HALTON REGION

# CLOSED BURLINGTON NORTH SERVCE ROAD LANDFILL SITE

## 2021 ANNUAL MONITORING REPORT

MARCH 31, 2022



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## 2021 ANNUAL MONITORING REPORT

HALTON REGION

PROJECT NO.: 181-30000-00-100-1004
DATE: MARCH 31, 2022

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March 31, 2022

HALTON REGION
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**Attention: Mr. Andy De Jong, Landfill Technologist**

Dear Mr. De Jong:

**Subject: Closed Burlington North Service Road Landfill Site**
**2021 Annual Monitoring Report**

We are pleased to provide the 2021 Annual Monitoring Report for the Closed Burlington North Service Road Landfill Site. This report is submitted as part of Condition 6 of the Certificate of Approval A210102 for the landfill site. This hydrogeological report presents an assessment of the effects of the landfill site on local groundwater and surface water. Comments provided by the Region have been incorporated into the report.

The 2021 monitoring program was completed in accordance with the program described in the *2020 Annual Monitoring Report*, prepared by WSP. The 2021 report combines historical data collected during previous monitoring programs with the data collected in 2021. Findings are summarized in the conclusions and recommendations section, and technical information is appended.

Thank you for the opportunity to work on this study. If there are any questions, please contact us.

Yours truly,

Greg R. Siiskonen, P.Eng.
Director, Ontario Waste/Landfill, Earth & Environment

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# EXECUTIVE SUMMARY

The Closed Burlington North Service Road Landfill Site (Site) is located on the north side of the North Service Road and west of King Road. The licensed area that contains waste is approximately 34.5 ha. The landfill received waste between 1971 and December 1988, when it was closed. A monitoring program with annual reporting has been in place since 1980 under Provisional Certificate of Approval A210102.

There is a toe-drain leachate collection system around the western, eastern, and southern extents of the landfill to intercept the shallow egress of leachate along the periphery of the refuse. The northern extent of the landfill has an underdrain leachate collection system to control off-site leachate migration and to reduce landfill effects on the local groundwater and surface water. The underdrain and toe drain collectors continue to collect leachate as designed, with the volume of leachate collected in 2021 having been about 40% more than the volume collected in 2020. There continues to be minimal leachate mounding in the northern under drained portion of the refuse. Within the southern portion of the refuse, the mounding is approximately 7 m above the base of the refuse.

The leachate chemical characteristics have varied over time, but concentrations are generally decreasing over the long term for the diagnostic parameters. Organic parameter concentrations in 2021 were also lower than values detected in the past but continue to fluctuate. The 2021 leachate quality complies with the Region of Halton's Sewer Use By-Law No. 2-03, with the exception of TKN, phosphorus, BOD, iron, and total suspended solids (TSS). Exceedances for TKN and BOD have historically occurred at the Site, but the exceedances for iron, phosphorus, BOD, and TSS have more frequently been observed since 2017. The elevated concentrations for iron and phosphorus are likely associated with the elevated suspended solids within the samples, compared to previous sampling events. The general increase in suspended solids since 2017 may be attributed to the recent cover enhancement activities at the Site, but continued monitoring is required to assess the potential long-term trend.

Regional groundwater flows in a southerly direction from higher elevations near the Escarpment toward the Hamilton Harbour portion of Lake Ontario. Local shallow groundwater flow is influenced primarily by local terrain with flow toward the local watercourses. Local groundwater quality in the overburden and bedrock is naturally poor with some parameters exceeding the Ontario Drinking Water Quality Standards (ODWQS, MECP 2006 and updates). There are no known groundwater users adjacent to the Site.

Landfill influences on groundwater quality are typically limited to areas immediately adjacent to and downgradient of the refuse. Groundwater quality at property boundary monitors between the waste fill and adjacent quarry, particularly in the northeastern portion of the Site, indicate a leachate influence. Monitors located on the Site property south and southwest of the refuse indicate that groundwater quality at the Site is marginally influenced by landfill leachate. Most inorganic parameter concentrations at the southern property boundary exceeded the Ministry of the Environment, Conservation and Parks (MECP) Guideline B-7 criteria for reasonable use in 2021; however, the concentrations were generally comparable to the upgradient conditions. MECP Guideline B-7 criteria and ODWQS guidelines were exceeded for many inorganic parameters at a majority of the groundwater monitors along the Site property boundary; however, the exceedances within the landfill property boundary monitors were generally comparable to the upgradient conditions. Organic parameters also exceeded the MECP Guideline B-7 criteria within on-site and property boundary monitors, including 1,4-dichlorobenzene,

benzene, dichloromethane, and vinyl chloride. These compounds were not detected above the laboratory reported detection limit at the upgradient well nest in 2021 and are inferred to be an indicator of landfill influence.

The groundwater chemistry results from the Meridian Brick (formerly Hanson Brick and Forterra Brick) property indicate there is a landfill influence on groundwater quality immediately adjacent to the landfill along the west side of the Meridian Brick property. Meridian Brick quarrying activities do not appear to have adversely altered the groundwater regime on the landfill property, but continued monitoring is recommended for the assessment of potential landfill influences and to provide input to possible remedial measures, if required.

