010	<0.00010	<0.00010	<0.00010	0.00012	0.00011	<0.00010	<0.00010	<0.00010	0.0001	<0.00010	ND (0.00010)	0.00011	0.00011	ND (0.00010)	0.0001	ND (0.00010)
Barium (Ba)-Dissolved	mg/L	0.182	0.174	0.170	0.167	0.182	0.186	0.181	0.169	0.175	0.194	0.203	0.188	0.191	0.192	0.183	0.178	0.183	0.185	0.173
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (B)-Dissolved	mg/L	0.01	0.010	0.011	0.011	0.011	0.011	<0.010	0.01	0.01	0.011	0.01	0.01	ND (0.010)	0.01	0.012	0.013	0.011	0.011	0.01
Cadmium (Cd)-Dissolved	mg/L	0.000031	0.000017	0.000025	0.000017	0.000026	0.000030	0.000016	0.000014	0.000018	0.000009	0.0000133	0.0000109	0.0000109	0.0000109	0.0000106	0.0000088	0.0000117	0.0000114	0.0000242
Calcium (Ca)-Dissolved	mg/L	85.3	87.5	80.5	83.2	84.5	88.8	89.8	84.5	96	89.7	87.2	88.8	89.1	94.1	82.8	89.1	87.7	84.1	84.1
Chromium (Cr)-Dissolved	mg/L	0.00062	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (Cu)-Dissolved	mg/L	0.00024	0.00029	0.00022	0.00024	0.00025	0.00026	0.00030	0.00034	ND(0.00039)	0.00103	0.00026	0.00025	0.00029	0.00026	0.00042	0.00034	ND (0.00084)	0.00027	0.00135
Iron (Fe)-Dissolved	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	0.017	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	0.000081
Lithium (Li)-Dissolved	mg/L	0.0033	0.0028	0.0030	0.0026	0.0026	0.0032	0.0028	0.0026	0.0034	0.0031	0.0023	0.0033	0.0023	0.0026	0.0036	0.0034	0.0033	0.0032	0.003
Magnesium (Mg)-Dissolved	mg/L	25.5	26.6	24.5	24.4	24.7	26.6	27.6	25.2	28.2	26.7	27.8	27.1	24.1	28.8	25.3	27.5	27.5	28.1	27.5
Manganese (Mn)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	ND (0.00050)	0.00074	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00102
Molybdenum (Mo)-Dissolved	mg/L	0.000218	0.000219	0.000197	0.000205	0.000212	0.000220	0.000203	0.000229											

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Parameter	Units	BH88-5-I 9-Dec-15 Duplicate	BH88-5-I 26-May-16	BH88-5-I 17-Aug-16	BH88-5-I 1-Dec-16	BH88-5-I 30-May-17	BH88-5-I 8-Aug-17	BH88-5-I 8-Dec-17	BH88-5-I 17-May-18	BH88-5-I 9-Aug-18	BH88-5-I 12-Dec-18	BH88-5-I 29-May-19	BH88-5-I 9-Aug-19	BH88-5-I 4-Dec-19	BH88-5-I 20-May-20	BH88-5-I 12-Aug-20	BH88-5-I 1-Dec-20	BH88-5-I 27-May-21	BH88-5-I 19-Aug-21	BH88-5-I 8-Dec-21
Pesticides and Herbicides																				
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlorane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
 Historical Analytical Data - Water Analytical Data (Groundwater)
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Parameter	Units	BH88-5-II 12-Dec-90	BH88-5-II 26-Mar-91	BH88-5-II 30-Jul-91	BH88-5-II 22-Nov-91	BH88-5-II 16-Jul-92	BH88-5-II 06-Jul-93	BH88-5-II 06-Apr-95	BH88-5-II 27-Apr-97	BH88-5-II 28-Apr-98	BH88-5-II 26-Apr-01	BH88-5-II 18-Nov-04	BH88-5-II 14-Nov-05	BH88-5-II 26-Sep-06	BH88-5-II 25-Oct-06	BH88-5-II 22-Nov-06	BH88-5-II 05-Jun-08	BH88-5-II 10-Sep-08	BH88-5-II 18-Nov-08	BH88-5-II 03-Jun-09	BH88-5-II 01-Sep-09	BH88-5-II 08-Dec-09	BH88-5-II 03-Jun-10	BH88-5-II 27-Aug-10	BH88-5-II 02-Dec-10
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-D	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MCPA	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
op-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Picloram	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
a-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine+N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Cyanazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
g-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine Desethyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan Sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin Aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lindane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor Epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryne	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Historical Analytical Data - Water Analytical Data (Groundwater)
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Parameter	Units	BH88-5-II 02-Jun-11	BH88-5-II 01-Sep-11	BH88-5-II 30-Nov-11	BH88-5-II 30-May-13	BH88-5-II 21-Aug-13	BH88-5-II 05-Dec-13	BH88-5-II 21-May-14	BH88-5-II 28-Aug-14	BH88-5-II 10-Dec-14	BH88-5-II 11-May-15	BH88-5-II 31-Aug-15	BH88-5-II 09-Dec-15	BH88-5-II 26-May-16	BH88-5-II 17-Aug-16	BH88-5-II 01-Dec-16	BH88-5-II 30-May-17	BH88-5-II 08-Aug-17	BH88-5-II 08-Dec-17	BH88-5-II 17-May-18	BH88-5-II 09-Aug-18	BH88-5-II 12-Dec-18	BH88-5-II 29-May-19	BH88-5-II 09-Aug-19	BH88-5-II 04-Dec-19
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCPA	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
op-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Picloram	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
a-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine+N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
g-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine Desethyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lindane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryne	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-5-II 20-May-20	BH88-5-II 12-Aug-20	BH88-5-II 02-Dec-20	BH88-5-II 27-May-21	BH88-5-II 19-Aug-21	BH88-5-II 08-Dec-21	BH88-5A-I 12-Dec-90	BH88-5A-I 26-Mar-91	BH88-5A-I 30-Jul-91	BH88-5A-I 22-Nov-91	BH88-5A-I 16-Jul-92	BH88-5A-I 06-Jul-93	BH88-5A-I 06-Apr-95	BH88-5A-I 17-Apr-97	BH88-5A-I 28-Apr-98	BH88-5A-I 26-Apr-01	BH88-5A-I 18-Nov-04	BH88-5A-I 14-Nov-05	BH88-5A-I 26-Sep-06	BH88-5A-I 25-Oct-06	BH88-5A-I 22-Nov-06	BH88-5A-I 06-Jun-08
Pesticides and Herbicides																							
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCPA	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
op-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Picloram	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
a-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine+N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
g-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine Desethyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lindane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryne	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a

**Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	BH88-5A-I 10-Sep-08	BH88-5A-I 18-Nov-08	BH88-5A-I 03-Jun-09	BH88-5A-I 1-Sep-09	BH88-5A-I 08-Dec-09	BH88-5A-I 03-Jun-10	BH88-5A-I 27-Aug-10	BH88-5A-I 02-Dec-10	BH88-5A-I 02-Jun-11	BH88-5A-I 01-Sep-11	BH88-5A-I 30-Nov-11	BH88-5A-I 30-May-13	BH88-5A-I 30-May-13 Duplicate	BH88-5A-I 21-Aug-13	BH88-5A-I 05-Dec-13	BH88-5A-I 21-May-14	BH88-5A-I 28-Aug-14	BH88-5A-I 28-Aug-14 Duplicate	BH88-5A-I 10-Dec-14	BH88-5A-I 11-May-15	BH88-5A-I 31-Aug-15	BH88-5A-I 09-Dec-15	BH88-5A-I 26-May-16
Field Parameters																								
Conductivity (field)	mS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	738	738	714	845	833	93	93	695	727	669	700	731
Conductivity	µmhos/cm	859	669	865	852	875	865	874	865	869	873	873	810	809	881.00	868	885	883	885	879	880	907	903	918
Dissolved Oxygen (field)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	8.51	8.51	10.70	12.62	5.42	0.16	0.16	1.72	8.05	6.36	0.62	5.17
ORP	mV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	21	21	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pH (field)	unitless	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.17	7.17	7.30	6.90	6.60	7.64	7.64	7.38	7.06	7.37	7.70	7.54
pH	pH	8.1	8.1	7.7	7.9	7.8	7.9	7.9	7.9	8.0	7.8	8.0	7.7	7.8	7.7	7.6	7.5	7.8	7.8	7.7	7.9	7.9	8.1	7.9
Temperature (field)	Celsius	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	11.3	11.3	13.8	9.4	9.8	10.1	10.1	8.4	9.8	10.4	8.5	9.4
Turbidity (field)	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	140.0	140.0	239.0	-10.0	90.0	124.0	124.0	277.0	767.0	7.0	582.0	NA
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																								
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	209	252	215	206	213	205	210	210	201	207	207	208	213	205	217	202	207	220	222	230	218	228	183
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	2.0	3.0	<1	1.0	1.0	2.0	2.0	1.0	2.0	1.0	2.0	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	212	255	216	207	214	206	211	212	203	209	209	209	214	205	218	202	208	221	222	230	218	228	183
Ammonia, Total (as N)	mg/L	0.07	<0.05	0.06	0.06	0.07	<0.1	<0.05	0.06	0.08	0.06	<0.05	0.05	0.06	0.25	0.068	0.081	0.085	0.092	0.056	<0.050	0.095	0.064	0.066
Unionized ammonia	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.00020	0.00023	0.00	0.000116	0.000071	0.00083	0.00083	0.00027	<0.00013	0.00052	0.00064	0.00049
Anion Sum	meq/L	9.38	7.06	9.92	10.0	9.85	9.69	9.8	9.7	9.52	9.67	9.48	9.34	9.10	9.96	9.26	8.93	9.15	9.38	9.95	9.35	9.65	9.81	9.02
Cation - Anion Balance	%	1.97	0.100	1.46	4.56	1.71	2.2	1.31	1.23	0.21	4.32	0.03	49.1	3.7	4.90	3.8	14.0	11.4	8.6	8.2	0.0	2.9	1.2	7.9
Cation Sum	meq/L	9.76	7.07	9.64	9.13	9.52	9.28	9.47	9.48	8.87	9.47	9.48	10.10	9.81	9.89	10.0	11.8	11.2	11.0	09.7	10.0	10.1	10.1	10.6
Chloride	mg/L	12.0	23.0	13.0	13.0	14.0	15.0	16.0	16.0	17.0	18.0	<2.0	17.4	18.00	18.5	18.4	19.1	19.2	19.5	19.8	20.0	20.4	20.4	20.9
Dissolved Organic Carbon	mg/L	0.3	0.4	0.4	0.3	0.5	0.5	0.4	0.5	0.4	1.1	0.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	2.1	1.7	
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	470	330	470	440	460	450	460	460	460	430	460	493	479	480	487	579	563	546	539	470	487	490	515
Nitrate-N	mg/L	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.020	<0.020	<0.020
Nitrite-N	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.010	<0.010	<0.010
Nitrate & Nitrite(as N)	mg/L	<0.1	0.01	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.03	<0.022	<0.022	<0.022
Phosphate-P (ortho)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0030	<0.0030	<0.0030	0.0034	0.0031	<0.0030	0.0041	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Sulphate	mg/L	232	28	250	260	250	250	240	240	240	230	240	<2.0	244.0	244	248	244	249	250	247	255	253	262	260
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	562	385	584	581	578	568	576	570	565	558	559	614	628	676	614	612	610	626	613	532	532	568	680
Total Organic Carbon	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.5	1.5	
Total Suspended Solids	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	406	556	76.40	309	216	211	256	433	768	635	382	790
Dissolved Metals																								
Aluminum (Al)-Dissolved	mg/L	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	<0.010	<0.010	<0.010	0.178	0.314	<0.010	<0.010	<0.010	<0.0050	0.0056	<0.0050
Antimony (Sb)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0013	0.0009	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010
Arsenic (As)-Dissolved	mg/L	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00059	0.00062	0.00056
Barium (Ba)-Dissolved	mg/L	0.016	0.17	0.016	0.016	0.015	0.027	0.015	0.017	0.016	0.16	0.16	0.0174	0.0196	0.02	0.0157	0.0184	0.0194	0.0156	0.0158	0.0155	0.0160	0.0162	0.0154
Beryllium (Be)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00050	<0.00050	<0.00050
Boron (B)-Dissolved	mg/L	0.045	<0.01	0.045	0.033	0.063	0.043	0.042	0.04	0.039	0.041	0.040	0.037	0.04	0.041	0.039	0.037	0.041	0.038	0.039	0.040	0.041	0.039	0.039
Cadmium (Cd)-Dissolved	mg/L	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
Calcium (Ca)-Dissolved	mg/L	140	90	140	130	140	130	140	140	140	140	140	152	148	144.00	146	182	180	175	166	140	144	146	153
Chromium (Cr)-Dissolved	mg/L	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010
Copper (Cu)-Dissolved	mg/L	<0.001	0.003	0.002	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.00020	<0.00020	<0.00020
Iron (Fe)-Dissolved	mg/L	0.18	<0.1	0.26	0.19	0.26	<0.1	0.27	0.27	0.3	0.17	0.24	0.205	0.169	0.21	0.275	0.707	0.244	0.361	0.412	0.401	0		

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-5A-I 10-Sep-08	BH88-5A-I 18-Nov-08	BH88-5A-I 03-Jun-09	BH88-5A-I 1-Sep-09	BH88-5A-I 08-Dec-09	BH88-5A-I 03-Jun-10	BH88-5A-I 27-Aug-10	BH88-5A-I 02-Dec-10	BH88-5A-I 02-Jun-11	BH88-5A-I 01-Sep-11	BH88-5A-I 30-Nov-11	BH88-5A-I 30-May-13	BH88-5A-I 30-May-13 Duplicate	BH88-5A-I 21-Aug-13	BH88-5A-I 05-Dec-13	BH88-5A-I 21-May-14	BH88-5A-I 28-Aug-14	BH88-5A-I 28-Aug-14 Duplicate	BH88-5A-I 10-Dec-14	BH88-5A-I 11-May-15	BH88-5A-I 31-Aug-15	BH88-5A-I 09-Dec-15	BH88-5A-I 26-May-16
Pesticides and Herbicides																								
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-D	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MCPA	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
op-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Picloram	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
a-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine+N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Cyanazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
g-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine Desethyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan Sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin Aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lindane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor Epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryne	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table G.1a

**Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	BH88-5A-I 26-May-16 Duplicate	BH88-5A-I 17-Aug-16	BH88-5A-I 01-Dec-16	BH88-5A-I 30-May-17	BH88-5A-I 08-Aug-17	BH88-5A-I 08-Dec-17	BH88-5A-I 17-May-18	BH88-5A-I 09-Aug-18	BH88-5A-I 12-Dec-18	BH88-5A-I 29-May-19	BH88-5A-I 09-Aug-19	BH88-5A-I 04-Dec-19	BH88-5A-I 20-May-20	BH88-5A-I 12-Aug-20	BH88-5A-I 02-Dec-20	BH88-5A-I 27-May-21	BH88-5A-I 19-Aug-21	BH88-5A-I 08-Dec-21	BH88-6-I 13-Dec-90	BH88-6-I 26-Mar-91	BH88-6-I 30-Jul-91	BH88-6-I 22-Nov-91
Field Parameters																							
Conductivity (field)	mS	731	706	844	771	928	902	906	846	974	675	913	972	410	941	935	981	901	995	NA	NA	NA	NA
Conductivity	µmhos/cm	922	916	910	922	929	880	883	913	922	951	940	923	927 J	989	939	870	926	970	695	557	510	467
Dissolved Oxygen (field)	mg/L	5.17	1.81	3.55	1.42	5.26	5.02	4.42	7.95	4.09	14.98	1.53	4.99	1.30	1.36	11.83	0	2.2	7.6	NA	NA	NA	NA
ORP	mV	NA	NA	NA	NA	NA	14	23	4.42	40	-31	-38	17	78	1	252	2	-59	20	NA	NA	NA	NA
pH (field)	unitless	7.54	7.80	7.69	6.83	8.67	7.45	6.99	7.09	7.33	6.69	7.31	7.28	7.53	6.68	7.87	7.47	7.25	7.37	NA	NA	NA	NA
pH	pH	7.9	7.8	7.7	7.87	7.68	7.97	7.97	7.90	7.82	7.77	7.79	7.8	7.88 J	7.71	7.71	7.88	7.57	7.72	7.5	7.5	7.8	7.6
Temperature (field)	Celsius	9.4	9.5	9.1	9.9	10.9	9.4	17.2	11.1	8.7	10.0	10.9	9.4	11.8	11.6	6.2	9.71	13.9	7.98	NA	NA	NA	NA
Turbidity (field)	NTU	NA	NA	576.0	147.0	0.0	990.0	788.0	141.0	242.0	475.0	334.0	489.0	74.3	135.0	40.0	121	450	824	NA	NA	NA	NA
Turbidity	NTU	NA	NA	NA	87.2	86.6	74000	297	53.1	101	298	335	95.9	35.1 J	50.2	111	44.8	183	339	NA	NA	NA	NA
General Chemistry																							
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	212	212	214	226	208	200	199	208	217	218	215	216	206 J	206	214	146	237	229	279	259	219	209
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0) J	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<1	<1	1.3	0.78
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0) J	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<1	<1	NA	NA
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	212	212	214	226	208	200	199	208	217	218	215	216	206 J	206	214	146	237	229	280	260	220	210
Ammonia, Total (as N)	mg/L	0.073	0.057	0.055	0.078	0.051	0.079	0.078	0.042	0.3	<0.053	0.073	0.05	0.048 J	0.045	0.046	0.055	0.05	0.055	0.12	<0.05	<0.05	0.49
Un-ionized ammonia	mg/L	0.00054	0.00077	0.00057	0.000117	0.0053	0.00048	0.000297	0.000128	0.00131	0.0000513	0.000362	0.000136	0.000414 J	0.000055	0.0000129	0.000356	0.000269	0.000247	NA	NA	NA	NA
Anion Sum	meq/L	9.5	9.49	9.56	9.83	9.55	9.38	9.53	9.81	6.53	10.1	10.1	10.1	9.93 J	9.87	10.2	8.83	10.3	10.6	6.60	6.24	5.07	4.76
Cation - Anion Balance	%	5	1.4	1.5	1.6	1.6	3.9	3.2	0.3	25.5	3	2	1	2 J	5	-2	11	2	-1	4.49	1.42	0.28	0.60
Cation Sum	meq/L	10.5	9.76	9.85	10.2	9.87	10.1	9.87	10.2	11	10.8	10.5	10.3	10.2 J	10.9	9.82	11.1	10.6	10.4	7.22	6.06	5.1	4.82
Chloride	mg/L	20.8	20.8	21.1	20.9	21.0	20.7	21	21.2	22.1	22.4	22.7	23	23.2 J	23.1	23.5	23.2	23.2	24.4	11	13	10	10.7
Dissolved Organic Carbon	mg/L	1.3	<1.0	<1.0	<1.0	<1.0	R	0.59 J	<1.0	<1.48	0.66	0.65	0.73 J	2.01	2.6	ND (2.21)	1.25	ND (0.91)	<1	<1	<1	<1	0.7
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	511	476	480	495	481	496	497	481	536	526	510	502	501 J	534	479	540	518	508	352	295	247	233
Nitrate-N	mg/L	<0.020	<0.020	<0.020	<0.020	<0.020	0.024	<0.020	0.026	<0.020	<0.020	<0.020	<0.020	ND (0.020) J	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	ND (0.020)	NA	NA	NA	NA
Nitrite-N	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	ND (0.010) J	ND (0.010)	ND (0.010)	ND (0.010)	0.013	ND (0.010)	NA	NA	NA	NA
Nitrate & Nitrite(as N)	mg/L	<0.022	<0.022	<0.022	<0.022	<0.022	0.024	<0.022	0.026	<0.022	<0.022	<0.022	<0.022	ND (0.022) J	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	ND (0.022)	0.93	0.65	0.84	0.18
Phosphate-P (ortho)	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030) J	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	<0.01	<0.01	<0.01	<0.01
Sulphate	mg/L	260	260	261	259	266	264	272	277	284	283	285	285	282 J	280	288	277	276	294	30	30	16	12
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	689	682	655	626	652	693	667 J	664	654	681	711	662	692 J	728	694	687	693	655	345	309	252	236
Total Organic Carbon	mg/L	1.1	1.1	12	<1.0	<1.0	<1.0	1.3	1.5	0.79	<1.09	24.3	2.41	1.10 J	ND (5.0)	ND (2.5)	ND (2.5)	1.75	ND (3.1)	NA	NA	NA	NA
Total Suspended Solids	mg/L	934	904	1700	88.1	254	4550	385	29.1	88.8	569	404	309	133 J	147	334	162	388	766	NA	NA	NA	NA
Dissolved Metals																							
Aluminum (Al)-Dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0276	0.0227	0.0056	NA	NA	NA	NA
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA
Arsenic (As)-Dissolved	mg/L	0.00059	0.00059	0.00055	0.00059	0.00057	0.00051	0.00046	0.00049	0.00051	0.00056	0.00058	0.00052	0.00057	0.00054	0.00058	0.00054	0.00058	0.00049	NA	NA	NA	NA
Barium (Ba)-Dissolved	mg/L	0.0154	0.0156	0.0173	0.0247	0.0225	0.0133	0.0141	0.015	0.0155	0.0163	0.0152	0.0164	0.0168	0.014	0.0136	0.0159	0.015	0.014	NA	NA	NA	NA
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA	NA	NA
Boron (B)-Dissolved	mg/L	0.039	0.040	0.039	0.041	0.041	0.038	0.037	0.039	0.043	0.039	0.038	0.037	0.038	0.041	0.045	0.043	0.04	0.037	NA	NA	NA	NA
Cadmium (Cd)-Dissolved	mg/L	<0.000010	<0.000010	0.000021	0.000013	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA	NA	NA	NA
Calcium (Ca)-Dissolved	mg/L	153	143	144	150	144	152	146	162	160	152	151	155	155	161	144	160	153	150	88.7	68.4	54.6	53.6
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	NA	NA	NA	NA
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA	NA	NA	NA
Copper (Cu)-Dissolved	mg/L	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	<0.00020	0.00255	0.00317	<0.00020	<0.00020	<0.00020	0.00057	ND (0.00020)	ND (0.00020)	ND (0.00020)	ND (0.00191)	ND (0.00020)	ND (0.00020)	<0.01	<0.01	<0.01	<0.01
Iron (Fe)-Dissolved	mg/L	0.385	0.331	0.377	0.307	0.290	0.390	0.297	0.397	0.383	0.654	0.771	0.374	0.357	0.375	0.375	0.405	0.358	0.378	0.21	0.72	0.04	2.70
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	0.000087	<0.000050	<0.000050	0.000051	0.00008	0.000117	<0.000050	<0.000050	<0.											