The Region of Halton and Meridian Brick, along with their respective environmental consulting firms, continue to meet on an annual basis and correspond with each other to review and compare monitoring results. To date, no adverse impacts have been detected and Meridian Brick has not expressed concerns with landfill influenced groundwater that may have migrated onto their property, or any other issues related to the Site. Meridian Brick is obligated to take remedial actions should contamination on their property become an issue.

No leachate influences on surface water quality were observed in Falcon Creek adjacent to, and downgradient of, the refuse. Historically, within the Indian Creek watershed east of the Site, downstream surface water quality has been similar to the upstream water quality along Falcon Creek and therefore, there has been no apparent landfill influence on the water quality within the Indian Creek tributary. Elevated chloride concentrations detected further downstream of the Site in the Indian Creek tributary are not landfill related.

Combustible gas (methane) is produced within the refuse and concentrations in some of the monitors immediately adjacent to the eastern boundary of the landfill, on the Meridian Brick property, periodically exceed the lower explosive limit for methane. It is recommended that the current standard operating practices should be continued within the eastern portion of the landfill, near the Meridian Brick borehole locations MW6 to MW11, to ensure that the methane does not pose a potential hazard to any activities. A sentinel gas monitoring network is currently in place on the Meridian Brick property in the area of the brick plant. No significant concentrations of combustible gas have been detected within the sentinel monitors, and no combustible gas has been detected within the Brick Plant. To date, Meridian Brick has expressed no concerns regarding landfill gas migration onto its property.

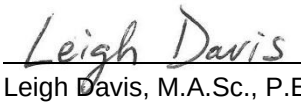
The 2021 Monitoring Program for the Site should be continued into 2022 for the established groundwater, surface water, and gas monitoring network at the established frequency. Water level and chemistry data obtained from the groundwater monitors and surface water stations within the adjacent Meridian Brick property should continue to be incorporated into any future monitoring reports prepared as part of the routine monitoring program, and the effect from operations at the Meridian Brick property should continue to be assessed with respect to the Site.

# SIGNATURES

PREPARED BY

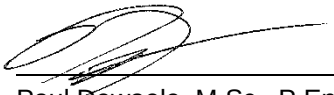


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The report is intended to be used in its entirety. No excerpts may be taken to be representative of the findings in the assessment.

The conclusions presented in this report are based on work performed by trained, professional and technical staff, in accordance with their reasonable interpretation of current and accepted engineering and scientific practices at the time the work was performed.

The content and opinions contained in the present report are based on the observations and/or information available to WSP at the time of preparation, using investigation techniques and engineering analysis methods consistent with those ordinarily exercised by WSP and other engineering/scientific practitioners working under similar conditions, and subject to the same time, financial and physical constraints applicable to this project.

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Overall conditions can only be extrapolated to an undefined limited area around these testing and sampling locations. The conditions that WSP interprets to exist between testing and sampling points may differ from those that actually exist. The accuracy of any extrapolation and interpretation beyond the sampling locations will depend on natural conditions, the history of Site development and changes through construction and other activities. In addition, analysis has been carried out for the identified chemical and physical parameters only, and it should not be inferred that other chemical species or physical conditions are not present. WSP cannot warrant against undiscovered environmental liabilities or adverse impacts off-Site.

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This limitations statement is considered an integral part of this report.

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# 1 INTRODUCTION

## 1.1 BACKGROUND

### 1.1.1 Site Setting

The Closed Burlington North Service Road Landfill Site (Site) is located on the north side of the North Service Road and west of King Road (**Figure 1-1**). The legal description is Part of Lot 4, Concession 2, City of Burlington.

The landfill received waste between 1971 and December 1988, when it was closed. A monitoring program has been in place since 1980 under Provisional Certificate of Approval A210102. Results are reported annually. The licensed area containing waste is approximately 34.5 ha.

### 1.1.2 Background Monitoring Nest

A background monitoring nest, designated OW5, was installed during 2003, north of the adjacent Closed Bayview Park Landfill Site, and east of the Closed Burlington North Service Road Landfill Site. This nest is installed on the west side of King Road, as shown on **Figure 1-2**. This monitoring nest serves as a background monitoring location for the Closed Bayview Park Landfill Site to determine the natural groundwater characteristics within the Queenston Shale. This monitoring nest is also used for comparison purposes in the assessment of potential downgradient influences from the Site.

### 1.1.3 Site Activity

**Historical Site Activity**

As shown on **Figure 1-2**, a toe-drain leachate collection system was installed around the western, eastern and southern extents of the landfill to intercept the shallow egress of leachate along the periphery. The northern extent of the landfill has an underdrain leachate collection system to control off-site leachate migration and to reduce landfill effects on the local groundwater and surface water. Collected leachate is discharged to the Regional sanitary sewer system.

In January 2003, the initial flow meter for the leachate collection system was determined to be inaccurate and was subsequently disconnected. As a result, the leachate volumes measured in 2001 and 2002 are considered to be suspect. The flow meter was connected to a SCADA remote monitoring system in March 2004. Flow monitoring equipment is being inspected and calibrated on an annual basis, or more frequently if necessary.