Table G.1a
 Historical Analytical Data - Water Analytical Data (Groundwater)
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Parameter	Units	BH88-5A-I 26-May-16 Duplicate	BH88-5A-I 17-Aug-16	BH88-5A-I 01-Dec-16	BH88-5A-I 30-May-17	BH88-5A-I 08-Aug-17	BH88-5A-I 08-Dec-17	BH88-5A-I 17-May-18	BH88-5A-I 09-Aug-18	BH88-5A-I 12-Dec-18	BH88-5A-I 29-May-19	BH88-5A-I 09-Aug-19	BH88-5A-I 04-Dec-19	BH88-5A-I 20-May-20	BH88-5A-I 12-Aug-20	BH88-5A-I 02-Dec-20	BH88-5A-I 27-May-21	BH88-5A-I 19-Aug-21	BH88-5A-I 08-Dec-21	BH88-6-I 13-Dec-90	BH88-6-I 26-Mar-91	BH88-6-I 30-Jul-91	BH88-6-I 22-Nov-91
Pesticides and Herbicides																							
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-D	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MCPA	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
op-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Picloram	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
a-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine+N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Cyanazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
g-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine Desethyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan Sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin Aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lindane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor Epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryne	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

**Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	BH88-6-1 16-Jul-92	BH88-6-1 06-Jul-93	BH88-6-1 06-Apr-95	BH88-6-1 17-Apr-97	BH88-6-1 28-Apr-98	BH88-6-1 26-Apr-01	BH88-6-1 18-Nov-04	BH88-6-1 14-Nov-05	BH88-6-1 26-Sep-06	BH88-6-1 25-Oct-06	BH88-6-1 22-Nov-06	BH88-6-1 06-Jun-08	BH88-6-1 11-Sep-08	BH88-6-1 19-Nov-08	BH88-6-1 03-Jun-09	BH88-6-1 02-Sep-09	BH88-6-1 07-Dec-09	BH88-6-1 04-Jun-10	BH88-6-1 27-Aug-10	BH88-6-1 03-Dec-10	BH88-6-1 02-Jun-11	BH88-6-1 01-Sep-11	BH88-6-1 01-Dec-11	BH88-6-1 30-May-13	
Field Parameters																										
Conductivity (field)	mS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	543
Conductivity	µmhos/cm	636	588	366	382	434	538	487	537	559	554	572	526	529	528	528	494	515	519	539	551	563	523	541	NA	410
Dissolved Oxygen (field)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	12.40
ORP	mV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	144
pH (field)	unitless	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	7.32
pH	pH	7.3	7.4	7.8	8.0	7.7	7.9	7.9	8.1	8.0	8.1	8.2	8.2	8.2	8.2	7.8	7.9	7.9	8.0	8.0	7.9	8.1	7.9	8.0	7.9	7.9
Temperature (field)	Celsius	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	14.0
Turbidity (field)	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	3.0
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
General Chemistry																										
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	285	267	153	160	211	299	253	293	305	294	297	260	259	260	265	253	255	252	264	271	277	260	268	261	
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	0.54	0.63	1	2	<1	2	2	3	3	4	4	4	4	4	2	2	2	2	2	2	3	2	2	<10	
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<10
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	286	268	153	162	212	301	255	296	308	298	301	264	262	264	267	255	257	254	266	273	281	262	270	263	
Ammonia, Total (as N)	mg/L	0.17	<0.05	<0.05	<0.05	<0.05	<0.03	0.11	<0.05	<0.05	0.22	<0.05	<0.05	<0.05	0.14	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.050
Ionized ammonia	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.00024
Anion Sum	meq/L	6.54	6.20	3.61	3.83	4.75	6.80	5.59	6.52	6.79	6.52	6.58	5.79	5.84	5.85	5.76	5.53	5.66	5.56	5.79	5.92	6.09	5.62	5.83	4.69	
Cation - Anion Balance	%	1.50	2.31	5.17	4.99	2.9	1.99	1.38	0.30	5.09	1.70	0.0532	0.74	0.86	0.93	0.71	1.58	0.21	1.49	0.79	1.15	1.47	2.14	0.71	10.1	
Cation Sum	meq/L	6.74	5.92	4.00	3.47	4.48	6.54	5.44	6.48	6.13	6.30	6.57	5.71	5.74	5.96	5.85	5.64	5.73	5.90	6.06	6.27	5.39	5.91	5.73	5.73	
Chloride	mg/L	14.2	13.4	17.9	15.3	14	12.8	11	11	13	12	12	11	11	10	9	11	13	13	13	13	10	10	10	8.8	
Dissolved Organic Carbon	mg/L	0.7	1.6	1.0	0.6	0.5	0.5	0.8	1.2	0.7	0.6	0.7	0.6	0.7	0.5	0.5	0.6	0.6	0.7	0.5	0.6	0.6	1.5	0.7	<1.0	
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness (as CaCO ₃)	mg/L	330	289	195	164	217	319	264	310	290	300	320	270	270	290	280	260	270	270	270	290	300	260	280	275	
Nitrate-N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.7	0.3	0.4	0.3	0.3	0.2	0.4	0.3	0.3	0.3	0.4	0.3	0.7	0.3	0.5	0.29	
Nitrite-N	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.10	
Nitrate & Nitrite (as N)	mg/L	0.98	1.79	<0.05	0.5	0.19	1.5	0.4	0.7	0.8	0.3	0.4	0.3	0.3	0.2	0.4	0.3	0.3	0.4	0.3	0.7	0.3	0.5	0.29		
Phosphate-P (ortho)	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.3	<0.3	0.006	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.0030	
Sulphate	mg/L	17	16	<2	6	5	15.2	7.5	11	10	8	9	8	13	12	6	7	9	4	4	3	3	4	5	3.3	
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	328	309	NA	181	226	334	270	315	320	313	320	285	290	294	286	272	283	278	285	297	306	275	292	270	
Total Organic Carbon	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<1.0
Total Suspended Solids	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	110
Dissolved Metals																										
Aluminum (Al)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.1	<0.005	<0.005	<0.005	0.005	<0.005	<0.005	<0.005	<0.005	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.010	
Antimony (Sb)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.0005	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	
Arsenic (As)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	
Barium (Ba)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	0.09	0.083	0.089	0.092	0.065	0.077	0.079	0.066	0.078	0.081	0.074	0.084	0.094	0.087	0.078	0.094	0.0673	
Beryllium (Be)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	
Bismuth (Bi)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	NA	NA	NA	NA	NA	NA	NA	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	
Boron (B)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	0.03	0.043	0.036	0.019	0.024	0.027	0.03	0.019	0.013	0.041	0.019	0.019	0.013	0.01	0.016	0.012	0.015	
Cadmium (Cd)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.000090	
Calcium (Ca)-Dissolved	mg/L	78.6	74.0	33.6	28.7	48.7	80.0	62.6	81.8	72	78	83	70	71	75	71	69	70	72	71	77	79	68	74	71.8	
Chromium (Cr)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.00050	
Cobalt (Co)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	
Copper (Cu)-Dissolved	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.02	<0.001	<0.001	<0.001	0.005	0.004	0.002	0.001	0.003	0.03	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.0010	
Iron (Fe)-Dissolved	mg/L	3.60	2.55	0.48	0.07	0.25	0.39	3.93	0.62	3.3	2.1	0.84	0.6	1.6	<0.1	<0.1	1.3	0.22	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.108	
Lead (Pb)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.00050	
Lithium (Li)-Dissolved	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Magnesium (Mg)-Dissolved	mg/L	32.4	25.4																							

Table G.1a
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Parameter	Units	BH88-6-I 16-Jul-92	BH88-6-I 06-Jul-93	BH88-6-I 06-Apr-95	BH88-6-I 17-Apr-97	BH88-6-I 28-Apr-98	BH88-6-I 26-Apr-01	BH88-6-I 18-Nov-04	BH88-6-I 14-Nov-05	BH88-6-I 26-Sep-06	BH88-6-I 25-Oct-06	BH88-6-I 22-Nov-06	BH88-6-I 06-Jun-08	BH88-6-I 11-Sep-08	BH88-6-I 19-Nov-08	BH88-6-I 03-Jun-09	BH88-6-I 02-Sep-09	BH88-6-I 07-Dec-09	BH88-6-I 04-Jun-10	BH88-6-I 27-Aug-10	BH88-6-I 03-Dec-10	BH88-6-I 02-Jun-11	BH88-6-I 01-Sep-11	BH88-6-I 01-Dec-11	BH88-6-I 30-May-13
Pesticides and Herbicides																									
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
o,p-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-D	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MCPA	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
op-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
pp-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Picloram	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
a-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine+N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Cyanazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
g-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine Desethyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan Sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin Aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Lindane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor Epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryne	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table G.1a

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 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Parameter	Units	BH88-6-I 20-Aug-13	BH88-6-I 05-Dec-13	BH88-6-I 21-May-14	BH88-6-I 28-Aug-14	BH88-6-I 10-Dec-14	BH88-6-I 11-May-15	BH88-6-I 31-Aug-15	BH88-6-I 09-Dec-15	BH88-6-I 26-May-16	BH88-6-I 17-Aug-16	BH88-6-I 01-Dec-16	BH88-6-I 01-Jun-17	BH88-6-I 09-Aug-17	BH88-6-I 06-Dec-17	BH88-6-I 16-May-18	BH88-6-I 08-Aug-18	BH88-6-I 11-Dec-18	BH88-6-I 29-May-19	BH88-6-I 08-Aug-19	BH88-6-I 03-Dec-19	BH88-6-I 21-May-20	BH88-6-I 21-May-20 Duplicate	BH88-6-I 13-Aug-20	
Field Parameters																									
Conductivity (field)	mS	414	545	466	NA	NA	397	357	368	439	433	491	534	530	552	506	484	553	407	520	543	471	471	NA	
Conductivity	µmhos/cm	524	482	529	505	499	485	504	542	560	528	561	565	537	496	508	502	539	560	537	526	550	554	544	
Dissolved Oxygen (field)	mg/L	10.90	10.29	6.92	NA	NA	8.79	7.65	1.95	5.70	3.02	8.84	4.77	11.37	0.33	2.84	2.12	3.64	1.23	3.79	0.00	0.54	0.54	NA	
ORP	mV	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	99	-37	-48	116	-23	-75	-22	-21	-45	150	150	NA	
pH (field)	unitless	6.99	7.57	8.27	NA	NA	7.77	6.99	7.58	7.72	7.85	7.56	7.16	7.20	7.46	7.37	7.16	7.32	6.57	7.03	6.83	7.31	7.31	NA	
pH	pH	7.9	7.8	7.7	7.9	7.9	8.0	7.9	8.2	8.0	7.9	7.7	8.14	7.75	7.97	8.01	7.75	7.62	7.92	7.8	7.88	7.86	7.88	7.97	
Temperature (field)	Celsius	14.6	9.5	9.4	NA	NA	9.6	13.0	10.8	9.7	12.0	10.5	14.3	15.1	10.3	13.3	18.8	9.5	10.0	17.0	8.4	24.2	24.2	NA	
Turbidity (field)	NTU	174.0	-10.0	0.0	NA	NA	128.0	351.0	198.0	407.0	71.0	NA	0.0	0.0	3.7	4.0	0.0	17.5	20.0	31.4	16.9	2.2	2.2	NA	
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1.57	4.59	33.4	2.16	7.26	25.7	6.76	5.86 J+	18.8	13.5	13.8	23.3	
General Chemistry																									
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	252	108	271	261	253	257	258	300	287	261	292	348	291	232	258	261	271	283	275	276	272	273	267	
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	253	285	272	263	253	257	258	300	287	261	292	348	291	232	258	261	271	283	275	276	272	273	267	
Ammonia, Total (as N)	mg/L	<0.050	0.072	<0.050	0.067	0.075	<0.050	0.236	0.284	0.303	0.076	0.112	0.128	<0.020	0.087	<0.020	0.528	<0.239	<0.014	<0.010	0.101	0.014	0.015	0.023	
Unionized ammonia	mg/L	<0.00016	0.00058	<0.0019	0.0014	0.00028	<0.00064	0.00065	0.00258	0.00348	0.0014	0.00095	0.000582	<0.00011	0.00061	<0.00014	0.00335	0.00108	0.0000121	<0.000041	0.000151	0.00019	0.0002	0.00039	
Anion Sum	meq/L	4.52	5.10	4.86	4.69	4.50	4.62	5.40	5.17	4.7	5.19	4.7	6.24	5.13	4.22	4.64	4.66	5.21	5.04	5.06	5.07	5.09	4.95	4.95	
Cation - Anion Balance	%	9.6	7.7	5.6	5.7	6.9	6.8	2.1	-3.3	6.4	4.6	0.7	2.9	5	21.1	7.5	8	85.5	9	7	1	1	10	10	
Cation Sum	meq/L	5.48	5.95	5.44	5.26	5.17	5.30	4.82	5.06	5.87	5.15	5.27	6.61	5.67	6.48	5.39	5.46	5.6	6.3	5.83	5.78	5.18	5.2	6.05	
Chloride	mg/L	7.8	8.1	9.1	8.5	9.0	11.3	11.7	12.0	12.2	12.3	10.2	12.1	7.95	13.0	10.8	10.4	12.9	16	13.3	15.1	17.6	17.6	17	
Dissolved Organic Carbon	mg/L	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	2.9	1.6	<1.0	2.6	1.8	3.9 J	3.8 J	4.39 J	<0.60	<2.87	2.51 J	1.64	3.60 J	7.73 J	7.73 J	7.73 J	ND (1.55)	
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	264	287	262	254	249	255	230	241	280	246	251	320	275	315	260	261	270	304	280	278	249	250	290	
Nitrate-N	mg/L	0.28	0.33	0.34	0.16	0.12	0.06	0.08	0.15	0.304	0.024	0.284	0.491	0.127	<0.020	0.098	0.09	0.238	0.43	0.454	0.399	0.557	0.644	0.173	
Nitrite-N	mg/L	<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	ND (0.010)	ND (0.010)	ND (0.010)	
Nitrate & Nitrite(as N)	mg/L	0.28	0.33	0.34	0.16	0.12	0.06	0.08	0.15	0.304	0.024	0.284	0.491	0.127	NA	0.098	0.09	0.238	0.43	0.454	0.399	0.557	0.644	0.173	
Phosphate-P (ortho)	mg/L	0.0040	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	0.0116	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030)	ND (0.0030)	ND (0.0030)	
Sulphate	mg/L	5.4	7.2	4.6	4.5	2.7	1.8	1.1	2.8	2.43	1.98	3.42	4.08	4.50	0.49	2.98	2.98	2.71	2.32	4.25	2.79	1.88	1.98	1.94	
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	292	289	273	276	265	286	235	294	320	276	297	293	282	247	275 J	299	272	290	284	289	316	318	285	
Total Organic Carbon	mg/L	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	1.4	2.7	12.2	2.1	1.7	<1.0	1.9 J	<1.0 J	<1.0	1.77 J	0.76	<1.58	1.20 J	2.32	ND (2.5) J	ND (2.5) J	ND (1.74)	
Total Suspended Solids	mg/L	43.2	27.6	83.0	40.8	45	114	111	641	352	67.0	86.6	<2.0	<2.0	8.4	<2.0	<2.0	4.4	2.9	2.1	4.8	10.6	14.6	9.6	
Dissolved Metals																									
Aluminum (Al)-Dissolved	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.019	<0.0050	<0.0050	<0.0050	ND (0.0050)	ND (0.0050)	ND (0.0050)	
Antimony (Sb)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010	0.00010	<0.00010	<0.00010	0.00011	<0.00010	0.00020	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	
Arsenic (As)-Dissolved	mg/L	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	<0.0010	0.00016	0.0002	<0.00010	0.00018	0.00018	<0.00010	0.00011	<0.00010	0.00011	<0.00010	0.00013	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	
Barium (Ba)-Dissolved	mg/L	0.0878	0.0914	0.0677	0.0886	0.103	0.053	0.053	0.076	0.0610	0.0661	0.0694	0.0824	0.0871	0.0922	0.0726	0.0778	0.0936	0.0825	0.0844	0.0977	0.0633	0.0638	0.0935	
Beryllium (Be)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	
Bismuth (Bi)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	
Boron (B)-Dissolved	mg/L	0.019	0.013	0.022	0.025	0.028	0.032	0.062	0.067	0.033	0.047	0.047	0.020	0.013	0.029	0.012	0.017	0.022	0.015	0.013	0.021	0.025	0.025	0.025	
Cadmium (Cd)-Dissolved	mg/L	<0.000090	<0.000090	<0.000090	0.000227	<0.000090	<0.000090	0.000058	0.000016	0.000300	0.000046	0.000030	0.000620	0.000065	0.000110	0.000039	0.000018	0.000015	0.000006	0.000093	0.0000113	0.000052	ND (0.000050)	0.000062	
Calcium (Ca)-Dissolved	mg/L	69.2	75.1	68.5	67.6	66.6	64.4	53.9	59.4	69.7	61.3	61.7	83.2	71.4	79.6	68.7	68.1	68.7	80	71.4	71.7	63.6	63.3	74.5	
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00055	0.00063	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	ND (0.00050)	
Cobalt (Co)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00012	0.00012	<0.00010	0.00011	0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	