**Recent Site Activity**

A landfill cover assessment was completed in June 2010, which identified areas where deficiencies, such as thin cover or settled areas, were present. The Region has imported soil, when available, to improve the identified areas of the landfill cover. During 2014 and 2015, clayey silt material was imported and placed on the southern and northwest slopes of the refuse area to improve surface water runoff, reduce infiltration into the underlying refuse and increase the thickness of the cover. The Region continued to import additional soil for cover enhancement between 2017 and 2019, focusing on the southern portion of the refuse area**.**

The groundwater monitoring network was enhanced in 2016 with the decommissioning and replacement of damaged or blocked monitors, including borehole locations 18, 21, 22, and 25. Monitor 38-I was unblocked and rehabilitated.

A site inspection was completed by the MECP in 2017 and no issues were identified.

## 1.2 OBJECTIVES AND SCOPE

The principal objectives of the 2021 annual monitoring program were as follows:

- To assess the effects of the closed landfill site on local groundwater and surface water resources.
- To evaluate the potential for the off-site movement of combustible gas from the landfill.
- To assess the effectiveness of the leachate collection system.
- To assess the compliance of the leachate with water quality objectives in Halton Region Sewer Use By-Law No. 2-03.
- To assess the need for remedial measures.
- To make recommendations for the 2022 monitoring program.

The 2021 monitoring program involved a data collection component and a comprehensive analysis and interpretation component.

## 1.3 METHODOLOGY

The 2021 monitoring program for the Site was comprised of several major tasks, which are detailed in **Sections 1.3.1 to 1.3.5** and **Table 1-1**. The tasks completed as part of the program are as follows:

- Leachate monitoring for levels, quantity, and chemistry.
- Groundwater monitoring for water levels and chemistry.
- Surface water monitoring for flow rates and chemistry.
- Combustible gas monitoring.
- Review of Meridian Brick (formerly Hanson Brick and Forterra Brick) annual monitoring results.
- Interpretation and reporting.

A quality assurance and quality control (QA/QC) program was followed for each of the monitoring tasks carried out by WSP Canada Inc. (WSP). The program consisted of protocols and procedures for the purging of monitors and the collection of groundwater, surface water, and leachate samples.

### 1.3.1 Leachate Monitoring

Leachate monitoring is completed four times per year and involves the collection of a sample from Maintenance Hole 23, along the leachate collection system. The sampling was completed on the following dates in 2021:

- March 26
- June 30

- September 7
- December 14

Samples were analysed in the field for pH, conductivity and temperature, and were submitted to Bureau Veritas for analysis of inorganics, volatile organic compounds (VOCs), and metal parameters.

Leachate samples were also obtained from leachate monitors 25-I, 37-I, and 39-I in September 2021.

### 1.3.2 Groundwater Monitoring

Groundwater monitor details are provided in **Table A-1**, **Appendix A**. The measurement of groundwater levels at the monitoring locations was completed in conjunction with the annual groundwater sampling event in September 2021. Prior to sampling, monitors were purged of at least three volumes of standing water, or were purged dry, using the dedicated Waterra tubing and check-valves. Sampling was completed in accordance with established sampling protocols for the Site.

Samples for chemical analysis were collected directly into bottles provided by the laboratory. The samples were submitted to Bureau Veritas for appropriate filtering and analysis of inorganics, VOCs, and metal parameters. Water samples were analysed in the field for pH, conductivity, and temperature.

Water level data from the groundwater monitors located on the Meridian Brick property are also included in this report. The borehole designations for these monitors are MW6 to MW12. The individual monitors at these borehole locations are designated by a letter that indicates the relative installation depth at that location. For example, MW6A is the deep monitor and MW6B is the shallow monitor at the borehole location MW6. The borehole and monitor designations were established by Golder Associates, on behalf of Meridian Brick; therefore, the designations are maintained in this report.

### 1.3.3 Surface Water Monitoring

Surface water sampling is completed four times per year. The collection of surface water samples was attempted at stations SW1A to SW3, SW5, SW10 to SW14, and SW16 on the same dates as the leachate sample collection, when there was sufficient stream flow. Samples were collected by submerging the laboratory prepared sample bottles beneath the water surface, pointing upstream. The collected samples were unfiltered. Water samples were analysed in the field for pH, conductivity, and temperature for each sampling event. The samples were then submitted to Bureau Veritas for analysis of inorganic and metal parameters, and phenolics.

Surface water flows were estimated from velocity measurements and stream cross-section profiles at each monitoring station, where possible, for each sampling event.

The following stations were reported as dry during the sampling events in 2021:

- March: SW5
- June: SW11, SW12, and SW16
- September: SW11
- December: SW5, and SW11 (not sampled due to ponded / stagnant conditions)

The remaining surface water stations had sufficient flow for sampling during the sampling events in 2021. Field parameters from the June 2021 surface water monitoring event are not available due to a transcription error.

### 1.3.4 Gas Monitoring

Combustible gas measurements were obtained at the monitors listed on **Table 1-1** on February 26 and September 27, 2021.

### 1.3.5 Interpretation and Reporting

Following collation of the landfill database, detailed analysis and interpretation of the data were completed. This component included the following items:

- Groundwater flow system mapping
- Preparation of hydrographs
- Preparation of time concentration graphs
- Statistical assessment
- Interpretation of long-term and short-term groundwater and surface water quality patterns and trends
- Compliance with the Sewer Use By-law
- Consideration of future monitoring

Results of the 2021 monitoring program, along with conclusions and recommendations, are presented in this report.