Table G.1a

Historical Analytical Data - Water Analytical Data (Groundwater)
 2021 Combined Annual Monitoring Report
 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Parameter	Units	BH88-6-1 13-Aug-20 Duplicate	BH88-6-1 01-Dec-20	BH88-6-1 26-May-21	BH88-6-1 18-Aug-21	BH88-6-1 09-Dec-21	MW1-12 30-May-13	MW1-12 21-Aug-13	MW1-12 05-Dec-13	MW1-12 21-May-14	MW1-12 21-May-14 Duplicate	MW1-12 28-Aug-14	MW1-12 10-Dec-14	MW1-12 11-May-15	MW1-12 31-Aug-15	MW1-12 09-Dec-15	MW1-12 26-May-16	MW1-12 17-Aug-16	MW1-12 01-Dec-16	MW1-12 30-May-17	MW1-12 10-Aug-17	MW1-12 06-Dec-17	MW1-12 16-May-18
Field Parameters																							
Conductivity (field)	mS	NA	519	532	409	618	547	538	651	607	607	649	513	520	492	504	543	549	636	630	657	587	479
Conductivity	µmhos/cm	548	547	517	583	666	617	660	653	653	654	652	636	621	650	623	653	659	657	672	683	585	631
Dissolved Oxygen (field)	mg/L	NA	5.26	0	0	2.7	11.02	10.20	12.51	12.60	12.60	9.02	10.26	11.90	10.83	6.30	7.79	2.91	7.02	16.17	9.86	10.56	11.72
ORP	mV	NA	-45	306	-293	-270	107	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	274	168	323	202
pH (field)	unitless	NA	7.00	7.34	7.27	7.19	7.33	7.03	7.41	7.77	7.77	7.57	7.49	7.26	7.30	7.65	7.67	7.87	7.63	7.34	7.57	7.50	6.20
pH	pH	7.97	7.88	8.14	7.83	8.09	7.8	7.8	7.8	7.7	7.7	7.9	7.8	7.9	8.0	8.1	8.0	8.0	7.9	7.91	7.77	8.09	8.00
Temperature (field)	Celsius	NA	8.1	16.14	21.22	10.32	12.2	12.4	11.0	9.4	9.4	10.1	8.2	9.6	9.2	10.0	9.7	10.2	15.5	15.7	5.4	8.0	
Turbidity (field)	NTU	NA	0.0	3.1	0	0	53.0	700.0	-10.0	-10.0	-10.0	0.0	160.0	39.0	431.0	162.0	NA	NA	26.0	0.0	0.0	2.7	0.0
Turbidity	NTU	22.9	15.4	3.82	16	16.6	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.22	0.33	2.61	0.18
General Chemistry																							
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	269	266	250	298	307	254	256	265	243	244	249	264	248	251	272	230	255	261	296	277	193	234
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	269	266	250	298	307	256	258	267	244	245	251	264	248	251	272	230	255	261	296	277	193	234
Ammonia, Total (as N)	mg/L	0.021	ND (0.010)	ND (0.010)	0.017	ND (0.010)	<0.050	<0.050	<0.050	<0.050	0.053	<0.050	<0.050	<0.050	<0.050	<0.050	0.024	<0.020	<0.020	0.034	<0.020	<0.020	<0.020
Unionized ammonia	mg/L	0.00035	ND (0.00019)	ND (0.000080)	0.000161	ND (0.000031)	<0.00029	<0.00015	<0.00028	<0.00063	0.00066	<0.00042	<0.00025	<0.00020	<0.00022	<0.00047	0.00025	<0.00032	<0.00019	0.00025	<0.00026	<0.000098	<0.000061
Anion Sum	meq/L	4.98	5.02	4.81	5.51	5.78	5.99	6.00	6.24	5.91	5.92	6.03	6.17	5.95	5.99	6.36	5.61	6.02	6.13	6.57	6.39	5.31	5.87
Cation - Anion Balance	%	10	6	13	7	8	6.8	5.2	4.5	12.9	9.6	4.0	2.4	3.9	5.4	2.3	9.8	4.1	3.9	2.7	3.9	3.6	4.2
Cation Sum	meq/L	6.05	5.66	6.2	6.37	6.81	6.86	6.65	6.83	7.65	7.18	6.53	6.48	6.63	6.68	6.66	6.83	6.52	6.63	6.94	6.91	5.7	6.37
Chloride	mg/L	16.9	18.6	20.5	18.8	19.7	19.9	20.1	19.6	21.1	21.1	20.4	20.8	23.4	23.5	23.0	22.5	22.7	21.6	25.0	23.8	30.1	26.9
Dissolved Organic Carbon	mg/L	ND (1.48)	6.97 J	3.31 J	2.77 J	2.82 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2	<1.0	<1.0	3.6 J	2.1	4.1 J	1.4 J
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	290	271	296	304	326	325	315	322	363	341	309	305	303	313	311	320	306	311	328	326	264	299
Nitrate-N	mg/L	0.237	0.239	0.186	0.25	0.882	11.8	11.1	12.8	13.2	13.2	13.2	12.5	12.1	11.9	12.4	11.8	11.6	12.5	11.2	11.9	10.6	12.6
Nitrite-N	mg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.050)	ND (0.010)	<0.10	0.17	<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(as N)	mg/L	0.237	0.239	0.186	0.25	0.882	11.8	11.2	12.8	13.2	13.2	13.2	12.5	12.1	11.9	12.4	11.8	11.6	12.5	11.2	11.9	10.6	12.6
Phosphate-P (ortho)	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	<0.0030	0.0035	0.0030	0.0033	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Sulphate	mg/L	2.16	4.35	3.51	1.9	2.97	17.5	18.2	17.9	16.7	16.8	17.1	16.2	15.7	15.4	15.5	15.3	15.7	15.1	14.7	15.0	23.5	16
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	283	294	329	300	307	370	398	385	370	371	388	380	349	339	355	398	390	386	374	396	334	361 J
Total Organic Carbon	mg/L	ND (1.70)	3.67 J	1.68 J	ND (1.91) J	0.99 J	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1	1.5	<1.0	<1.0	<1.0	<1.0 J	1.8	<1.0 J	<1.0
Total Suspended Solids	mg/L	8.8	3	ND (3.0)	3.7	ND (3.0)	31	528	29.2	2.0	2.8	2.8	2.0	3.6	<2.0	21.2	<2.0	<2.0	<2.0	2.1	<2.0	2.2	<2.0
Dissolved Metals																							
Aluminum (Al)-Dissolved	mg/L	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0069	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.0050	<0.0050	<0.0050	0.0070	<0.0050	<0.0050	<0.0050	<0.0050
Antimony (Sb)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Arsenic (As)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Barium (Ba)-Dissolved	mg/L	0.0962	0.096	0.0941	0.1	0.104	0.183	0.179	0.169	0.193	0.172	0.187	0.180	0.183	0.178	0.186	0.177	0.175	0.180	0.176	0.188	0.141	0.169
Beryllium (Be)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Bismuth (Bi)-Dissolved	mg/L	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Dissolved	mg/L	0.023	0.018	0.014	0.022	0.020	0.011	0.013	<0.010	0.012	0.012	0.015	0.012	0.011	0.011	0.011	0.011	0.011	0.013	0.013	0.012	0.014	0.014
Cadmium (Cd)-Dissolved	mg/L	0.0000086	0.0000075	0.0000065	0.0000071	0.0000085	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090	<0.000090
Calcium (Ca)-Dissolved	mg/L	73.6	70.8	76.4	77.8	84.0	91.1	88.7	89.0	102	96.0	86.0	84.1	82.5	84.3	84.9	87.9	84.9	86.2	91.5	89.5	66.5	81.1
Chromium (Cr)-Dissolved	mg/L	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	0.00064	0.00064	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Cobalt (Co)-Dissolved	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050
Copper (Cu)-Dissolved	mg/L	ND (0.00020) J	0.0005	0.00333	0.00298	ND (0.00010)	<0.00010	0.0022	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00033	0.00031	0.00027	0.00031	0.00023	0.00030	0.00045	0.00119
Iron (Fe)-Dissolved	mg/L	1.23	0.907	0.094	0.82																		

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	BH88-6-I 13-Aug-20 Duplicate	BH88-6-I 01-Dec-20	BH88-6-I 26-May-21	BH88-6-I 18-Aug-21	BH88-6-I 09-Dec-21	MW1-12 30-May-13	MW1-12 21-Aug-13	MW1-12 05-Dec-13	MW1-12 21-May-14	MW1-12 21-May-14 Duplicate	MW1-12 28-Aug-14	MW1-12 10-Dec-14	MW1-12 11-May-15	MW1-12 31-Aug-15	MW1-12 09-Dec-15	MW1-12 26-May-16	MW1-12 17-Aug-16	MW1-12 01-Dec-16	MW1-12 30-May-17	MW1-12 10-Aug-17	MW1-12 06-Dec-17	MW1-12 16-May-18
Pesticides and Herbicides																							
2,4,5-T	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
2,4,5-TP	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
o,p-DDD	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
pp-DDD	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
o,p-DDE	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
2,4-D	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
MCPA	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
pp-DDE	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
op-DDT	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
pp-DDT	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Picloram	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Alachlor	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Aldrin	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
alpha-BHC	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
a-chlordane	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Ametryn	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Atrazine	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Atrazine+N-Dealkylated Metabolites	µg/L	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.20	<0.20	<0.41	<0.20
Azinphos-methyl	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Bendiocarb	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Benzo(a)pyrene	µg/L	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.010	<0.010	<0.010	<0.010
beta-BHC	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Cyanazine	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Bromoxynil	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Carbaryl	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Carbofuran	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
g-chlordane	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Chlorpyrifos	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
delta-BHC	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Atrazine Desethyl	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10 J	<0.10	<0.40	<0.10
Diazinon	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Dicamba	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Dichlorprop	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Diclofop-methyl	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Dieldrin	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Dimethoate	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Dinoseb	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
alpha-Endosulfan	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
beta-Endosulfan	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Endosulfan Sulfate	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Endrin	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Endrin Aldehyde	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Parathion	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Lindane	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Glyphosate	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Heptachlor	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Heptachlor Epoxide	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Hexachlorobenzene	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Malathion	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Mecoprop	µg/L	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.50	<0.50	<0.50	<0.50
Methoxychlor	µg/L	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.10	<0.10	<0.10	<0.10
Methyl Parathion	µg/L	ND (0.																					

Table G.1a

Historical Analytical Data - Water Analytical Data (Groundwater)
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 Dufferin Aggregates Paris Pit
 County of Brant, Ontario

Parameter	Units	MW1-12 16-May-18 Duplicate	MW1-12 09-Aug-18	MW1-12 09-Aug-18 Duplicate	MW1-12 11-Dec-18	MW1-12 28-May-19	MW1-12 08-Aug-19	MW1-12 08-Aug-19 Duplicate	MW1-12 04-Dec-19	MW1-12 04-Dec-19 Duplicate	MW1-12 20-May-20	MW1-12 11-Aug-20	MW1-12 11-Aug-20 Duplicate	MW1-12 01-Dec-20	MW1-12 01-Dec-20 Duplicate	MW1-12 26-May-21	MW1-12 26-May-21 Duplicate	MW1-12 18-Aug-21	MW1-12 18-Aug-21 Duplicate	MW1-12 09-Dec-21	MW1-12 09-Dec-21 Duplicate	MW1-12 09-Dec-21 (S3)
Field Parameters																						
Conductivity (field)	mS	479	622	622	687	417	617	617	646	646	590	658	658	633	633	658	658	626	626	603	603	603
Conductivity	µmhos/cm	629	659	661	668	608	629	628	622	626	606 J	645	643	649	646	589	584	656	659	643	645	NA
Dissolved Oxygen (field)	mg/L	11.72	9.28	9.28	9.09	8.69	6.89	6.89	9.82	9.82	6.89	6.89	6.89	6.36	6.36	7.09	7.09	7.39	7.39	8.21	8.21	8.21
ORP	mV	202	151	151	267	-11	222	222	259	259	311	218	218	225	225	221	221	194	194	46	46	NA
pH (field)	unitless	6.20	7.13	7.13	7.34	6.75	7.38	7.38	7.27	7.27	8.02	6.79	6.79	7.44	7.44	7.56	7.56	7.37	7.37	6.95	6.95	6.95
pH	pH	7.98	7.90	7.91	7.60	8	7.61	7.66	7.7	7.79	8.08 J	7.94	8	7.84	7.8	8.10	8.03	7.93	7.96	7.66	7.73	NA
Temperature (field)	Celsius	8.0	18.9	18.9	7.6	10.3	20.0	20.0	8.9	8.9	14.7	16.6	16.6	10.4	10.4	16.02	16.02	22.99	22.99	9.87	9.87	9.87
Turbidity (field)	NTU	0.0	0.7	0.7	2.4	25.8	0.0	0.0	0.0	0.0	0.0	2.2	2.2	0.0	0.0	1.9	1.9	0	0	0	0	0
Turbidity	NTU	0.14	<0.59	<0.56	<2.20	1.06	<1.92	<3.33	0.62 J	0.50 J	0.58 J	1.94	2.22	ND (1.53)	ND (0.59)	0.18	0.27	0.11	ND (0.10)	ND (0.10)	ND (0.10)	NA
General Chemistry																						
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	236	248	245	239	203	238	238	237	238	226 J	233	232	219	217	217	214	255	255	221	219	NA
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<2.0	<2.0	ND (2.0) J	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	<10	<10	<10	<10	<10	<10	<10	<2.0	<2.0	ND (2.0) J	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	NA
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	236	248	245	239	203	238	238	237	238	226 J	233	232	219	217	217	214	255	255	221	219	NA
Ammonia, Total (as N)	mg/L	<0.094	<0.020	<0.020	<0.617	<0.010	0.103	<0.010	<0.010	<0.010	ND (0.010) J	ND (0.010)	ND (0.010)	ND (0.010)	0.011	ND (0.010)	ND (0.010)	0.018 J	0.040 J	ND (0.010)	ND (0.010)	NA
Unionized ammonia	mg/L	<0.0000286	<0.00012	<0.00012	0.00252	<0.000013	0.00119	<0.00011	<0.000038	<0.000038	ND (0.00033) J	ND (0.00023)	ND (0.00023)	ND (0.00063)	0.000067	ND (0.00013)	ND (0.00013)	0.00024 J	0.00056 J	ND (0.00020)	ND (0.00020)	NA
Anion Sum	meq/L	5.9	6.09	6.03	6.1	5.57	5.99	5.99	5.98	6	5.83 J	5.97	5.95	6.01	5.92	5.45	5.4	6.11	6.11	5.6	5.57	NA
Cation - Anion Balance	%	3.4	3.9	5	4.8	5	6	6	4	5	6 J	5	6	3	4	11	11	6	5	4	5	NA
Cation Sum	meq/L	6.31	6.59	6.66	6.7	6.2	6.74	6.73	6.5	6.66	6.53 J	6.63	6.73	6.38	6.42	6.76	6.79	6.89	6.8	6.05	6.12	NA
Chloride	mg/L	26.9	26.5	26.6	33.3	34.1	31.3	31.3	33.4	33.4	33.2 J	33.7	33.7	42.5	41.6	29.2	29.3	31.5	31.5	33.6	33.7	NA
Dissolved Organic Carbon	mg/L	1.4 J	0.77 J	0.80 J	<0.65	1.26	3.76 J	3.62 J	2.03 J	1.44 J	7.42 J	1.98	1.82	1.98	1.56	2.13 J	2.19 J	1.93 J	4.26 J	1.62 J	1.2	NA
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Hardness(as CaCO ₃)	mg/L	296	308	312	313	288	314	314	305	312	304 J	307	311	293	295	313	315	318	315	279	281	NA
Nitrate-N	mg/L	12.6	12.6	12.6	12	11.4	11.2	11.2	10.3	10.3	10.0 J	9.99	9.98	9.41	9.22	9.12	9.12	8.47	8.45	7.5	7.54	NA
Nitrite-N	mg/L	<0.010	<0.010	<0.010	<0.010	0.01	<0.010	<0.010	<0.010	<0.010	ND (0.010) J	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA
Nitrate & Nitrite(as N)	mg/L	12.6	12.6	12.6	12	11.41	11.2	11.2	10.3	10.3	10 J	9.99	9.98	9.41	9.22	9.12	9.12	8.47	8.45	7.5	7.54	NA
Phosphate-P (ortho)	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030) J	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	NA
Sulphate	mg/L	15.9	16.2	16.2	17.3	21	19.2	19.2	19.2	19.1	20.4 J	21	21	25.2	24.9	18.2	18.2	19.2	19.2	22.4	22.5	NA
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	0
Total Dissolved Solids	mg/L	366 J	388	397	389	394	403	385	378	360	407 J	409	406	385	394	407	397	388	393	343	336	NA
Total Organic Carbon	mg/L	<1.0	1.13 J	1.98 J	1.07	1.33	0.70 J	0.70 J	1.87	1.86	1.85 J	2.2	1.99	ND (2.72)	ND (3.80)	1.44 J	1.57 J	ND (1.14) J	ND (1.27) J	0.80 J	0.93	NA
Total Suspended Solids	mg/L	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	<2.0	3.2 J	7.0 J	3.8 J	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	ND (3.0)	NA
Dissolved Metals																						
Aluminum (Al)-Dissolved	mg/L	<0.0050	<0.0050	<0.0050	0.006	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.009	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	NA
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.0001	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA
Arsenic (As)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA
Barium (Ba)-Dissolved	mg/L	0.169	0.174	0.173	0.19	0.171	0.174	0.173	0.174	0.18	0.158	0.176	0.186	0.173	0.177	0.176	0.179	0.175	0.18	0.174	0.172	NA
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	NA
Boron (B)-Dissolved	mg/L	0.013	0.012	0.012	0.013	0.017	0.014	0.014	0.011	0.011	0.016	0.015	0.015	ND (0.015)	ND (0.015)	0.012	0.012	0.015	0.014	0.014	0.014	NA
Cadmium (Cd)-Dissolved	mg/L	<0.000010	<0.000010	<0.000010	0.000011	<0.0000050	0.0000068	0.0000057	0.0000104	0.0000083	0.0000104	0.0000056	0.0000078	0.0000072	0.000009	0.0000063	0.0000073	0.0000114	0.0000079	0.0000066	0.0000070	NA
Calcium (Ca)-Dissolved	mg/L	79.6	84.3	85.3	84.6	79	84.7	84.8	84.3	85.8	81.9	83.8	84.7	81.3	81.9	85.4	86.1	87.3	86.4	74.6	75.9	NA
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	NA
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	NA
Copper (Cu)-Dissolved	mg/L	0.00122	<0.00168	<0.00168	<0.00157	0.00098	0.00085	0.00085	0.00032	0.00037	0.00144	0.00046	0.0003	0.00032	0.0003	0.0018	0.00178	0.00154	0.00105	ND (0.0010)	ND (0.0010)	NA
Iron (Fe)-Dissolved	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	0.019	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	NA
Lead (Pb)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	0.000053	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.000144	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	0.000058	0.000051	ND (0.				