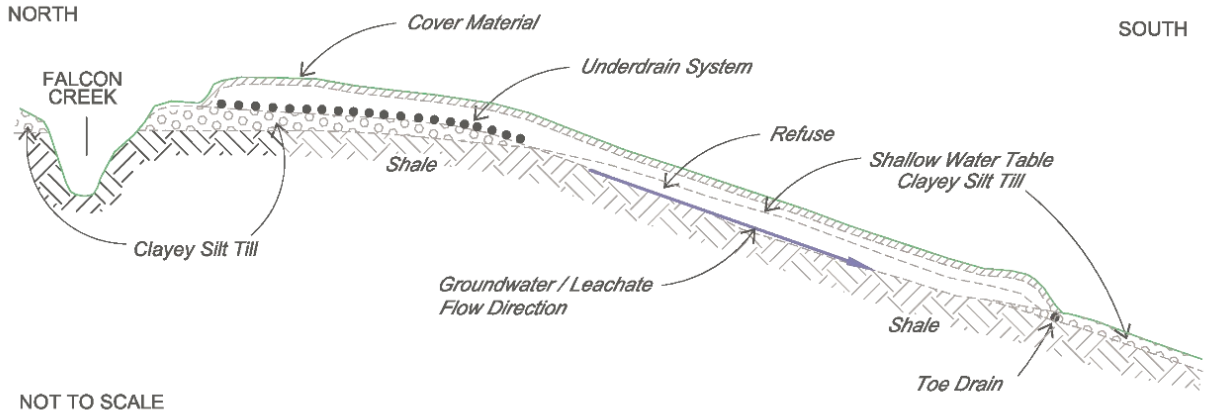
# 2 PHYSICAL SETTING

## 2.1 LOCAL GEOLOGY

Descriptions of geological and hydrogeological conditions at the Site were previously reported by Gartner Lee Limited and Henderson, Paddon Environmental Inc.

The landfill is situated below the Niagara Escarpment on sloping terrain, which is characterized by deep gullies and ravines. The Site is located between Falcon Creek on the north and west sides and Indian Creek on the east side. The northern part of the Site is underlain by dense clayey silt till which directly overlies shale bedrock of the Queenston Formation. The till is generally absent in the southern portion of the Site where refuse lies directly on the bedrock. Local geological conditions are shown in the schematic cross section, below.

**SCHEMATIC CROSS SECTION**




# 2.2 GROUNDWATER FLOW SYSTEMS

Based on topographic maps and previous reports, it is concluded that regional shallow groundwater flow is toward local gullies and ravines, and to Falcon and Indian Creeks. Local groundwater divides for shallow groundwater flow systems are considered to follow surface watershed boundaries. Deeper groundwater flow is southward, toward the Hamilton Harbour portion of Lake Ontario. There are predominantly downward hydraulic gradients within the upper portion of the shale bedrock and between the overburden and bedrock. Periodic upward hydraulic gradients occur within the northern portion of the Site at Monitor Locations 18, 22, and 23.

There are no known groundwater users in the local vicinity which could be affected by potentially landfill influenced groundwater.

The historical groundwater elevations for on-site monitors are presented in **Table A-2**, **Appendix A**. Water level hydrographs for individual monitors are shown in **Figures A-1 to A-18**, **Appendix A**. The water levels in 2021 were generally within the historical range, with the exception of Monitor 29-I where the water level was about 0.5 m above the historical range and Monitor 38-I where the water level was marginally below the historical range. Overall, most monitor locations showed a slight increase in water levels in 2021 compared to 2020. Long term trends are as follows:

- The leachate levels within Monitor 25-I (**Figure A-9**) decreased between 1987 and 1993 but remained relatively constant between 1993 and 2006. A noticeable increase was observed between 2006 and 2011, and levels have remained at the higher range since that time.
- Water levels have generally remained constant over the long term at Monitor Locations 14 (**Figure A-1**), 15 (**Figure A-2**), 26 (**Figure A-10**), 27 (**Figure A-11**), 30 and 31 (**Figure A-13**), 32 (**Figure A-14**), and 34 (**Figure A-16**), although there have been slight variations which are attributed to climatic conditions.
- Water levels within Monitors 16-II and 16-III (**Figure A-3**) exhibited a noticeable decrease in 2020 but in 2021 had recovered to levels similar to those observed in 2019. Although the 2020 levels within these two monitors were at the low end of the historical range, it is not yet known if the levels for 2020 were anomalous. Continued monitoring over the short term will confirm if a trend change has occurred within these monitors.