Table G.1a
Historical Analytical Data - Water Analytical Data (Groundwater)
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Parameter	Units	MW1-12 09-Dec-21 (S4)	MW2-12 30-May-13	MW2-12 20-Aug-13	MW2-12 05-Dec-13	MW2-12 21-May-14	MW2-12 28-Aug-14	MW2-12 10-Dec-14	MW2-12 11-May-15	MW2-12 31-Aug-15	MW2-12 09-Dec-15	MW2-12 26-May-16	MW2-12 17-Aug-16	MW2-12 01-Dec-16	MW2-12 30-May-17	MW2-12 08-Aug-17	MW2-12 07-Dec-17	MW2-12 17-May-18	MW2-12 09-Aug-18	MW2-12 12-Dec-18	MW2-12 29-May-19	MW2-12 09-Aug-19	MW2-12 04-Dec-19	MW2-12 20-May-20
Pesticides and Herbicides																								
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4,5-TP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
o,p-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-D	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
MCPA	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
op-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pp-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Picloram	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
a-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine+N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Cyanazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
g-chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Atrazine Desethyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
alpha-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
beta-Endosulfan	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endosulfan Sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Endrin Aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Lindane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Heptachlor Epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mecoprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Methyl Parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Oxychlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Prometryne	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Trifluralin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	

Table G.1a

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Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	MW3-16 09-Dec-21 Duplicate	MW3-16 09-Dec-21 (S4)	MW4-16 01-Jun-17	MW4-16 11-Aug-17	MW4-16 06-Dec-17	MW4-16 16-May-18	MW4-16 08-Aug-18	MW4-16 11-Dec-18	MW4-16 11-Dec-18 Duplicate	MW4-16 28-May-19	MW4-16 28-May-19 Duplicate	MW4-16 08-Aug-19	MW4-16 03-Dec-19	MW4-16 21-May-20	MW4-16 21-May-20 Duplicate	MW4-16 11-Aug-20	MW4-16 01-Dec-20	MW4-16 26-May-21	MW4-16 18-Aug-21	MW4-16 08-Dec-21	MW5-16 31-May-17
Field Parameters																						
Conductivity (field)	mS	668	668	557	647	662	484	602	664	664	369	369	571	575	590	590	585	557	592	592	580	613
Conductivity	µmhos/cm	654	NA	573	658	651	646	624	644	650	537	538	574	580	584	586	577	570	565	614	620	657
Dissolved Oxygen (field)	mg/L	3.4	3.4	18.82	6.18	10.80	12.69	10.89	9.90	11.53	12.69	8.41	4.59	7.96	7.96	8.05	5.27	2.53	8.04	8.01	15.60	
ORP	mV	219	NA	278	156	318	165	171	240	240	-11	-11	224	221	260	260	199	259	197	194	10	315
pH (field)	unitless	7.49	7.49	7.47	7.68	7.84	6.07	7.31	7.35	7.35	6.47	6.47	7.41	7.13	7.57	7.57	7.25	7.55	7.57	7.40	7.34	7.37
pH	pH	7.66	NA	8.10	7.85	8.10	8.01	7.86	7.64	7.66	7.84	7.9	7.74	8.04	7.87	7.97	7.69	7.87	8.18	7.95	8.02	7.96
Temperature (field)	Celsius	6.02	6.02	13.5	21.4	8.5	9.4	15.6	7.4	7.4	9.4	9.4	14.9	6.4	14.3	14.3	14.6	5.7	18.02	22.29	5.74	15.8
Turbidity (field)	NTU	3	3	229.0	350.0	626.0	60.5	~300	614.0	614.0	328.0	328.0	84.6	348.0	0.0	0.0	209.0	149.0	102	27.4	194	63.5
Turbidity	NTU	0.19	NA	138	245	380	39.3	1100	597 J	277 J	184	155	65.3	104	126	114	48.7	31.1	113	70.2	97.7	13.6
General Chemistry																						
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO ₃ /L	224	NA	288	258	260	243	239	247	246	259	257	253	261	256	251	250	257	255	278	260	292
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO ₃ /L	ND (1.0)	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<10
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO ₃ /L	ND (1.0)	NA	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<10
Alkalinity, Total (as CaCO ₃)	mg CaCO ₃ /L	224	NA	288	258	260	243	239	247	246	259	257	253	261	256	251	250	257	255	278	260	292
Ammonia, Total (as N)	mg/L	ND (0.010)	NA	0.024	<0.020	<0.020	<0.027	0.044	<0.261	<0.127	0.017	<0.010	0.019	<0.010	ND (0.010)	0.01	0.012	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.033
Unionized ammonia	mg/L	ND (0.00051)	NA	0.00021	<0.00050	<0.00027	<0.000069	0.00031	0.00107 J	0.000519 J	0.0000108	<0.000064	0.000156	<0.000023	ND (0.00012)	ND (0.00012)	0.000066	ND (0.00057)	ND (0.00015)	ND (0.00014)	ND (0.00035)	0.00025
Anion Sum	meq/L	5.64	NA	6.21	6.29	6.31	6.03	5.74	5.93	5.91	5.08	5.04	5.41	5.71	5.56	5.49	5.34	5.3	5.48	5.9	5.68	6.36
Cation - Anion Balance	%	7	NA	-1.1	3.9	2.4	4.7	5.8	4.6	4.9	7	6	6	6	5	6	5	5	7	3	5	2.7
Cation Sum	meq/L	6.45	NA	6.08	6.81	6.62	6.63	6.46	6.5	6.52	5.8	5.81	6.06	6.45	6.15	6.16	5.96	5.81	6.26	6.3	6.31	6.71
Chloride	mg/L	35	NA	6.45	20.2	20.5	19.6	19.2	14.8	14.7	5.97	6.02	10	13.6	16.8	16.7	15.3	11.9	15.7	16.5	17.4	18.2
Dissolved Organic Carbon	mg/L	3.02 J	NA	1.3	5.4	2.6	<1.0 J	0.67 J	<0.69	<0.64	2.06 J	2.08	1.33 J	1.13	2.00 J	1.07 J	0.95	ND (2.5)	2.62	4.84 J	ND (1.67)	2.4 J
Escherichia coli	cfu/100mL	NA	0	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	297	NA	293	330	320	320	312	312	314	283	284	295	309	296	296	284	278	299	301	301	319
Nitrate-N	mg/L	7	NA	15.4	17.3	15.8	16.8	13.2	16.5	16.5	6.87	6.9	10.5	9.57	7.84	7.86	6.95	6.58	7.18	7.32	7.65	11.1
Nitrite-N	mg/L	ND (0.010)	NA	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	<0.010
Nitrate & Nitrite(as N)	mg/L	7	NA	15.4	17.3	15.8	16.8	13.2	16.5	16.5	6.87	6.9	10.5	9.57	7.84	7.86	6.95	6.58	7.18	7.32	7.65	11.1
Phosphate-P (ortho)	mg/L	ND (0.0030)	NA	<0.0030	0.0037	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	<0.0030
Sulphate	mg/L	22.4	NA	7.21	10.8	13.8	12.5	14.9	12.8	13	6.83	6.86	9.91	15.1	14.2	14.3	14.5	11.5	13.8	15.3	16	18.8
Total coliform bacteria	cfu/100mL	NA	3	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	353	NA	344	443	394	424 J	365	374	367	331	333	326	327	380	380	346	333	362	387	333	372
Total Organic Carbon	mg/L	2.33 J	NA	<1.0	<5.0	<1.0	<1.0	<5.0	<2.5	<2.5	1.44 J	2.09 J	0.71 J	2.01	ND (2.5)	ND (2.5)	2.07	5	3	ND (2.44) J	ND (2.29)	<1.0 J
Total Suspended Solids	mg/L	ND (3.0)	NA	247	1010	1480	131	18600	2720 J	1160 J	605	797	303	187	965	826	1690	46	167	90.7	220	16.1
Dissolved Metals																						
Aluminum (Al)-Dissolved	mg/L	0.0145 J	NA	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	0.0133	0.0108	0.0094	<0.0050
Antimony (Sb)-Dissolved	mg/L	ND (0.00010)	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00024	0.0001	ND (0.00010)	<0.00010
Arsenic (As)-Dissolved	mg/L	ND (0.00010)	NA	0.00014	0.00014	0.00013	0.00011	0.00011	0.00012	0.00011	0.00014	0.00013	0.00016	0.00014	0.00014	0.00019	0.0002	0.00011	ND (0.00010)	0.00015	ND (0.00012)	<0.00010
Barium (Ba)-Dissolved	mg/L	0.168	NA	0.185	0.220	0.217	0.219	0.213	0.213	0.221	0.179	0.193	0.191	0.198	0.207	0.206	0.204	0.193	0.179	0.2	0.195	0.141
Beryllium (Be)-Dissolved	mg/L	ND (0.00010)	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00010
Bismuth (Bi)-Dissolved	mg/L	ND (0.000050)	NA	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	<0.000050
Boron (B)-Dissolved	mg/L	0.016	NA	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.011
Cadmium (Cd)-Dissolved	mg/L	0.0000138	NA	0.000016	0.000011	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.0000084	0.0000098	0.0000079	0.0000108	0.0000143	0.0000073	0.0000066	0.000024
Calcium (Ca)-Dissolved	mg/L	81.7	NA	74.3	84.0	82.0	84.2	79.7	80.1	80.1	72.4	72.3	72.1	77.3	77.9	77.2	70.8	70.2	75.2	74	73.5	90.2
Chromium (Cr)-Dissolved	mg/L	ND (0.00050)	NA	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	<0.00050
Cobalt (Co)-Dissolved	mg/L	ND (0.00010)	NA	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00010
Copper (Cu)-Dissolved	mg/L	ND (0.0010)	NA	0.00062	0.00038	0.00050	0.0032	0.00044	0.00438 J	<0.00049 J	0.00035	0.00036	0.00044	0.00064	0.00032	0.00041	0.00039	0.00168	0.00939	0.00048	0.00042	0.00050
Iron (Fe)-Dissolved	mg/L	0.095 J	NA	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.052	0.016	<0.010
Lead (Pb)-Dissolved	mg/L	0.000078	NA	<0.000050	<0.000050	<0.000050	0.000087	<0.000050	0.000132 J	<0.000050 J	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	0.000056	0.000081	ND (0.000050)	ND (0.000050)	<0.000050
Lithium (Li)-Dissolved																						

Table G.1a

**Historical Analytical Data - Water Analytical Data (Groundwater)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario**

Parameter	Units	MW5-16 31-May-17 Duplicate	MW5-16 10-Aug-17	MW5-16 07-Dec-17	MW5-16 07-Dec-17 Duplicate	MW5-16 17-May-18	MW5-16 17-May-18 Duplicate	MW5-16 08-Aug-18	MW5-16 12-Dec-18	MW5-16 12-Dec-18 Duplicate	MW5-16 29-May-19	MW5-16 29-May-19	MW5-16 08-Aug-19	MW5-16 08-Aug-19 Duplicate	MW5-16 04-Dec-19	MW5-16 04-Dec-19 Duplicate	MW5-16 20-May-20	MW5-16 13-Aug-20	MW5-16 01-Dec-20	MW5-16 01-Dec-20 Duplicate	MW5-16 26-May-21	MW5-16 26-May-21 Duplicate	MW5-16 18-Aug-21
Field Parameters																							
Conductivity (field)	mS	613	634	626	626	584	584	621	668	668	463	463	526	526	665	665	618	549	648	648	546	546	571
Conductivity	µmhos/cm	660	660	609	613	590	589	621	626	624	632	635	604	606	611	613	612 J	637	633	630	608	596	638
Dissolved Oxygen (field)	mg/L	15.60	9.39	5.94	5.94	5.11	5.11	7.31	9.14	9.14	10.39	10.39	8.70	8.70	11.01	11.01	14.30	5.07	6.83	6.83	5.47	5.47	3.1
ORP	mV	315	182	283	283	284	284	236	246	246	-21	-21	215	215	281	281	202	149	244	244	491	491	43
pH (field)	unitless	7.37	7.56	7.37	7.37	7.16	7.16	7.08	7.33	7.33	6.46	6.46	7.44	7.44	7.08	7.08	7.21	7.29	7.15	7.15	7.31	7.31	6.89
pH	pH	7.99	7.77	7.92	7.93	7.72	7.73	7.72	7.76	7.78	7.64	7.59	7.78	7.68	7.86	7.81	7.93 J	7.67	7.88	7.86	7.95	7.95	7.92
Temperature (field)	Celsius	15.8	13.1	7.8	7.8	13.8	13.8	17.9	7.3	7.3	10.0	10.0	20.6	20.6	8.8	8.8	19.0	24.8	6.5	6.5	19.8	19.8	18.72
Turbidity (field)	NTU	63.5	18.0	5.5	5.5	55.8	55.8	0.0	48.3	48.3	88.3	88.3	0.0	0.0	8.4	8.4	14.3	7.9	3.4	3.4	14.2	14.2	0
Turbidity	NTU	13.5	3.34	7.44 J	2.32 J	19.5	21.5	17.2	27.4	19.3	17.7 J	8.81 J	8.11 J+	14.2 J	6.95	7.33	10.5 J	7.88	3.81	3.19	3.19	3.69	2.69
General Chemistry																							
Alkalinity, Bicarbonate (as CaCO ₃)	mg CaCO3/L	293	261	246	246	250	252	248	284	271	256	256	252	249	249	253	242 J	250	247	249	230	233	261
Alkalinity, Carbonate (as CaCO ₃)	mg CaCO3/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	<2.0	ND (2.0) J	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, Hydroxide (as CaCO ₃)	mg CaCO3/L	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<2.0	<2.0	ND (2.0) J	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)
Alkalinity, Total (as CaCO ₃)	mg CaCO3/L	293	261	246	246	250	252	248	284	271	256	256	252	249	249	253	242 J	250	247	249	230	233	261
Ammonia, Total (as N)	mg/L	0.024	0.025	<0.020 J	0.052 J	<0.020 J	0.056 J	0.096	0.098 J	0.047 J	<0.010	<0.010	<0.010 J	0.025 J	<0.010	<0.010	ND (0.010) J	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.025 J
Ionized ammonia	mg/L	0.00018	0.00026	<0.00089 J	0.000229 J	<0.00087 J	0.000242 J	0.000476	0.000380 J	0.000182 J	<0.000065	<0.000065	<0.00014 J	0.00033 J	<0.000024	<0.000025	ND (0.00072) J	ND (0.00013)	ND (0.00024)	ND (0.00024)	ND (0.00096)	ND (0.00096)	0.000079 J
Anion Sum	meq/L	6.42	6.13	5.85	5.85	5.56	5.59	5.77	6.32	6.08	5.84	5.81	5.76	5.82	5.88	5.88	5.60 J	5.69	5.79	5.81	5.44	5.5	6
Cation - Anion Balance	%	4	4.7	7.3	7.6	6.4	5.3	4	4.4	6.4	7	7	5	6	6	6	6 J	6	3	3	10	9	6
Cation Sum	meq/L	6.96	6.74	6.77	6.81	6.31	6.22	6.25	6.9	6.91	6.78	6.72	6.42	6.58	6.58	6.58	6.28 J	6.43	6.19	6.21	6.7	6.63	6.74
Chloride	mg/L	18.3	18.5	17.4	17.4	15.2	15.2	16.9	16	15.7	15.7	15.7	15.7	16	16	16	16.0 J	15.8	17	17	18.3	18.2	18.4
Dissolved Organic Carbon	mg/L	1 J	5.7 J	1.7	1.6	R	R	0.97 J	0.71	0.62	<1.57	<1.38	0.75	0.69	1.86	2.03	0.84 J	ND (1.08)	0.98	0.85	1.8	1.58	1.78
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	332	321	325	327	304	299	300	334	334	329	326	312	312	321	321	307 J	313	301	302	323	320	324
Nitrate-N	mg/L	11.1	13.4	13.5	13.5	9.8	9.8	12.2	12.2	12	12	12	12.9	12.9	13.9	13.9	12.0 J	12.1	12.5	12.5	10.6	10.8	11.4
Nitrite-N	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	ND (0.010) J	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
Nitrate & Nitrite(as N)	mg/L	11.1	13.4	13.5	13.5	9.8	9.8	12.2	12.2	12	12	12.9	12.9	13.9	13.9	13.9	12 J	12.1	12.5	12.5	10.6	10.8	11.4
Phosphate-P (ortho)	mg/L	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	ND (0.0030) J	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulphate	mg/L	18.9	17.4	15.8	15.7	14.9	14.9	16.2	15.7	15.3	15.7	14.6	14.6	13.1	13.1	14.1 J	13.3	16.3	16.3	17.1	17.2	17.3	17.3
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	364	385	404	386	398 J	353 J	371	357	361	388	391	364	360	377	365	416 J	377	400	390	403	398	385
Total Organic Carbon	mg/L	<1.0	2 J	<1.0	<1.0	<1.0	<1.0	1.4	0.95	0.94	<1.34	<1.28	0.73	0.75	2.37	2.31	1.32 J	ND (1.79)	3.61	3.65	1.73	1.62	ND (1.31)
Total Suspended Solids	mg/L	15.8	6.3	12.2	8.0	34.4	33.1	21.9	43.1	32.8	27.9 J	10.5 J	10.1 J	21.1 J	13.8 J	9.1 J	30.5 J	16.1	5.2	ND (3.0)	7.8	6.8	9.3 J
Dissolved Metals																							
Aluminium (Al)-Dissolved	mg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	0.0052	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)	ND (0.0050)
Antimony (Sb)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Arsenic (As)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Barium (Ba)-Dissolved	mg/L	0.142	0.148	0.133	0.135	0.126	0.125	0.128	0.133	0.135	0.146	0.147	0.129	0.127	0.133	0.135	0.13	0.128	0.129	0.129	0.138	0.138	0.129
Beryllium (Be)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (Bi)-Dissolved	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (B)-Dissolved	mg/L	0.011	<0.010	<0.010	<0.010	0.011	0.01	ND(0.010)	0.014	0.011	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	ND (0.010)	ND (0.010)	0.011	0.01	0.011	ND (0.010)	0.011
Cadmium (Cd)-Dissolved	mg/L	<0.000010	0.000016	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	<0.000010	0.000061	0.000007	0.000007	0.000063	0.000090 J	0.0000276 J	0.000007	0.000054	0.000075	0.000067	0.000093	0.000073	0.000066
Calcium (Ca)-Dissolved	mg/L	94.0	88.7	90.0	91.2	86.4	84.6	82.4	92.8	92.9	92.7	92	85.3	85.6	86.4	87.1	87.2	84.3	83.1	83.4	89.8	88.7	92
Chromium (Cr)-Dissolved	mg/L	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050 J	0.00260 J	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	<0.00050	ND (0.00050)	ND (0.00050)	ND (0.00050) J	0.00260 J	ND (0.00050)	ND (0.00050)	ND (0.00050)
Cobalt (Co)-Dissolved	mg/L	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Copper (Cu)-Dissolved	mg/L	0.00030	0.00026	0.00031	0.00032	0.00115 J	0.00069 J	0.00066	0.00044	0.00038	0.00031	0.0003	0.00037	0.00029	0.00059 J	0.0117 J	0.00068	0.0005	0.00025	0.00038	0.00475 J	0.00	

Table G.1b
Historical Analytical Data - Water Analytical Data (Surface Water)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	SW1B 30-Jul-91	SW1B 22-Nov-91	SW1B 16-Jul-92	SW1B 6-Jul-93	SW1B 6-Apr-95	SW1B 17-Apr-97	SW1B 28-Apr-98	SW1B 26-Apr-01	SW1B 18-Nov-04	SW1B 14-Nov-05	SW1B 26-Sep-06	SW1B 25-Oct-06	SW1B 22-Nov-06	SW1B 6-Jun-08	SW1B 11-Sep-08	SW1B 19-Nov-08	SW1B 3-Jun-09	SW1B 2-Sep-09	SW1B 7-Dec-09	SW1B 4-Jun-10	SW1B 27-Aug-10	SW1B 2-Dec-10	SW1B 2-Jun-11	SW1B 1-Sep-11	SW1B 1-Dec-11	
Field Parameters																											
Conductivity (field)	mS	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Conductivity	µS/cm	390	458	284	364	500	476	526	359	528	561	539	564	561	397	462	516	295	426	492	412	289	481	333	281	449	
Dissolved Oxygen (field)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pH (field)	unitless	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
pH	unitless	7.2	7.6	7.8	7.7	7.9	7.9	7.5	8.0	8.0	8.2	8.2	8.2	8.2	8.3	8.2	8.2	8.0	8.2	8.3	8.0	8.2	7.9	8.3	9.0	8.3	
Temperature (field)	Celsius	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Turbidity (field)	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Turbidity	NTU	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	4.8	2.2	5.1	2.2	3.9	22	4.7	20	3.1	6.1	33	320	4.9	3.3	2.0	
General Chemistry																											
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	130	199	93.4	119	202	188	258	152	260	282	297	291	282	190	219	234	132	206	234	187	114	222	145	120	209	
Alkalinity, Carbonate (as CaCO ₃)	mg/L	<1.00	0.75	0.55	0.56	2.0	2.0	<1	1.0	2.0	4.0	5.0	5.0	5.0	4.0	3.0	3.0	1.0	3.0	4.0	2.0	2.0	2	2	11	4	
Alkalinity, Hydroxide (as CaCO ₃)	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Alkalinity, Total (as CaCO ₃)	mg/L	130	200	94	120	202	190	259	153	262	286	302	296	286	193	222	237	133	210	238	189	116	224	148	131	213	
Ammonia, Total (as N)	mg/L	0.45	0.06	<0.05	0.1	0.19	<0.05	<0.05	<0.03	0.15	<0.05	<0.05	0.14	<0.05	<0.05	<0.05	0.16	<0.05	<0.05	<0.05	<0.05	<0.05	0.22	0.19	0.07	<0.05	
Un-ionized ammonia	mg/L	0.003	0.0005	<0.001	0.002	0.005	<0.001	<0.001	<0.001	0.003	<0.001	<0.002	0.004	<0.001	<0.005	<0.005	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Anion Sum	meq/L	3.73	4.73	2.93	3.68	4.96	5.23	5.86	4.08	5.99	6.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ion Balance	%	2.25	2.63	1.75	2.16	4.55	1.57	0.28	1.23	2.06	3.31	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Cation Sum	meq/L	3.9	4.49	2.83	3.52	5.43	5.07	5.83	4.18	6.25	6.75	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Chloride	mg/L	25.9	17.2	21.7	27.5	19.9	19.0	17.8	12.1	19.7	18.0	19.0	19.0	20.0	13.0	17.0	19.0	13.0	14.0	18.0	19.0	18.0	18.0	13.0	15.0	16.0	
Dissolved Organic Carbon	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Hardness(as CaCO ₃)	mg/L	167	214	129	164	263	244	281	199	299	320	270	300	280	190	230	260	140	200	240	190	130	240	160	140	220	
Nitrate	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<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	
Nitrite	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	
Nitrate & Nitrite(as N)	mg/L	<0.05	<0.05	<0.05	0.34	<0.05	7.21	<0.05	3.9	<0.2	<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	
Oil and Grease, Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Ortho Phosphate(as P)	mg/L	0.16	0.06	0.01	0.01	<0.01	<0.01	<0.01	<0.3	<0.3	0.007	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.02	<0.01	<0.01	<0.01	<0.01	<0.01	0.04	<0.01	<0.01	
Sulphate	mg/L	19	12	21	23	17	8	19.3	5	9.5	4	<1	3	8	3	13	6	2	6	1	4	8	8	2	4	4	
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total Dissolved Solids	mg/L	198	230	144	182	NA	272	284	214	303	314	NA	NA	NA	NA	NA	282	150	223	267	215	153	271	181	152	236	
Total Organic Carbon (TOC)	mg/L	7.7	3.6	7.3	10.2	3.1	3.7	4.0	7.5	4.0	3.1	3.8	3.1	3	5.6	4.6	3.7	4.9	4.5	3.8	6.4	14.1	23.6	26.0	12.2	3.4	
Total Suspended Solids	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Total Metals																											
Aluminum (Al)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.1	0.012	0.011	0.066	0.04	0.026	0.22	0.16	0.2	1.1	0.026	0.69	3.2	0.43	0.31	0.035	
Antimony (Sb)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Arsenic (As)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.2	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	0.002	0.003	0.003	0.003	0.001	<0.001	
Barium (Ba)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.1	0.094	0.087	0.086	0.046	0.095	0.092	0.033	0.067	0.097	0.073	0.11	0.16	0.085	0.073	0.057	
Beryllium (Be)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	
Bismuth (Bi)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Boron (B)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	0.015	<0.01	0.012	<0.01	0.012	0.013	<0.01	0.02	0.014	0.022	0.03	0.021	0.04	0.024	<0.01	
Cadmium (Cd)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.005	<0.0001	<0.0001	<0.0001	0.0002	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	0.0008	0.0006	<0.0001	0.0015	<0.0001	
Calcium (Ca)-Total	mg/L	30.9	48.5	14.8	22.8	60.0	61.0	66.2	47.4	76.0	82.8	78.0	80.0	76.0	48.0	59.0	66.5	25.0	45.1	57.7	42.7	22.1	65.0	33.6	19.5	55.9	
Chromium (Cr)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.01	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Cobalt (Co)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.02	<0.0005	<0.0005	0.0006	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0006	<0.0005	0.0007	0.0026	0.0005	<0.0005	<0.0005	
Copper (Cu)-Total	mg/L	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.005	<0.005	<0.02	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	0.002	<0.001	0.005	0.011	0.003	0.004	<0.001	
Iron (Fe)-Total	mg/L	0.02	0.19	<0.02	0.09	0.14	<0.02	1.13	0.06	0.64	0.3	0.63	0.3	0.65	0.29	0.55	1.5	0.56	0.63	1.8	0.47	2.8	7.9	6.8	1.7	0.49	
Lead (Pb)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	<0.05	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	0.0012	0.0005	0.0006	0.0036	<0.0005	0.0035	0.013	0.0018	0.0015	<0.0005	
Lithium (Li)-Total	mg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	
Magnesium (Mg)-Total	mg/L	21.8	22.6	22.3	26.1	27.5	22.2	28.1	19.7	2																	

Table G.1b
Historical Analytical Data - Water Analytical Data (Surface Water)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	SW1B	
		30-Jul-91	22-Nov-91	16-Jul-92	6-Jul-93	6-Apr-95	17-Apr-97	28-Apr-98	26-Apr-01	18-Nov-04	14-Nov-05	26-Sep-06	25-Oct-06	22-Nov-06	6-Jun-08	11-Sep-08	19-Nov-08	3-Jun-09	2-Sep-09	7-Dec-09	4-Jun-10	27-Aug-10	2-Dec-10	2-Jun-11	1-Sep-11	1-Dec-11
Pesticides and Herbicides																										
2,4,5-T	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4,5-TP (Silvex)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2,4-DP	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDD	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDE	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4,4'-DDT	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Alachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
alpha-Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ametryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Aminomethyl phosphoric acid (AMPA)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Atrazine and N-Dealkylated Metabolites	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Azinphos-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bendiocarb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Benzo(a)pyrene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
beta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bladex (Cyanazine)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Bromoxynil	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbaryl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Carbofuran	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlordane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Chlorpyrifos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
delta-BHC	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Desethyl atrazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diazinon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dicamba	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dichlorprop	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Diclofop-methyl	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dieldrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dimethoate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Dinoseb	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan I	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan II	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endosulfan sulfate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Endrin aldehyde	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ethyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
gamma-BHC (lindane)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Glyphosate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Heptachlor epoxide	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hexachlorobenzene	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Malathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mecoprop (MCP)	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methoxychlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Methyl parathion	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metolachlor	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Metribuzin	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Mirex	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Oxychlorane	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Phorate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometon	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Prometryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Propazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Simazine	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Temephos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbufos	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Terbutryn	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Triallate	µg/L	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Trifluralin	µg/L	NA	NA	NA																						

Table G.1b
Historical Analytical Data - Water Analytical Data (Surface Water)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	SW1B 2-Dec-20	SW1B 27-May-21	SW1B 19-Aug-21	SW1B 08-Dec-21	Recirc. Pond 23-Nov-17	Recirc. Pond 23-Nov-17 Duplicate	Recirc. Pond 6-Dec-17	Recirc. Pond 10-May-18	Recirc. Pond 10-May-18 Duplicate	Recirc. Pond 14-Aug-18	Recirc. Pond 14-Aug-18 Duplicate	Recirc. Pond 12-Nov-18	Recirc. Pond 12-Nov-18 Duplicate	Recirc. Pond 12-Jun-19	Recirc. Pond 12-Jun-19 Duplicate	Recirc. Pond 15-Aug-19	Recirc. Pond 15-Aug-19 Duplicate	Recirc. Pond 9-Oct-19
Field Parameters																			
Conductivity (field)	mS	425	318	413	477	653	653	NA	--	--	587	587	--	--	565	565	560	560	538
Conductivity	µS/cm	448	318	418	436	503	500	538	523	526	567	566	730	724	461	465	525	536	550
Dissolved Oxygen (field)	mg/L	17.00	17.21	0.66	8.12	6.97	6.97	NA	--	--	5.24	5.24	--	--	8.89	8.89	12.56	12.56	8.47
pH (field)	unitless	6.15	9.4	6.93	8.36	6.94	6.94	7.33	--	--	7.92	7.92	--	--	6.44	6.44	7.39	7.39	7.12
pH	unitless	8.31	8.79	7.91	8.32	8.05	8.11	8.13	8.24	8.25	8.15	8.19	8.05	8.03	8.36	8.36	8.12	8.1	8.2
Temperature (field)	Celsius	3.2	22.51	23.6	2.33	5.4	5.4	1.4	--	--	24.4	24.4	--	--	20.8	20.8	22.3	22.3	16.6
Turbidity (field)	NTU	170.0	244	0	0	880.0	880.0	362.0	--	--	82.5	82.5	--	--	10.0	10.0	74.7	74.7	45.6
Turbidity	NTU	8.96	2.47	1.72	5.59	41.1	42.4	197	86.9 J	40.6 J	54.5	54.5	911	631	27.9 J	12.6 J	4.39	4.56	35.1
General Chemistry																			
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	167	96	173	156	179	181	209	144	142	82	73	157	171	116	119	172	163	124
Alkalinity, Carbonate (as CaCO ₃)	mg/L	6.2	12	ND (1.0)	2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Hydroxide (as CaCO ₃)	mg/L	ND (2.0)	ND (1.0)	ND (1.0)	ND (1.0)	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10
Alkalinity, Total (as CaCO ₃)	mg/L	173	108	173	158	179	181	209	144	142	82	73	157	171	119	122	172	163	124
Ammonia, Total (as N)	mg/L	0.409	0.024	0.041	0.046	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	0.029	0.129 J	0.062 J	0.019	0.025	<0.016	<0.01	0.029
Un-ionized ammonia	mg/L	0.0000752	0.0159	0.000215	0.00126	<0.000027	<0.000027	<0.000048	--	--	<0.0011	0.0015	--	--	0.000026	0.000035	<0.00022	<0.0014	0.000143
Anion Sum	meq/L	4.19	2.78	4	4.09	5.07	5.11	5.51	4.96	4.94	5.42	5.19	7.13	7.34	4.26	4.21	4.96	5	4.8
Ion Balance	%	5	8	4	4	7.2	7.7	-1.6	12.5	4	6.3	7.4	19.8	29.3	4	7	5	5	2
Cation Sum	meq/L	4.65	3.24	4.36	4.4	5.85	5.96	5.34	6.39	5.34	6.15	6.02	10.7	13.4	4.6	4.85	5.51	5.52	5.02
Chloride	mg/L	28.9	24.6	33.8	33.6	29.9	29.8	28.0	45.2	45.3	102	99.8	109	108	38.3	34.8	33	39.4	58.4
Dissolved Organic Carbon	mg/L	4.07	15	11.5	4.8	<1.0	<1.0	<1.0	2.4 J	1.6 J	2.6 J	2.23 J	1.47	1.39	1.74	1.7	4.06	3.57	2.42
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	203	150	193	205	271	276	245	287	236	217	216	484	623	207	203	250	255	219
Nitrate	mg/L	2.16	ND (0.020)	ND (0.020)	1.7	10.6	10.5	10.7	11.4	11.5	8.3	8.21	12.3	12.3	8.91	9.36	10.1	9.92	8.36
Nitrite	mg/L	0.046	ND (0.010)	ND (0.010)	0.02	<0.010	<0.010	<0.010	0.025	0.031	0.101	0.101	0.026	0.026	0.07	0.066	0.065	0.072	0.059
Nitrate & Nitrite(as N)	mg/L	2.206	ND (0.022)	ND (0.022)	1.72	10.6	10.5	10.7	--	--	8.401	8.311	12.326	12.326	8.98	9.426	10.165	9.992	8.419
Oil and Grease, Total	mg/L	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	<2.0	<2.0	<2.0	NA	<2.0	<2.0	<2.0	<2.0	<2.0	<5.0	<5.0	<5.0	<5.0	<5.0
Ortho Phosphate(as P)	mg/L	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	0.0041	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030	<0.0030
Sulphate	mg/L	15.3	9.78	9.01	18.2	24.6	24.5	23.7	22.5	22.3	27.6	27.3	27.5	27.7	25.6	24.6	21.9	22.6	23.1
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	249	194	258	251	308	314	330	324	323	362	379	509	540	252	278	319	320	295
Total Organic Carbon (TOC)	mg/L	7.41	14.2	11.6	6.06	<1.0	<1.0	<1.0	2.6	1.8	7.96	7.41	6.4	5.8	5.67	5.84	2.32	2.07	6.5
Total Suspended Solids	mg/L	37.6	13.1	21	12	35.5	38.0	206	85 J	34.3 J	47.7	49.3	753	459	36.4	23.2	7.0 J	19.1 J	50.7
Total Metals																			
Aluminum (Al)-Total	mg/L	0.452	0.0597	0.172	0.0274	0.626	0.581	2.81	1.08 J	0.173 J	0.652	0.623	2.75 J	4.91 J	0.237	0.28	0.237 J	0.0969 J	1.06
Antimony (Sb)-Total	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010	0.00018	0.00016	0.00018	0.00022	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001
Arsenic (As)-Total	mg/L	0.0002	0.00028	0.0002	0.00014	0.00055	0.00060	0.00266	0.00117 J	0.00041 J	0.00106	0.00101	0.00331 J	0.00557 J	0.00044	0.00045	0.00036 J	0.00022 J	0.00129
Barium (Ba)-Total	mg/L	0.163	0.063	0.0971	0.0917	0.0424	0.0415	0.0643	0.0479	0.0388	0.0423	0.0438	0.0807	0.113	0.0577	0.0481	0.104	0.122	0.0281
Beryllium (Be)-Total	mg/L	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	<0.00010	<0.00010	0.00013	<0.00010	<0.00010	<0.00010	<0.00010	0.00011 J	0.00022 J	<0.00010	<0.00010	<0.00010	<0.00010	<0.00010
Bismuth (Bi)-Total	mg/L	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	0.00006	0.000097	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050
Boron (B)-Total	mg/L	ND (0.010)	0.016	0.019	0.012	0.016	0.016	0.037	0.035	0.069	0.035	0.056	0.056	0.06	0.023	0.024	0.023	0.024	0.04
Cadmium (Cd)-Total	mg/L	0.0000162	0.0000054	0.0000081	ND (0.0000050)	0.000035	0.000036	0.000193	0.000086 J	0.000012 J	0.000062	0.000052	0.000246 J	0.00045 J	0.0000148 J	0.0000228 J	0.0000128 J	<0.000005 J	0.0000508
Calcium (Ca)-Total	mg/L	49.8	26.3	38.4	45	66.5	67.8	87.6	66.9	52.5	55	53.7	106	145	50.1	51.2	63.9	64.8	62.1
Chromium (Cr)-Total	mg/L	0.00166	ND (0.00050)	ND (0.00050)	ND (0.00050)	NA	NA	0.00179	0.00226 J	0.00132	0.00179	0.00151	0.00363 J	0.00641 J	0.00071	0.00083	<0.00076	<0.00078	0.00154
Cobalt (Co)-Total	mg/L	0.00027	ND (0.00010)	0.00012	ND (0.00010)	0.00051	0.00055	0.00309	0.00119 J	0.00016 J	0.00077	0.00075	0.00362 J	0.00634 J	0.00022 J	0.00034 J	0.00025 J	<0.0001 J	0.00126
Copper (Cu)-Total	mg/L	0.0025	ND (0.0010)	ND (0.0010)	ND (0.0010)	0.0038	0.0039	0.0251	0.009 J	0.0015 J	0.0067	0.0065	0.00258 J	0.0459 J	0.0021	0.0028	<0.002	<0.0011	0.0111
Iron (Fe)-Total	mg/L	0.389	0.073	0.25	0.049	0.946	0.912	5.74	1.98 J	0.240 J	1.29	1.24	6.19 J	11 J	0.326	0.396	0.351 J	0.136 J	2.16
Lead (Pb)-Total	mg/L	0.00167	0.000346	0.000577	0.000113	0.00201	0.00203	0.0144	0.00509 J	0.00068 J	0.00306	0.00291	0.0148 J	0.0256 J	0.000782	0.00114	0.000880 J	0.000272 J	0.00352
Lithium(Li)-Total	mg/L	0.0021	0.0017	0.0017	0.0011	0.0021	0.0022	0.0047	0.0045 J	0.0031 J	0.0046	0.0045	0.0069	0.0103	0.0018 J	0.0037 J	0.0024	0.0024	0.003
Magnesium (Mg)-Total	mg/L	20.2	19.1	22.7	20.5	25.5	25.8	29.1	29.1	25.5	28.9	28.3	53.1	63.3	20.7	21.2	24.8	24.2	24.9
Manganese (Mn)-Total	mg/L	0.0222	0.0244	0.138	0.00384	0.0521	0.0520	0.429	0.142 J	0.0165 J	0.103	0.0993	0.448	0.745	0.0352	0.0531	0.0416 J	0.0125 J	0.169
Molybdenum (Mo)-Total	mg/L	0.000241	0.000087	ND (0.000050)	0.000354	0.000578	0.000594	0.000629	0.00136	0.00136	0.00368	0.00359	0.00155	0.00174	0.000681	0.000836	0.000628	0.00038	0.0014
Nickel (Ni)-Total	mg/L	0.0013	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00098	0.00099	0.00477	0.00196 J	<0.00050 J	0.00209	0.00187	0.00548 J	0.00944 J	<0.0005 J	0.00129 J	0.0005	<0.0005	0.00205
Phosphorus (P)-Total	mg/L	0.085	ND (0.050)	0.072	ND (0.050)	<0.050	<0.050	0.134	0.076	<0.050	0.203	0.193	0.167 J	0.258 J	0.072	0.053	<0.05	<0.05	0.121
Potassium (K)-Total	mg/L	3.03	1.72	2.46	2.15	2.26	2.26	2.70	3.9	3.72	5.2	5.19	4.56	4.96	2.03	2.52	2.3	1.71	3.19
Selenium (Se)-Total	mg/L	0.000079	0.000134	0.000074	0.000106	0.000229	0.000234	0.000231	0.000268	0.000219	0.000261	0.000283	0.00025						