- Water levels have generally remained constant over the long term at Monitor Location 35 (**Figure A-17**). There is a gap in the water level data for Monitor 35-I, between 2004 and 2010, due to the monitor being damaged in an automobile collision.
- Water levels within Monitors 33-I (**Figure A-15**) and 38-I (**Figure A-16**) have exhibited a slight decreasing trend since 2009, with relative, short term, lows occurring in 2011/2012 and 2016 at Monitor 33-I. The 2021 water level at Monitor 33-I rebounded to the level observed in 2009.
- Water levels at Monitor Locations 18 (**Figure A-4**), 22 (**Figure A-6**), and 23 (**Figure A-7**) have generally fluctuated within a defined range over the long term with no distinguishable trend. The fluctuations are typically associated with climatic conditions at the time of monitoring. These monitors are located in the northern portion of the Site.
- Water levels at Monitor 37-I (**Figure A-18**) increased between 2002 and 2012 and have continued a slight increasing trend since that time.
- Water levels within Monitor 29-I (**Figure A-13**) have generally fluctuated within a 4-metre range over the long term with no distinguishable trend. Water level elevations at this location reached a historical high in 2014 but until 2021 had returned to be within the historical range established prior to 2014. As noted previously, the 2021 water level elevation was about 0.5 m above the 2014 elevation.
- The water levels at Monitor Location 21 (**Figure A-5**), located adjacent to the northern limit of the refuse, have been generally constant over the long term, although levels within Monitor 21-II exhibited a decreasing trend between 2008 and 2016. Water levels within Monitor 21-IIR exhibited an increasing tend through 2018 and 2019, reaching a historical high in 2019, and decreasing slightly in 2020 and 2021.
- Water levels have generally remained constant over the long term at Monitor Location 24 (**Figure A-8**). There was a significant decrease at Monitor 24-II in 2020, but the water level has recovered to be within the historical range. The 2020 water level is considered anomalous but continued monitoring over the short term will confirm if a trend change has occurred within this monitor.
- Water levels within Monitor 28-I (**Figure A-12**), located along the eastern property boundary, between the refuse and the Meridian Brick property, decreased between 1997 and 2002, and fluctuated slightly at the lower level until 2010. A second noticeable decrease occurred between 2010 and 2012, with levels remaining at the lower levels since that time. It is inferred that the observed decreases are due to excavation activities on the Meridian Brick property.

The historical groundwater elevations for the Meridian Brick monitors are presented in **Table A-3**, **Appendix A**, and the water level hydrographs are shown in **Figures A-19 to A-22**, **Appendix A**. The water levels in 2021 were similar to recent historical levels. Over the long term, water levels within the Meridian Brick monitors have been generally constant, with climatic and seasonal fluctuations, with the exception of the following.

- Historical water levels within Monitor 5 (**Figure A-19**) have generally fluctuated within a 3 m range over the long term. This monitor is located within the northwestern portion of the Phase III quarry area.
- Water levels within Monitor 7A (**Figure A-20**) noticeably decreased in 2009 compared to the historical range, but have since returned to be within the historical range established prior to 2009. The water levels in Monitor 7B generally increased between 2013 and early 2016 but have exhibited a larger fluctuating range since that time. Water levels within Monitor 7B have generally fluctuated on a

seasonal basis, with levels being generally higher during the spring/summer monitoring events and lower during the fall/winter monitoring events. These monitors are located within the northwest corner of the Phase III quarry area.

- Water levels within Monitor 10B (**Figure A-21**) decreased approximately 3 m between 2003 and 2004 but have remained generally constant since that time. Water levels within Monitor 10A decreased approximately 9 m between 2002 and 2004, were relatively constant until 2009, increased until early 2016, and decreased through 2016. The water levels within Monitor 10A have since remained stable at the lower levels measured since 2016. These monitors are located along the west side of the Phase 1 excavation area of the Meridian Brick property.
- Water levels within Monitor 12B (**Figure A-22**) have been generally constant over the long term but increased significantly in April 2009 and have remained at the higher levels since that time. Water levels in Monitor 12A remained relatively constant between 2000 and 2004, then gradually decreased through 2009 and have remained relatively stable since that time. The lower groundwater elevations at these monitors, compared to the other Monitor locations, is inferred to be the result of quarry excavation activities, as they are located to the west of the brick plant and the brick storage yard.

An interpretation of shallow groundwater flow directions is presented in **Figure 2-1**. The water elevations within the figure are based on the September and November 2021 water level data for the landfill monitors and the Meridian Brick monitors, respectively. Groundwater elevations used in the interpretation were obtained from the shallowest monitor at each monitor location. The flow pattern indicates a southerly flow direction within, and south of, the refuse. There are also lateral flow components toward the ravines to the north, and west, along with an easterly flow component toward the Phase I Meridian Brick excavation. This flow pattern is consistent with historical interpretations.

Based on the current groundwater elevations within the shallow flow system, the horizontal gradient of the flow component from the refuse area toward the Meridian Brick property is approximately 0.25 m/m, assuming an interpreted decrease from 160 mASL to 155 mASL, over a distance of 20 m in the area of MW7 and MW8. The proposed future excavation base elevation on the Meridian Brick property is 127 mASL. Initial information provided for the West Quarry excavation plans, prior to the quarry approval by the Region, inferred that the extent of excavation along the eastern Site property boundary would be comparable to the extent of excavation carried out in the southern portion of the quarry, near the “notch”. The extent of excavation suggested, in previous monitoring reports, that larger groundwater influences may occur along the landfill boundary adjacent to the quarry within the northern portion of the refuse. Information provided to the Region by Meridian Brick in recent years, however, has suggested that the distance between the landfill property line and the “extent of excavation” will increase in a northerly direction. The increased distance to the excavated area within the north/central portion of the refuse should assist in maintaining the existing groundwater configuration within the northern portion of the Site and reduce the potential for an increased landfill influence on the quarry property. This interpretation will be confirmed with continued routine monitoring. A formal agreement is in place between the Region of Halton and Meridian Brick, whereby Meridian Brick is responsible for the implementation of remedial measures if the Meridian Brick site activities contribute to an adverse influence on the local groundwater or surface water regime from the Site.

Based on the groundwater level hydrographs, downward hydraulic gradients exist between nested monitors at most monitoring locations. Exceptions occur at Monitor Locations 18 (**Figure A-4**), 22 (**Figure A-6**), and 23 (**Figure A-7**), where large fluctuations in the long-term water levels are noted. It is interpreted that during periods in which the groundwater table intersects the base of the adjacent streams, the surface water channels function as discharge areas for the groundwater.

## 2.3 SURFACE WATER FLOW SYSTEM

The Site is located within the Falcon Creek and Indian Creek Watersheds. Both of these watersheds drain to the Hamilton Harbour portion of Lake Ontario. A tributary of Falcon Creek is present along portions of the northern, western, and southern Site boundaries. As shown in **Figure 1-2**, surface water monitoring stations are established along the watercourses which drain the Site.

Within the Falcon Creek Watershed, stations SW1A (upstream of the landfill), SW2, SW15, SW3, and SW14 are located along Falcon Creek, and stations SW11, SW12, and SW13 are located along tributaries of Falcon Creek, to the south of the Site. Within the Indian Creek Watershed, station SW16 is located in a ditch along the east side of the Site, which drains to a storm sewer located on the Meridian Brick property boundary. This storm sewer then discharges to a surface water drainage channel near SW10. This drainage channel discharges to a series of stormwater management ponds just north of the North Service Road, which also accept runoff / discharge from the Meridian Brick shale quarry. Station SW5 is located along a ditch just north of the North Service Road, prior to discharge into the series of stormwater management ponds. This configuration is shown in **Figure 1-2**. The stormwater management ponds discharge to a tributary of Indian Creek.

Surface water was monitored for flow rate and quality in March, June, September, and December in conjunction with the leachate sampling events. As indicated in **Section 1.3.3**, several stations were reported as dry during the sampling events. The number of dry surface water stations during the sampling events in 2021 is comparable to the number of dry stations in recent years. Stream flow rate estimates are presented in **Table D-1**, **Appendix D**.

Along Falcon Creek, flow rates during the sampling events in 2021 were consistent along the flow route between stations SW1A and the downstream station SW3. There were relatively low flows within the two tributaries of Falcon Creek downstream of the landfill, which is consistent with historical patterns.

Within the Indian Creek Watershed, flow rates during the sampling events in 2021 were generally low, or too low to be measured, at SW5, SW10, and SW16.

## 2.4 WATER BUDGET

### 2.4.1 Precipitation

Water budgets since 1987 have been calculated by applying the Thornthwaite Analytical Method (1957) to climatic data obtained for various climatological stations. As stations have ceased operation over time, data from alternate stations have been incorporated into the water budget calculation. The data for the water budgets have been obtained from the following stations:

- 1987-2004: Millgrove Climatological Station
- 2005-2018: Hamilton Royal Botanical Gardens
- 2019-2021: Hamilton Airport

The 30-year normals for the original Hamilton Royal Botanical Gardens (RBG) station, the Millgrove station, and Hamilton Airport are presented in **Tables E-1, E-2, and E-3**, respectively. As shown in these tables, the temperature and precipitation values are comparable between the three stations, with the Millgrove and Airport stations having an average temperature of one degree lower. Total precipitation ranges from a low of 893 mm/year at the RBG station to a high of 973 mm/year at the Millgrove station. It is noted that the RBG station is situated below the escarpment along the shore of Cootes Paradise,

whereas the Millgrove and Hamilton Airport stations are situated above the escarpment further from the Site. A summary of the historical water budgets is shown in **Table E-4**, and the detailed water budget for 2021 is presented in **Table E-5**, **Appendix E**.

As shown in **Table 2-1**, the total precipitation in 2021 was 18% higher than in 2020 and marginally above the 30-year normal for the Hamilton Airport Station.

### 2.4.2 Leachate Quantities

The annual volumes of leachate removed from the Site between 1987 and 2021 are presented in **Table 2-1**. It is noted that annual quantities prior to 1989 are based on less than 12 months of monitoring. The leachate volume removed in 2021 was 40% higher compared to the volume removed in 2020. For a refuse area of 34.5 ha, the leachate removed in 2021 would be equivalent to about 19% of the annual precipitation. From **Table 2-1**, the percentage of leachate collected, compared to total precipitation, has historically ranged between 10% and 32%; therefore, the 2021 equivalent of 19% is within the historical range.

Based on a three-year moving average since 1991, the portion of precipitation collected typically ranges between 12% and 29% for the Site. The historical leachate volumes collected, which are presented graphically in **Figure 2-2**, indicate an increase in the percentage of leachate collected between 1997 and 2000, a decrease between 2000 and 2003, an increase between 2003 and 2008, and a gradual decrease since that time. The fluctuations are attributed to climatic conditions although the gradual decreasing trend since 2018 may be attributed to the landfill cover enhancement activities that have occurred at the Site during the past few years. The effectiveness of the landfill cover enhancements can only be confirmed with a continued review of annual leachate volumes and climate data in the future. The averaging of the annual percentages accounts for snow that is received over the winter months. The annual water budgets may record a large precipitation amount during the latter part of a given year, but the effect of the infiltration from this precipitation would not appear until the early part of the following year. Averaging of the annual percentage negates the time lag between when the precipitation is received, when it infiltrates into the soils and refuse, and when it is collected.