Table G.1b
Historical Analytical Data - Water Analytical Data (Surface Water)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	Recirc. Pond 9-Oct-19 Duplicate	Recirc. Pond 31-Mar-20	Recirc. Pond 31-Mar-20 Duplicate	Recirc. Pond 8-Jul-20	Recirc. Pond 8-Jul-20 Duplicate	Recirc. Pond 6-Oct-20	Recirc. Pond 6-Oct-20 Duplicate	Recirc. Pond 30-Mar-21	Recirc. Pond 30-Mar-21 Duplicate	Recirc. Pond 19-Nov-21	Recirc. Pond 19-Nov-21 Duplicate
Field Parameters												
Conductivity (field)	mS	538	520	520	NA	NA	226	226	529	529	607	607
Conductivity	µS/cm	548	526	526	556	554	522	523	426	424	680	680
Dissolved Oxygen (field)	mg/L	8.47	7.11	7.11	NA	NA	9.53	9.53	14.05	14.05	9.13	9.13
pH (field)	unitless	7.12	6.94	6.94	NA	NA	6.51	6.51	8.32	8.32	8.44	8.44
pH	unitless	7.98	8.02	8	8.13	7.6	8.22	8.21	8.19	8.2	8.25	8.24
Temperature (field)	Celsius	16.6	7.3	7.3	NA	NA	14.1	14.1	8.08	8.08	5.07	5.07
Turbidity (field)	NTU	45.6	0.0	0.0	NA	NA	57.1	57.1	15.4	15.4	55.3	55.3
Turbidity	NTU	34	4.93	5.18	7.82	8.76	5.05	4.86	2.28	2.79	51.1	47.9
General Chemistry												
Alkalinity, Bicarbonate (as CaCO ₃)	mg/L	124	195	194	124	125	119	121	89.2	90.7	151	152
Alkalinity, Carbonate (as CaCO ₃)	mg/L	<10	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
Alkalinity, Hydroxide (as CaCO ₃)	mg/L	<10	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (2.0)	ND (1.0)	ND (1.0)
Alkalinity, Total (as CaCO ₃)	mg/L	124	195	194	124	125	119	121	89.2	90.7	151	152
Ammonia, Total (as N)	mg/L	0.02	0.021	0.023	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	0.01	ND (0.010)
Un-ionized ammonia	mg/L	0.0001	0.000033	0.000036	ND (0.000089)	ND (0.000089)	ND (0.000010)	ND (0.000010)	ND (0.00038)	ND (0.00038)	0.00039	ND (0.00037)
Anion Sum	meq/L	4.78	4.8	4.79	4.88	4.87	4.77	4.8	3.81	3.84	6.11	6.13
Ion Balance	%	3	11	6	2	2	4	3	3	2	5	5
Cation Sum	meq/L	5.12	5.95	5.39	5.11	5.11	5.15	5.12	4.01	3.99	6.76	6.76
Chloride	mg/L	58.3	20.6	20.6	59.2	59.1	58	58.1	52.4	52.4	103	103
Dissolved Organic Carbon	mg/L	2.13	1.84	1.8	1.46	1.73	1.88	1.79	3.94	3.86	2.61 J	1.85 J
Escherichia coli	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Hardness(as CaCO ₃)	mg/L	223	280	288	216	218	224	223	169	168	275	276
Nitrate	mg/L	8.42	8.89	8.91	8.65	8.65	7.69	7.69	4.76	4.77	3.07	3.08
Nitrite	mg/L	0.058	0.023	0.023	0.072	0.071	0.069	0.07	0.054	0.055	ND (0.010)	0.02
Nitrate & Nitrite(as N)	mg/L	8.478	8.913	8.933	8.722	8.721	7.759	7.76	4.814	4.825	3.07	3.1
Oil and Grease, Total	mg/L	5.4	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)	ND (5.0)
Ortho Phosphate(as P)	mg/L	<0.0030	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)
Sulphate	mg/L	23	17.2	17.2	25.4	25.4	28.5	28.5	24	24.1	22.5	22.5
Total coliform bacteria	cfu/100mL	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Total Dissolved Solids	mg/L	302	307	304	322	327	296	299	247	241	408	387
Total Organic Carbon (TOC)	mg/L	5.8	1.89	1.82	2.18	1.95	2.28 J	2.88 J	3.77	3.61	3.65	4.25
Total Suspended Solids	mg/L	42	6.4	6.4	9.3	8.3	13.2	10.4	ND (3.0)	ND (3.0)	57.5	44.9
Total Metals												
Aluminum (Al)-Total	mg/L	1.04	0.0862	0.121	0.152	0.143	0.212	0.209	0.0188	0.0187	0.225	0.174 J
Antimony (Sb)-Total	mg/L	<0.0001	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00016	ND (0.00010)	0.0001	ND (0.00010)
Arsenic (As)-Total	mg/L	0.00125	0.00016	0.00018	0.00042	0.0004	0.0004	0.00044	0.00026	0.00024	0.00041	0.00042
Barium (Ba)-Total	mg/L	0.0282	0.137	0.124	0.0534	0.0513	0.0388	0.039	0.0234	0.0238	0.0168	0.0163
Beryllium (Be)-Total	mg/L	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Bismuth (Bi)-Total	mg/L	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Boron (B)-Total	mg/L	0.041	0.01	0.042	0.042	0.042	0.039	0.039	0.032	0.03	0.052	0.052
Cadmium (Cd)-Total	mg/L	0.0000533	ND (0.000050)	0.0000063	0.0000065	0.0000085	0.00001	0.0000092	0.0000051	0.000005	0.0000172	0.0000145
Calcium (Ca)-Total	mg/L	62.9	74.8	67.7	48.9	48.6	56.7	56.1	40.6	40.2	65.7	65.7
Chromium (Cr)-Total	mg/L	0.00145	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00058	ND (0.00050)
Cobalt (Co)-Total	mg/L	0.00124	ND (0.00010)	ND (0.00010)	0.00016	0.00015	0.00023	0.00022	ND (0.00010)	ND (0.00010)	0.00016	0.00014
Copper (Cu)-Total	mg/L	0.0108	ND (0.0010)	ND (0.0010)	0.0015	0.0014	0.002	0.002	ND (0.0010)	0.001	0.0018	0.0015
Iron (Fe)-Total	mg/L	2.14	0.088	0.144	0.219	0.206	0.328	0.328	0.018	0.016	0.249	0.215
Lead (Pb)-Total	mg/L	0.00349	0.000152 J	0.000245 J	0.000443	0.000446	0.000612	0.000636	0.000079	0.000075	0.000609	0.000515
Lithium(Li)-Total	mg/L	0.0032	0.0017	0.0014	0.0028	0.0027	0.0015	0.0027	ND (0.0010)	ND (0.0010)	0.0011	ND (0.0010)
Magnesium (Mg)-Total	mg/L	25	22.6	20.6	26.8	25.5	20.3	20	19.6	19.5	30.4	30.3
Manganese (Mn)-Total	mg/L	0.168	0.00551 J	0.00961 J	0.0222	0.021	0.0265	0.0246	0.00386	0.00391	0.0194	0.0155
Molybdenum (Mo)-Total	mg/L	0.00137	0.000282	0.000272	0.00149	0.00152	0.00126	0.0012	0.000941	0.00095	0.0018	0.00183
Nickel (Ni)-Total	mg/L	0.00193	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00125 J	ND (0.00050) J
Phosphorus (P)-Total	mg/L	0.11	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)	0.053	ND (0.050)	ND (0.050)	ND (0.050)	ND (0.050)
Potassium (K)-Total	mg/L	3.15	1.54	1.42	4.26	4.05	2.67	2.63	2.47	2.42	3.81	3.77
Selenium (Se)-Total	mg/L	0.000279	0.000219	0.000195	0.000188	0.000191	0.000155	0.000186	0.000175	0.000185	0.000261	0.000249
Silicon (Si)-Total	mg/L	4.19	4.08	3.74	2.78	2.72	2.99	3.01	1.34	1.36	2.29	2.31
Silver (Ag)-Total	mg/L	<0.000050	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)	ND (0.000050)
Sodium (Na)-Total	mg/L	13.2	7.16	6.46	15.5	14.9	13.7	13.7	12.9	12.9	20.3	20.4
Strontium (Sr)-Total	mg/L	0.162	0.173	0.154	0.171	0.175	0.148	0.151	0.135	0.133	0.179	0.178
Thallium (Tl)-Total	mg/L	0.000032	ND (0.000010)	ND (0.000010)	0.000016	0.000014	0.000011	0.000012	ND (0.000010)	ND (0.000010)	ND (0.000010)	ND (0.000010)
Tin(Sn)-Total	mg/L	<0.0001	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	0.00029 J	ND (0.00010) J
Titanium (Ti)-Total	mg/L	0.0323	0.0039	0.00353	0.00354	0.00375	0.00532	0.0049	0.0005	ND (0.00040)	0.00565	0.00489
Tungsten (W)-Total	mg/L	<0.00010	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)	ND (0.00010)
Uranium (U)-Total	mg/L	0.000244	0.000313	0.000279	0.000224	0.000223	0.00022	0.000224	0.000212	0.000206	0.000306	0.000309
Vanadium (V)-Total	mg/L	0.00223	ND (0.00050)	ND (0.00050)	ND (0.00050)	0.00055	0.00058	0.00052	ND (0.00050)	ND (0.00050)	0.00052	ND (0.00050)
Zinc (Zn)-Total	mg/L	0.019	ND (0.0030)	ND (0.0030)	ND (0.0030)	ND (0.0030)	0.0039	0.0043	ND (0.0030)	ND (0.0030)	0.0059	0.0036
Zirconium (Zr)-Total	mg/L	0.00052	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)	ND (0.00030)
Dissolved Metals												
Aluminum (Al)-Dissolved	mg/L	0.019	0.0064	0.0064	0.0257	0.0248	0.0134	0.0144	ND (0.0050)	ND (0.0050)	0.0184 J	0.220 J
Calcium (Ca)-Dissolved	mg/L	52.7	73.9	75.6	46.5	47.1	56.9	56.6	36.9	36.4	64.4	64.7
Magnesium (Mg)-Dissolved	mg/L	22.3	23.2	24.1	24.4	24.4	20	19.8	18.7	18.8	27.8	27.7
Silicon (Si)-Dissolved	mg/L	2.89	3.96	4.05	2.4	2.39	2.64	2.63	1.23	1.25	1.91	2.46

Table G.1b
Historical Analytical Data - Water Analytical Data (Surface Water)
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameter	Units	Recirc. Pond 9-Oct-19 Duplicate	Recirc. Pond 31-Mar-20	Recirc. Pond 31-Mar-20 Duplicate	Recirc. Pond 8-Jul-20	Recirc. Pond 8-Jul-20 Duplicate	Recirc. Pond 6-Oct-20	Recirc. Pond 6-Oct-20 Duplicate	Recirc. Pond 30-Mar-21	Recirc. Pond 30-Mar-21 Duplicate	Recirc. Pond 19-Nov-21	Recirc. Pond 19-Nov-21 Duplicate
Pesticides and Herbicides												
2,4,5-T	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4,5-TP (Silvex)	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4'-DDD	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDE	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4'-DDT	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
2,4-Dichlorophenoxyacetic acid (2,4-D)	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
2,4-DP	µg/L	<0.50	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
2-Methyl-4-chlorophenoxyacetic acid (MCPA)	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
4,4'-DDD	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDE	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4,4'-DDT	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
4-Amino-3,5,6-trichloropicolinic acid (Picloram)	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Alachlor	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aldrin	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-BHC	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
alpha-Chlordane	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ametryn	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Aminomethyl phosphoric acid (AMPA)	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Atrazine	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Atrazine and N-Dealkylated Metabolites	µg/L	<0.22	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)	ND (0.20)
Azinphos-methyl	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bendiocarb	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Benzo(a)pyrene	µg/L	<0.010	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)	ND (0.010)
beta-BHC	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bladex (Cyanazine)	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Bromoxynil	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbaryl	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Carbofuran	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Chlordane	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Chlorpyrifos	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
delta-BHC	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Desethyl atrazine	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Diazinon	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dicamba	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Dichlorprop	µg/L	NA	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Diclofop-methyl	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dieldrin	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dimethoate	µg/L	<0.10 J	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Dinoseb	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Endosulfan I	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan II	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endosulfan sulfate	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Endrin aldehyde	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Ethyl parathion	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
gamma-BHC (lindane)	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Glyphosate	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Heptachlor epoxide	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Hexachlorobenzene	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Malathion	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Mecoprop (MCPP)	µg/L	<0.50	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)	ND (0.50)
Methoxychlor	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Methyl parathion	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metolachlor	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Metribuzin	µg/L	<1.0	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Mirex	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Oxychlordane	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Phorate	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometon	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Prometryn	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Propazine	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Simazine	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Temephos	µg/L	<1.0	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)	ND (1.0)
Terbufos	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Terbutryn	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Triallate	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)
Trifluralin	µg/L	<0.10	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)	ND (0.10)