# 3 WATER QUALITY

## 3.1 QUALITY ASSURANCE/QUALITY CONTROL

Water sampling events carried out for the 2021 monitoring program followed field sampling protocols established for the Site. Included in the protocols is a QA/QC program which uses blind duplicate samples. A list of field-prepared blind duplicate samples prepared during the 2021 monitoring program is summarized in the following table.

| Sampling Task | Sampling Event | Original Sample ID | Duplicate Sample ID |
|---|---|---|---|
| **Groundwater** | September | 16-I | GW300 |
| | September | 21-IR | GW200 |
| | September | 32-I | GW100 |

| | | | |
|---|---|---|---|
| | September | 35-IIIR | GW400 |
| **Surface Water** | April | SW1A | SW100 |
| | June | SW10 | SW DUP |
| | September | SW10 | SW DUP |
| | December | SW1A | SW100 |

Results of statistical comparisons between the original and field duplicate samples are provided in **Table C-4**, **Appendix C**. Relative Percent Differences (RPD) were calculated to compare the parameter results from both samples, with a value of less than or equal to 20% considered as an acceptable level for concentrations which are at least five times greater than the Reportable Detection Limit (RDL). In cases where the result is less than or equal to five time the RDL, the difference was also compared to the RDL. A difference greater than two times the RDL was considered unacceptable for results near RDL.

The comparisons of groundwater duplicate samples were generally within the acceptable range of statistical comparison with the exception of nitrite and Total Kjeldahl Nitrogen (TKN) at Monitor 21-IR and ethylbenzene, toluene, m&p-xylene, and o-xylene at Monitor 35-IIIR. The concentrations of nitrite and TKN within the original sample and duplicate sample at Monitor 21-IR were both within the historical range, but the concentration within the original sample was more comparable to typical results at this location and was considered suitable for interpretation. VOC concentrations from the original sample at Monitor 35-IIIR were more similar to the historical range than the duplicate sample and were therefore considered suitable for interpretation.

Surface water duplicate comparisons were also generally within the acceptable range. The exceptions were the concentrations of phosphorus in March at SW1A, nitrate and nitrite in June at SW10, and iron, phosphorus, and TSS in September at SW10. These variances within the surface water samples are attributed to variable sediment content within the collected samples. Overall, based on the results of the statistical comparisons, the analytical values were acceptable for interpretation as part of this assessment.

## 3.2 LEACHATE QUALITY

Leachate is produced at the Site primarily from the percolation of precipitation through the refuse. The chemistry of the leachate depends on factors such as refuse composition and age, residence time, and flow pathways.

As noted in **Section 1.1**, toe drain and underdrain leachate collection systems discharge to the Regional sanitary sewer system. To determine typical chemical characteristics of the leachate, samples were obtained from Maintenance Hole 23 in March, June, September, and December. This location has historically been used for this purpose.

The laboratory collection system chemistry data for 2021, along with the historical results, are presented in **Table B-1**, **Appendix B**. Time concentration graphs for selected parameters are shown in **Figures B-1 and B-2**, **Appendix B**. The chemistry data from the refuse monitors are presented in **Table C-2, Appendix C**.

Leachate samples are also obtained from Monitors 25-I, 37-I, and 39-I. The parameter concentrations for Monitor 25-I are also included in **Figures B-1 and B-2** for comparison. As shown on the figures, the concentrations for chloride, alkalinity, nitrogen, potassium, sodium, and hardness at Monitor 25-I exhibit noticeable increases since 2012. The cause of the parameter concentration increase at this location may be attributed to cover enhancements, which would reduce the potential dilution from infiltrating precipitation. Alternatively, the concentration increase may be associated with a potential localized blockage within the underdrain system, although inspections by the Region have not identified issues with the underdrain system. Leachate characteristics at this location will continue to be monitored in the future.

### 3.2.1 Field Measurements

A summary of the 2021 field measurements from Maintenance Hole 23 is presented in the following table. Supporting laboratory reports of analysis are on file with WSP for reference purposes.

| Date | pH (units) | Temperature (°C) | Conductivity (µs/cm) |
|---|---|---|---|
| March | 6.7 | 10.1 | 2,037 |
| June | - | - | - |
| September | 7.0 | 18.4 | 1,457 |
| December | 7.1 | 9.8 | 2,473 |

The field pH and conductivity measurements were generally comparable to the laboratory results. Any differences can be attributed to the differences in the testing environment. The June 2021 field parameters are not available due to a transcription error.