Appendix G.2

Sediment Analytical Data

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location: Sample ID: Sample Date:	Slurry Aggregation Tank 2018 Sample 1 S-78410-050118-RC-01 1-May-2018	Slurry Aggregation Tank 2018 Sample 1 S-78410-050118-RC-02 1-May-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 2 S-78410-051618-KF-001 16-May-2018	Slurry Aggregation Tank 2018 Sample 2 S-78410-051618-KF-002 16-May-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 3 S-78410-061218-KF-001 12-Jun-2018	Slurry Aggregation Tank 2018 Sample 3 S-78410-061218-KF-002 12-Jun-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 4 S-78410-080118-KF-001 1-Aug-2018	Slurry Aggregation Tank 2018 Sample 4 S-78410-080118-KF-002 1-Aug-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 5 S-78410-082118-KF-001 21-Aug-2018
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾						
Pesticides									
Alachlor	15972-60-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	834-12-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	1912-24-9	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Atrazine and N-Dealkylated Metabolites	ATRANDEAMETABOL	mg/kg	<0.020	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Azinphos-methyl	86-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	63-25-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	1563-66-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	21725-46-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	333-41-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	60-51-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Malathion	121-75-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050	<0.10 ⁽²⁾	<0.10 ⁽²⁾	<0.050	<0.050	<0.050	<0.050
Metolachlor	51218-45-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	21087-64-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion	56-38-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	298-02-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	1610-18-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryne	7287-19-6	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	139-40-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	122-34-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Temephos	3383-96-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbufos	13071-79-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	886-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triallate	2303-17-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifluralin	1582-09-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location: Sample ID: Sample Date:	Slurry Aggregation Tank 2018 Sample 1 S-78410-050118-RC-01 1-May-2018	Slurry Aggregation Tank 2018 Sample 1 S-78410-050118-RC-02 1-May-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 2 S-78410-051618-KF-001 16-May-2018	Slurry Aggregation Tank 2018 Sample 2 S-78410-051618-KF-002 16-May-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 3 S-78410-061218-KF-001 12-Jun-2018	Slurry Aggregation Tank 2018 Sample 3 S-78410-061218-KF-002 12-Jun-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 4 S-78410-080118-KF-001 1-Aug-2018	Slurry Aggregation Tank 2018 Sample 4 S-78410-080118-KF-002 1-Aug-2018 Duplicate	Slurry Aggregation Tank 2018 Sample 5 S-78410-082118-KF-001 21-Aug-2018	
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾							
Organochlorine Pesticides										
Aldrin	309-00-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
alpha-BHC	319-84-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
beta-BHC	319-85-7	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
delta-BHC	319-86-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
a-chlordane	5103-71-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
g-chlordane	5103-74-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
op-DDD	53-19-0	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
pp-DDD	72-54-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
o,p-DDE	3424-82-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
pp-DDE	72-55-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
op-DDT	789-02-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
pp-DDT	50-29-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Dieldrin	60-57-1	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
alpha-Endosulfan	959-98-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
beta-Endosulfan	33213-65-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Endrin	72-20-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Endrin Aldehyde	7421-93-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Heptachlor	76-44-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Hexachlorobenzene	118-74-1	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Lindane	58-89-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Methoxychlor	72-43-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Mirex	2385-85-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Oxychlordane	26880-48-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Herbicides										
2,4,5-T	93-76-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
2,4,5-TP	93-72-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
2,4-D	94-75-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
AMPA	1066-51-9	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050 ⁽³⁾	<0.0050	<0.0050	<0.0050	
Bromoxynil	1689-84-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
Dicamba	1918-00-9	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
Dinoseb	88-85-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
MCPA	94-74-6	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	
Mecoprop	93-65-2	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	
Picloram	1918-02-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
General Chemistry										
Moisture	TMOIST	%	-	-	-	-	-	-	-	

Notes:

- (1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014).
- (2) RRR: Analyte recovery in CVS below ALS DQO. Detection limit has been raised.
- (3) RRA - Heterogeneity was observed in test sample and in lab results. Reported result is the average of two or more analyses.
- J Qualified as "Estimated". Qualified sample data due to outlying matrix spike recoveries.

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:			Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank
Sample ID:			2018 Sample 5	2019 Sample 1	2019 Sample 1	2019 Sample 2	2019 Sample 2	2019 Sample 3	2019 Sample 3	2019 Sample 4
Sample Date:			S-78410-082118-KF-002	S-78410-050619-KF-001	S-78410-050619-KF-002	S-78410-20190619-KF-001	S-78410-20190619-KF-002	S-78410-20190717-KF-001	S-78410-20190717-KF-002	SE-078410-082119-RC-01
			21-Aug-2018	5/6/2019	5/6/2019	6/19/2019	6/19/2019	7/17/2019	7/17/2019	8/21/2019
			Duplicate		Duplicate		Duplicate		Duplicate	
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾							
Pesticides										
Alachlor	15972-60-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	834-12-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	1912-24-9	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Atrazine and N-Dealkylated Metabolites	ATRANDEAMETABOL	mg/kg	<0.020	<0.022	<0.022	<0.023	<0.023	<0.022	<0.022	<0.025
Azinphos-methyl	86-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	63-25-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	1563-66-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	21725-46-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	333-41-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	60-51-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Malathion	121-75-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor	51218-45-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	21087-64-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion	56-38-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	298-02-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	1610-18-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryne	7287-19-6	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	139-40-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	122-34-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Temephos	3383-96-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbufos	13071-79-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	886-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triallate	2303-17-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifluralin	1582-09-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank	Slurry Aggregation Tank
Sample ID:	2018 Sample 5	2019 Sample 1	2019 Sample 1	2019 Sample 2	2019 Sample 2	2019 Sample 3	2019 Sample 3	2019 Sample 3	2019 Sample 4
Sample Date:	S-78410-082118-KF-002	S-78410-050619-KF-001	S-78410-050619-KF-002	S-78410-20190619-KF-001	S-78410-20190619-KF-002	S-78410-20190717-KF-001	S-78410-20190717-KF-002	S-78410-20190717-KF-002	SE-078410-082119-RC-01
	21-Aug-2018	5/6/2019	5/6/2019	6/19/2019	6/19/2019	6/19/2019	7/17/2019	7/17/2019	8/21/2019
	Duplicate		Duplicate		Duplicate		Duplicate		
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾						
Organochlorine Pesticides									
Aldrin	309-00-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-BHC	319-84-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-BHC	319-85-7	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
delta-BHC	319-86-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
a-chlordane	5103-71-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
g-chlordane	5103-74-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDD	53-19-0	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDD	72-54-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o,p-DDE	3424-82-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDE	72-55-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDT	789-02-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDT	50-29-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dieldrin	60-57-1	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-Endosulfan	959-98-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-Endosulfan	33213-65-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin	72-20-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin Aldehyde	7421-93-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor	76-44-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	118-74-1	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lindane	58-89-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Methoxychlor	72-43-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Mirex	2385-85-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Oxychlordane	26880-48-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Herbicides									
2,4,5-T	93-76-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4,5-TP	93-72-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4-D	94-75-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
AMPA	1066-51-9	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromoxynil	1689-84-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dicamba	1918-00-9	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dinoseb	88-85-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
MCPA	94-74-6	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Mecoprop	93-65-2	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Picloram	1918-02-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
General Chemistry									
Moisture	TMOIST	%	-	-	-	-	-	-	-

Notes:

(1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014).

(2) RRR: Analyte recovery in CVS below ALS DQO. Detection limit has been raised.

(3) RRA - Heterogeneity was observed in test sample and in lab results. Reported result is the average of two or more analyses.

J Qualified as "Estimated". Qualified sample data due to outlying matrix spike recoveries.

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:				Slurry Aggregation Tank 2019 Sample 4	Slurry Aggregation Tank 2019 Sample 5	Slurry Aggregation Tank 2019 Sample 5	Slurry Aggregation Tank 2020 Sample 1	Slurry Aggregation Tank 2020 Sample 1	Slurry Aggregation Tank 2020 Sample 2	Slurry Aggregation Tank 2020 Sample 2	Slurry Aggregation Tank 2020 Sample 3
Sample ID:				SE-078410-082119-RC-02	S-78410-091719-KF-001	S-78410-091719-KF-002	S-78410-20200422-KF-001	S-78410-20200422-KF-002	S-78410-20200512-KF-001	S-78410-20200512-KF-002	S-78410-20200611-KF-001
Sample Date:				8/21/2019 Duplicate	9/17/2019	9/17/2019 Duplicate	4/22/2020	4/22/2020 Duplicate	5/12/2020	5/12/2020 Duplicate	6/11/2020
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾								
Pesticides											
Alachlor	15972-60-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	834-12-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	1912-24-9	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Atrazine and N-Dealkylated Metabolites	ATRANDEAMETABOL	mg/kg	<0.020	<0.022	<0.022	<0.022	<0.020	<0.022	<0.022	<0.022	<0.022
Azinphos-methyl	86-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	63-25-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	1563-66-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	21725-46-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	333-41-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	60-51-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Malathion	121-75-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor	51218-45-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	21087-64-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion	56-38-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	298-02-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	1610-18-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryne	7287-19-6	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	139-40-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	122-34-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Temephos	3383-96-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbufos	13071-79-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	886-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triallate	2303-17-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifluralin	1582-09-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location: Sample ID: Sample Date:	Slurry Aggregation Tank 2019 Sample 4 SE-078410-082119-RC-02 8/21/2019 Duplicate	Slurry Aggregation Tank 2019 Sample 5 S-78410-091719-KF-001 9/17/2019	Slurry Aggregation Tank 2019 Sample 5 S-78410-091719-KF-002 9/17/2019 Duplicate	Slurry Aggregation Tank 2020 Sample 1 S-78410-20200422-KF-001 4/22/2020	Slurry Aggregation Tank 2020 Sample 1 S-78410-20200422-KF-002 4/22/2020 Duplicate	Slurry Aggregation Tank 2020 Sample 2 S-78410-20200512-KF-001 5/12/2020	Slurry Aggregation Tank 2020 Sample 2 S-78410-20200512-KF-002 5/12/2020 Duplicate	Slurry Aggregation Tank 2020 Sample 3 S-78410-20200611-KF-001 6/11/2020		
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾							
Organochlorine Pesticides										
Aldrin	309-00-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
alpha-BHC	319-84-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
beta-BHC	319-85-7	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
delta-BHC	319-86-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
a-chlordane	5103-71-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
g-chlordane	5103-74-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
op-DDD	53-19-0	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
pp-DDD	72-54-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
o,p-DDE	3424-82-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
pp-DDE	72-55-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
op-DDT	789-02-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
pp-DDT	50-29-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Dieldrin	60-57-1	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
alpha-Endosulfan	959-98-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
beta-Endosulfan	33213-65-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Endrin	72-20-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Endrin Aldehyde	7421-93-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Heptachlor	76-44-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Hexachlorobenzene	118-74-1	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	
Lindane	58-89-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Methoxychlor	72-43-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Mirex	2385-85-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Oxychlordane	26880-48-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	
Herbicides										
2,4,5-T	93-76-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
2,4,5-TP	93-72-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
2,4-D	94-75-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
AMPA	1066-51-9	mg/kg	<0.0050	<0.0050	<0.0050 J	<0.0050	<0.0050	<0.0050	<0.0050	
Bromoxynil	1689-84-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
Dicamba	1918-00-9	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
Dinoseb	88-85-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
MCPA	94-74-6	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	
Mecoprop	93-65-2	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	
Picloram	1918-02-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	
General Chemistry										
Moisture	TMOIST	%	-	-	-	40.3	39.7	37.2	40.1	33.5

Notes:

- (1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014).
- (2) RRR: Analyte recovery in CVS below ALS DQO. Detection limit has been raised.
- (3) RRA - Heterogeneity was observed in test sample and in lab results. Reported result is the average of two or more analyses.
- J Qualified as "Estimated". Qualified sample data due to outlying matrix spike recoveries.

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:				Slurry Aggregation Tank 2020 Sample 3	Slurry Aggregation Tank 2020 Sample 4	Slurry Aggregation Tank 2020 Sample 4	Slurry Aggregation Tank 2020 Sample 5	Slurry Aggregation Tank 2020 Sample 5	Slurry Aggregation Tank 2021 Sample 1	Slurry Aggregation Tank 2021 Sample 1	Slurry Aggregation Tank 2021 Sample 2
Sample ID:				S-78410-20200611-KF-002	S-78410-20200714-KF-001	S-78410-20200714-KF-002	S-78410-20200818-KF-001	S-78410-20200818-KF-002	SE-078410-051921-RC-01	SE-078410-051921-RC-02	SE-078410-061521-KT-01
Sample Date:				6/11/2020 Duplicate	7/14/2020	7/14/2020 Duplicate	8/18/2020	8/18/2020 Duplicate	19-May-2021	19-May-2021 Duplicate	15-Jun-2021
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾								
Pesticides											
Alachlor	15972-60-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	834-12-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	1912-24-9	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Atrazine and N-Dealkylated Metabolites	ATRANDEAMETABOL	mg/kg	<0.020	<0.022	<0.022	<0.022	<0.022	<0.022	<0.071	<0.071	<0.022
Azinphos-methyl	86-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	63-25-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	1563-66-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	21725-46-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	333-41-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	60-51-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.050
Malathion	121-75-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor	51218-45-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	21087-64-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion	56-38-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	298-02-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	1610-18-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryne	7287-19-6	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	139-40-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	122-34-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Temephos	3383-96-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbufos	13071-79-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	886-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triallate	2303-17-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifluralin	1582-09-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:				Slurry Aggregation Tank 2020 Sample 3	Slurry Aggregation Tank 2020 Sample 4	Slurry Aggregation Tank 2020 Sample 4	Slurry Aggregation Tank 2020 Sample 5	Slurry Aggregation Tank 2020 Sample 5	Slurry Aggregation Tank 2021 Sample 1	Slurry Aggregation Tank 2021 Sample 1	Slurry Aggregation Tank 2021 Sample 2
Sample ID:				S-78410-20200611-KF-002	S-78410-20200714-KF-001	S-78410-20200714-KF-002	S-78410-20200818-KF-001	S-78410-20200818-KF-002	SE-078410-051921-RC-01	SE-078410-051921-RC-02	SE-078410-061521-KT-01
Sample Date:				6/11/2020 Duplicate	7/14/2020	7/14/2020 Duplicate	8/18/2020	8/18/2020 Duplicate	19-May-2021	19-May-2021 Duplicate	15-Jun-2021
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾								
Organochlorine Pesticides											
Aldrin	309-00-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-BHC	319-84-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-BHC	319-85-7	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
delta-BHC	319-86-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
a-chlordane	5103-71-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
g-chlordane	5103-74-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDD	53-19-0	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDD	72-54-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o,p-DDE	3424-82-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDE	72-55-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDT	789-02-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDT	50-29-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dieldrin	60-57-1	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-Endosulfan	959-98-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-Endosulfan	33213-65-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin	72-20-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin Aldehyde	7421-93-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor	76-44-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	118-74-1	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lindane	58-89-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Methoxychlor	72-43-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Mirex	2385-85-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Oxychlordane	26880-48-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Herbicides											
2,4,5-T	93-76-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4,5-TP	93-72-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4-D	94-75-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
AMPA	1066-51-9	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromoxynil	1689-84-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dicamba	1918-00-9	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dinoseb	88-85-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
MCPA	94-74-6	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Mecoprop	93-65-2	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Picloram	1918-02-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
General Chemistry											
Moisture	TMOIST	%	-	34.6	30.4	32.6	33.3	34.8	36.4	36.1	20.3

Notes:

- (1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014).
- (2) RRR: Analyte recovery in CVS below ALS DQO. Detection limit has been raised.
- (3) RRA - Heterogeneity was observed in test sample and in lab results. Reported result is the average of two or more analyses.
- J Qualified as "Estimated". Qualified sample data due to outlying matrix spike recoveries.

Table G.2a
Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:				Slurry Aggregation Tank 2021 Sample 2	Slurry Aggregation Tank 2021 Sample 3	Slurry Aggregation Tank 2021 Sample 3	Slurry Aggregation Tank 2021 Sample 4	Slurry Aggregation Tank 2021 Sample 4	Slurry Aggregation Tank 2021 Sample 5	Slurry Aggregation Tank 2021 Sample 5
Sample ID:				SE-078410-061521-KT-02	SE-078410-071421-KT-01	SE-078410-071421-KT-02	SE-78410-082521-KT-01	SE-78410-082521-KT-02	SE-078410-092321-KT-01	SE-078410-092321-KT-02
Sample Date:				15-Jun-2021 Duplicate	14-Jul-2021	14-Jul-2021 Duplicate	25-Aug-2021	25-Aug-2021 Duplicate	23-Sep-2021	23-Sep-2021 Duplicate
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾							
Pesticides										
Alachlor	15972-60-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Ametryn	834-12-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Atrazine	1912-24-9	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Atrazine and N-Dealkylated Metabolites	ATRANDEAMETABOL	mg/kg	<0.020	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022	<0.022
Azinphos-methyl	86-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbaryl	63-25-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Carbofuran	1563-66-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Cyanazine	21725-46-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diazinon	333-41-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Dimethoate	60-51-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050	<0.050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Malathion	121-75-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metolachlor	51218-45-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Metribuzin	21087-64-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Parathion	56-38-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Phorate	298-02-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometon	1610-18-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Prometryne	7287-19-6	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Propazine	139-40-2	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Simazine	122-34-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Temephos	3383-96-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbufos	13071-79-9	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Terbutryn	886-50-0	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Triallate	2303-17-5	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
Trifluralin	1582-09-8	mg/kg	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050

Table G.2a

Historical Analytical Data - Sediment
2021 Combined Annual Monitoring Report
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Sample Location:				Slurry Aggregation Tank 2021 Sample 2	Slurry Aggregation Tank 2021 Sample 3	Slurry Aggregation Tank 2021 Sample 3	Slurry Aggregation Tank 2021 Sample 4	Slurry Aggregation Tank 2021 Sample 4	Slurry Aggregation Tank 2021 Sample 5	Slurry Aggregation Tank 2021 Sample 5
Sample ID:				SE-078410-061521-KT-02	SE-078410-071421-KT-01	SE-078410-071421-KT-02	SE-78410-082521-KT-01	SE-78410-082521-KT-02	SE-078410-092321-KT-01	SE-078410-092321-KT-02
Sample Date:				15-Jun-2021 Duplicate	14-Jul-2021	14-Jul-2021 Duplicate	25-Aug-2021	25-Aug-2021 Duplicate	23-Sep-2021	23-Sep-2021 Duplicate
Parameters	CASRN	Units	Reporting Limits ⁽¹⁾							
Organochlorine Pesticides										
Aldrin	309-00-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-BHC	319-84-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-BHC	319-85-7	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
delta-BHC	319-86-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
a-chlordane	5103-71-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
g-chlordane	5103-74-2	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDD	53-19-0	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDD	72-54-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
o,p-DDE	3424-82-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDE	72-55-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
op-DDT	789-02-6	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
pp-DDT	50-29-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Dieldrin	60-57-1	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
alpha-Endosulfan	959-98-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
beta-Endosulfan	33213-65-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin	72-20-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Endrin Aldehyde	7421-93-4	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor	76-44-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Hexachlorobenzene	118-74-1	mg/kg	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Lindane	58-89-9	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Methoxychlor	72-43-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Mirex	2385-85-5	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Oxychlordane	26880-48-8	mg/kg	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020	<0.020
Herbicides										
2,4,5-T	93-76-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4,5-TP	93-72-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
2,4-D	94-75-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
AMPA	1066-51-9	mg/kg	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Bromoxynil	1689-84-5	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dicamba	1918-00-9	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
Dinoseb	88-85-7	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
MCPA	94-74-6	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Mecoprop	93-65-2	mg/kg	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30	<0.30
Picloram	1918-02-1	mg/kg	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080	<0.080
General Chemistry										
Moisture	TMOIST	%	-	28.1	47.5	45.7	37.2	39.4	40.3	42.2

Notes:

- (1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014).
 - (2) RRR: Analyte recovery in CVS below ALS DQO. Detection limit has been raised.
 - (3) RRA - Heterogeneity was observed in test sample and in lab results. Reported result is the average of two or more analyses.
- J Qualified as "Estimated". Qualified sample data due to outlying matrix spike recoveries.

Appendix H

Sediment Sampling Plan

Sediment Sampling Plan
Dufferin Aggregates Paris Pit, County of Brant, Ontario

Date: April 19, 2018

1. Introduction

The following Sediment Sampling Plan has been prepared pursuant to Condition 4.6 of the Ministry of the Environment and Climate Change (MOECC) Amended Environment Compliance Approval No. 0302-ALCK5W (ECA), issued to CRH Canada Group Inc. for the Dufferin Aggregates Paris Pit on April 12, 2017.

The purpose of the Plan is to determine if there is any distribution and concentration of pesticides in the sediment within the settling cell(s). The following presents the sampling approach, sample location rationale, frequency, methodology, quality control and quality assurance (QA/QC), laboratory analysis, reporting limits and data analysis/evaluation.

2. Sample Collection

2.1 Approach

This sampling plan has been developed based on standard practices, site-specific conditions and pilot testing, and input from MOECC. If necessary, sampling practices may be refined subject to agreement in writing by MOECC.

Representative samples of wash fines will be collected for analysis from a sample port at the wash plant over a period of time. The slurry, being a mechanically agitated and fluid mixture of wash fines and water, is present in the wash plant and is pumped to the settling pond from the slurry tank. Over time, through the effect of gravity, wash fines pumped to the settling pond naturally separate, and sink to the bottom of the pond. This process is similar to any natural depositional environment. This is the last collection point in the system prior to entering the settling pond. The location of the collection point is shown on Figure 1.

The sediment sampling will target the fine fraction of the sediment as it is anticipated that atrazine, if present, would be found associated with the fines (and associated organic matter).

The sediment sampling will be undertaken for a period of three years and the sampling plan and frequency will be reviewed and refined in consultation with the MOECC based on the analytical results.

2.2 Frequency/Number of Samples

The standard risk assessment approach is that the number of samples should describe the sediment in terms of *mean measured chemical concentration with an associated 95 percent confidence limit* (MOE 2010 Section 1.1.1.2). In the event that analytical results are "censored" (i.e. non-detect), it may not be possible to appropriately calculate confidence limits on the mean (specifically, when over half the data are censored). In such cases, the median is used in place of the mean, and confidence limits on the population median are considered. A 95 percent upper confidence limit on the population median may be obtained for any sample size of five samples or more.

It is anticipated that atrazine will not be detected in the sediment samples collected. Thus, if five sediment samples are analyzed in which atrazine is not detected, it can be said with 95 percent confidence that the median concentration of atrazine (in the population of sediment) is below the detection limit. If one or more

of the sediment samples yields a detected atrazine concentration, this result will be communicated to MOECC and suitable additional evaluation, including the collection of additional samples, will be discussed (refer also to Section 5, below).

In order to ensure broad representation of the results, each of the 5 samples will be collected as a composite of multiple (5) samples that will be representative of 25 samples of wash pond fines.

To provide distribution of the potential pesticide concentration in the sediment, it is proposed that:

- For a particular month, samples will be collected daily over a 1 week period (i.e., total of five samples) which will then be composited into one sample. This will represent the mean concentration over that week for that month.
- Five monthly composite samples will be submitted during the operation of the wash plant which typically begins in April and ends in December. If circumstances indicate a shorter operating season, more than one sampling event can occur in a particular month.
- Samples will be collected in duplicate for quality control purposes (refer to Section 3.2).

2.3 Sample Collection and Preparation Procedure

2.3.1 Collection

The standard sample collection procedure is as follows:

- Samples will be collected over a 1 week period for any given month to a total of five samples as described above.
- Samples will be collected once per day from Monday to Friday of that week (five samples in total).
- Samples will be collected from a sample port (downward facing 90 degree fitting) on the slurry tank. The slurry collected at this point is the same slurry that is discharged into the settling pond, and represents the last possible sample collection point prior to the pond itself.
- The sample will be collected into several large glass beakers due to the volume required.

The total volume of slurry collected is anticipated to be approximately 50 litres per day (L/day). Volume of slurry collected will be adjusted in the field to match potential variations in operation of the plant and the amount of fines produced to ensure sufficient solids are obtained. By volume, only about 2.5 percent of the slurry was found to be solids and sufficient sample needs to be collected to ensure there is adequate sample of the sediment for laboratory analysis.

2.3.2 Preparation

As the sample will contain approximately 98 percent water content by volume, the liquid will have to be removed so that the sediment can be analyzed by the laboratory. Furthermore, the fine fraction (silt and clay) will need to be separated from the coarser sediment. The fine fraction will be submitted to the laboratory for analysis. The preparation of the sample for laboratory analysis is described below.

- After collection, the slurry will be allowed to settle for approximately 2 minutes. Sand within the slurry will settle to the bottom of the beaker, leaving the fines suspended in the water column. The fines held in suspension will then be decanted to a second container for further settlement. It is anticipated that several glass beakers will be filled and undergo this process to achieve the necessary sample volume.

- The finer suspended (typically silt and clay) fraction will then be allowed to settle for 2 hours. After 2 hours, the supernatant (i.e., clarified water) is decanted from each beaker. Additional decanting may be required to remove as much of the water as possible.
- The remaining wash fines (still in several beakers) will be agitated to re-suspend settled particles, and will then be transferred to 2.5 L amber glass bottles (i.e., sample collected on the same day will be homogenized). Further decanting and homogenization of the sample may be required depending on the initial volume and fines content. Samples will be temporarily stored in a fridge at a temperature of approximately 4°C (+2°C).
- Once sample collection is complete for that week (5 jars have been obtained – 1 per day), further settlement and decanting will be undertaken, as necessary, until a suitable sample can be collected using a stainless steel trowel or spoon.
- An equal amount of sediment will be collected from each of the five jars (i.e., an equal portion from each day of the week) and then homogenized prior to sample submission.
- A minimum of a 250 g sample will be collected for laboratory analysis. This sample will represent the mean concentration sample for that week.
- The samples collected for laboratory analysis will be recorded on the field sampling key (FSK) along with their identification numbering.

3. Quality Assurance and Quality Control

3.1 Quality Assurance

Samples will be prepared at the Site or an alternate controlled location. The sampling equipment and work station will be cleaned daily during the sampling event and preparation activities to prevent potential cross-contamination.

During all sampling activities, nitrile gloves will be worn to minimize contact with the sample and cross contamination. The gloves will be disposed after each sampling event. Prior to each sampling event, sampling equipment (i.e., sampling tools, beakers, etc.) will be cleaned. The minimum wash procedures will be as follows:

- Wash with clean potable water and laboratory detergent, using a brush as necessary to remove particulates
- Rinse with tap water
- Rinse with deionized water
- Air dry as long as possible

All samples will be placed in laboratory supplied bottles and compared to the sampling and analysis plan to ensure samples are submitted for the required analysis and laboratory detection limits. Samples will be stored at a temperature of approximately 4°C (+2°C). All samples will be labelled according to standard protocol (e.g., matrix - project number – date – sampler – sample ID) and transported to the laboratory in coolers packed with ice. A chain of custody record will accompany all samples to record sample collection and submission.

3.2 Quality Control

To ensure quality control of samples collected the following additional samples will be collected:

- **Equipment Blank** – *will be collected at a frequency of one sample per year.* Equipment blanks are defined as QA/QC samples used to determine if cleaning procedures are effective and adequate. Equipment blanks will be prepared by collecting analyte free deionized water which has been "run through" or "poured over" the cleaned sample collection equipment or beakers. The equipment blanks will be collected at the sample preparation area and will be submitted to the laboratory as "blind" water samples.
- **Field Blanks** - *will be collected at a frequency of one sample per year.* A field blank will be collected to evaluate the influence of ambient field conditions on the sampling process. Field blanks will be collected using deionized water poured directly into the sample container. The field blanks will be collected at the sample preparation area and will be submitted to the laboratory as "blind" water samples.
- **Field Duplicates** – *will be collected at a frequency one sample per sampling event (i.e., 5 samples per year).* These are collected to assess the potential for laboratory data inconsistency and the adequacy of the sampling and handling procedures. The duplicate sample will be collected at the sample preparation area and will be submitted to the laboratory "blind".

The QA/QC samples will be recorded on the field sample key (FSK) and submitted to the appropriate quality personnel (chemist) to enable completion of the QA/QC review process.

The laboratory will also complete a variety of QA/QC samples internally to monitor the analytical procedure with regard to accuracy, precision, and contamination. These will typically include:

- Matrix spikes (MS) which consist of an aliquot of the sample which is spiked with a known concentration of the target analyte prior to sample preparation and analysis; and/or
- Method blanks that are prepared and analyzed with the investigative samples to assess the potential level of contamination introduced to the analytical process by the laboratory. They consist of a matrix demonstrated to be analyte free which is processed with each sample batch. Method blank results will be used to evaluate the potential for laboratory cross contamination on the results reported.

3.3 Transport and Chain of Custody

Chain of custody (COC) is the sequence of possession of an item. An item (such as a sample) is considered to be in custody if the item is in actual possession of a person, the item is in the view of the person after being in his/her actual possession, or the item was placed in a secure area by that person. The integrity of analytical data is dependent in part on the chain of custody of the samples collected. The method of COC record management will be that each sample cooler being shipped to the laboratory will contain a COC record identifying the samples contained in the cooler. Coolers will be packed with ice to ensure samples will be transported at a temperature of approximately 4°C (+2°C). Samples will be transported directly to the laboratory.

Upon receipt of analytical results from the laboratory, the results and QA/QC results will be reviewed by appropriate qualified personnel (chemist) to confirm data is acceptable.

4. Sample Analysis

4.1 Analysis

In accordance with Condition 4.7 of the ECA, the sediment samples will be analyzed for atrazine, atrazine plus atrazine desethyl, glyphosate, aminomethylphosphonic acid (AMPA), and the pesticides listed in Assessment of Herbicide and Pesticide Concerns, CRA (2014). A comprehensive list of these parameters, associated chemical identifier numbers (CASRN) is presented in Table A.1. Samples will be submitted to ALS Environmental in Waterloo, Ontario, a Canadian Association for Laboratory Accreditation (CALA) certified member (member number 3149) or a similarly qualified laboratory, for analysis.

4.2 Laboratory Reporting Limits

Laboratory analyses will be requested to meet or exceed the detection limits listed in Assessment of Herbicide and Pesticide Concerns, CRA (2014), as required by Condition 4.7 of the ECA. The targeted analytical detection limits are in Table A.1. In the event of any analytical issues (e.g., matrix interference), reasonably achievable laboratory detection limits will apply.

5. Results Assessment

Pesticides, including atrazine, are allowed for use under Federal legislation and Ontario Provincial legislation. At present, the Province of Ontario has no guidelines or standards for concentrations of atrazine in soil or sediment in Ontario; nor are there Federal standards.

For comparison purposes, the analytical results of the sediment samples will be screened to the Alberta Tier 1 Soil and Groundwater Remediation Guidelines dated December 2010 and the Nova Scotia Environmental Quality Standards for Contaminated Sites dated April 2014 as required by MOECC (ECA Condition 4.8). If these references for other Provinces are updated or replaced, or if future Ontario or Federal guidelines are developed for the parameters in Table A.1 prior to submitting the report, they will also be considered for discussion with MOECC.

It is anticipated that atrazine will not be detected in the sediment samples collected. If one or more of the sediment samples yields a detected atrazine concentration, this result will be communicated to MOECC and suitable additional evaluation, including the collection of additional samples, will be discussed with MOECC as previously described in Section 2.2 (above).

The lowest referenced concentration for each constituent will be used for the screening comparison to the sediment sample results. If the sample results are reported as non-detect but the detection limit is higher than identified reference concentration, the result will be deemed as not being above the reference concentration.

6. Reporting

The results of the sampling activities will be reported to the Director and the District Manager, in accordance with Condition 4.8 of the ECA. The analytical results will be presented along with guidelines comparison. Dufferin will arrange a meeting with the Director to discuss suitable uses for the sediment for on-site rehabilitation.

7. References

Conestoga-Rover & Associates, July 2014. Assessment of Herbicide and Pesticide Concerns, Dufferin Paris Pit, County of Brant, Ontario.

Government of Alberta, December 2010. Alberta Tier 1 Soil and Groundwater Remediation Guidelines.

Ministry of the Environment and Climate Change, October 29, 2015. Environmental Compliance Approval Number 1400-9VNPVY.

Ministry of Environment, 2010. Handbook for Dredging and Dredged Material Disposal in Ontario – Sediment Sampling and Laboratory Analysis. Prepared by Standards Development Branch, Ontario Ministry of the Environment, February 1991, Revised February 1994, updated November 2010. Log 87-2231-001, PIBS 1711E03, Part 3, Section C.

Nova Scotia Environment April 2014. Environmental Quality Standards for Contaminated Sites, Rationale and Guidance Document.

Prepared By:



A handwritten signature in blue ink, appearing to be 'T. Guoth', written to the right of the professional seal.

Thomas Guoth, M. Eng., P. Eng.



J. Richard Murphy, M.A.Sc., P.Eng.



NOTE:

GREEN ARROWS REPRESENT WASH WATER FLOW PATH.



SOURCE:
AERIAL PHOTOGRAPH: AER, 2017.

figure 1
WASH PLANT AND SAMPLE COLLECTION LOCATION
DUFFERIN PARIS PIT
County of Brant, Ontario

Table A.1

Sediment Sampling Parameters and Criteria Summary
Sediment Sampling Plan
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameters	CASRN	Units	Proposed Reporting Limits ⁽¹⁾
Pesticides			
Alachlor	15972-60-8	mg/kg	<0.050
Ametryn	834-12-8	mg/kg	<0.050
Atrazine	1912-24-9	mg/kg	<0.010
Atrazine Desethyl	6190-65-4	mg/kg	<0.020
Azinphos-methyl	86-50-0	mg/kg	<0.050
Bendiocarb	22781-23-3	mg/kg	<0.050
Benzo(a)pyrene	50-32-8	mg/kg	<0.050
Carbaryl	63-25-2	mg/kg	<0.050
Carbofuran	1563-66-2	mg/kg	<0.050
Chlorpyrifos	2921-88-2	mg/kg	<0.050
Cyanazine	21725-46-2	mg/kg	<0.050
Diazinon	333-41-5	mg/kg	<0.050
Diclofop-methyl	51338-27-3	mg/kg	<0.050
Dimethoate	60-51-5	mg/kg	<0.050
Glyphosate	1071-83-6	mg/kg	<0.0050
Malathion	121-75-5	mg/kg	<0.050
Methyl Parathion	298-00-0	mg/kg	<0.050
Metolachlor	51218-45-2	mg/kg	<0.050
Metribuzin	21087-64-9	mg/kg	<0.050
Parathion	56-38-2	mg/kg	<0.050
Phorate	298-02-2	mg/kg	<0.050
Prometon	1610-18-0	mg/kg	<0.050
Prometryne	7287-19-6	mg/kg	<0.050
Propazine	139-40-2	mg/kg	<0.050
Simazine	122-34-9	mg/kg	<0.050
Temephos	3383-96-8	mg/kg	<0.050
Terbufos	13071-79-9	mg/kg	<0.050
Terbutryn	886-50-0	mg/kg	<0.050
Triallate	2303-17-5	mg/kg	<0.050
Trifluralin	1582-09-8	mg/kg	<0.050

Table A.1

Sediment Sampling Parameters and Criteria Summary
Sediment Sampling Plan
Dufferin Aggregates Paris Pit
County of Brant, Ontario

Parameters	CASRN	Units	Proposed Reporting Limits ⁽¹⁾
Organochlorine Pesticides			
Aldrin	309-00-2	mg/kg	<0.020
alpha-BHC	319-84-6	mg/kg	<0.020
beta-BHC	319-85-7	mg/kg	<0.020
delta-BHC	319-86-8	mg/kg	<0.020
a-chlordane	5103-71-9	mg/kg	<0.020
g-chlordane	5103-74-2	mg/kg	<0.020
op-DDD	53-19-0	mg/kg	<0.020
pp-DDD	72-54-8	mg/kg	<0.020
o,p-DDE	3424-82-6	mg/kg	<0.020
pp-DDE	72-55-9	mg/kg	<0.020
op-DDT	789-02-6	mg/kg	<0.020
pp-DDT	50-29-3	mg/kg	<0.020
Dieldrin	60-57-1	mg/kg	<0.020
alpha-Endosulfan	959-98-8	mg/kg	<0.020
beta-Endosulfan	33213-65-9	mg/kg	<0.020
Endosulfan Sulfate	1031-07-8	mg/kg	<0.020
Endrin	72-20-8	mg/kg	<0.020
Endrin Aldehyde	7421-93-4	mg/kg	<0.020
Heptachlor	76-44-8	mg/kg	<0.020
Heptachlor Epoxide	1024-57-3	mg/kg	<0.020
Hexachlorobenzene	118-74-1	mg/kg	<0.010
Lindane	58-89-9	mg/kg	<0.020
Methoxychlor	72-43-5	mg/kg	<0.020
Mirex	2385-85-5	mg/kg	<0.020
Oxychlordane	26880-48-8	mg/kg	<0.020
Herbicides			
2,4,5-T	93-76-5	mg/kg	<0.080
2,4,5-TP	93-72-1	mg/kg	<0.080
2,4-D	94-75-7	mg/kg	<0.080
Aminomethylphosphonic Acid (AMPA)	1066-51-9	mg/kg	<0.0050
Bromoxynil	1689-84-5	mg/kg	<0.080
Dicamba	1918-00-9	mg/kg	<0.080
Dinoseb	88-85-7	mg/kg	<0.080
MCPA	94-74-6	mg/kg	<0.30
Mecoprop	93-65-2	mg/kg	<0.30
Picloram	1918-02-1	mg/kg	<0.080

Notes:

- (1) Reporting Limits as presented in the Assessment of Herbicide and Pesticide Concerns Report (CRA, 2014)



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