### 3.2.2 General Chemistry Concentration Trends

The historical inorganic parameter concentration ranges for the leachate from Maintenance Hole 23 (MH23) and Refuse Monitors 25-I and 37-I, along with the reference groundwater at Monitor Location 23, and background groundwater at Monitor Location OW5, north of the Closed Bayview Park Landfill Site; are summarized in **Table 3-1**. Reported concentrations of dissolved substances in the leachate from MH23 in 2021 were within the range of historical values for the Site. Several parameter concentrations at Monitor 25-I in 2021 were marginally above the historical ranges, including specific conductance, alkalinity, TKN, ammonia, potassium, and sodium. It is noted that the concentrations of several parameters at Monitor 25-I, including specific conductance, alkalinity, and sodium, had historically been lower than the concentrations at MH23, but the concentrations have increased during the sampling events between 2012 and 2021 and have generally been higher than the concentrations at MH23 over that time. As shown by the minimum and maximum ranges in 2021, the characteristics of the leachate were similar between refuse monitors 25-I and 37-I.

As shown in **Figures B-1 and B-2**, **Appendix B**, chloride, sodium, sulphate, hardness, potassium, nitrogen, and alkalinity concentrations in the leachate from MH23 have generally been lower in samples collected during the spring and higher in samples collected at other times of the year. This pattern is likely a function of dilution from increased infiltration during the spring.

Concentrations of iron and phosphorus within MH23 have been noticeably higher for the sampling events between 2017 and 2021, compared to prior historical results, which are attributed to significantly elevated suspended solids content within the samples. The change in leachate chemistry may be associated with the recent cover enhancement activities at the Site although continued monitoring is required to confirm if a change has occurred over the long term.

Chloride, sodium, potassium, alkalinity, and nitrogen concentrations within MH23 have fluctuated, but generally decreased between 1998 and 2004, increased between 2004 and 2007, and have fluctuated since that time with a slight increasing trend. It is noted that sulphate concentrations increased at MH23 between November 2001 and November 2003 but decreased through to 2005 and have remained at the low levels since that time. Hardness concentrations within the leachate at MH23 have exhibited a decreasing trend over the long term. Concentrations of specific conductance, chloride, sulphate, hardness, and sodium within the leachate have generally been lower compared to concentrations at the upgradient monitors.

The average concentrations for the parameters listed in **Table 3-1** have fluctuated over time. The trendline analyses, as presented in **Figures B-1 and B-2**, have historically indicated a general decreasing trend for chloride, alkalinity, and hardness over the long term. Potassium, iron, and nitrogen concentrations have exhibited a slight long-term increasing trend although the trendline for iron is influenced by the significant concentration increase since 2017.

At Monitor 25-I, the concentrations for chloride, potassium, alkalinity, and sodium spiked in 2001, decreased through 2002 and 2003, were constant through to 2006 and have increased since that time. Hardness has also increased since 2006. The concentrations of chloride, alkalinity, sodium, potassium, hardness and, to a lesser extent, nitrogen, have increased in samples obtained at Monitor 25-I since 2013. The concentrations of chloride, hardness, and alkalinity decreased slightly in 2016 and 2017; but have subsequently increased since 2018. The sodium concentration in 2021 was the historical high for this location. The remaining parameter concentrations have generally fluctuated over the long term with no distinguishable trend.

### 3.2.3 Organic Chemistry

The laboratory organic chemistry results are summarized in **Table B-2**, **Appendix B**. Most organic parameter concentrations were below their RDL. Organic parameters that were present at concentrations greater than their detection limits for the 2021 sampling events are identified in **Table 3-2**. As shown in the table, the results in 2021 for MH23, Monitor 25-I, and Monitor 37-I were typically within the historical ranges for their respective locations. The exceptions were chlorobenzene and o-xylene at Monitor 37-I which exceeded the historical range on at least one occasion in 2021.

The collected and monitored leachate quality at the Site is considered typical of other similar municipal solid waste landfill sites in Ontario.

### 3.2.4 Sewer Use Compliance

Based on the leachate chemistry results for MH23 in **Table B-1**, the leachate quality during the sampling events in 2021 generally satisfied criteria contained in Sewer Use By-law No. 2-03. The exceptions were TKN in June and September, phosphorus, BOD and zinc in June, suspended solids in September and iron during each event. Historically, TKN concentrations have periodically exceeded the criteria in the Sewer Use By-law for the Site, whereas biochemical oxygen demand had not exceeded the criteria between 2002 and 2018. The exceedances for phosphorus and iron are not typical for the Site and may

be attributed to elevated suspended solids at the time of sampling, although continued monitoring is required to assess the long-term trends for these parameters.

# 3.3 GROUNDWATER QUALITY

## 3.3.1 Field Measurements

Based on the 2021 field measurements summarized in **Table C-1**, **Appendix C**, groundwater sample temperatures at the time of collection ranged between 11.0 °C and 24.1 °C, and averaged 13.8 °C. The field pH and conductivity measurements in 2021 were generally similar to the laboratory values. Differences between field and laboratory values are attributed primarily to differences in the testing environment.

## 3.3.2 General Chemistry Results

Based on the configuration of the groundwater flow system, the existing monitors are located downgradient from the landfill refuse with the exception of Monitor Locations 21 and 23. Since there were no definitive background groundwater monitors in the area of the Site, a detailed analysis and interpretation was carried out in 1995 to determine the preferred “indicator” parameters that could be used to assess for potential leachate movement or influences. Some of the typical leachate diagnostic parameters which can be used at other landfill sites, such as chloride, were not considered to be as effective for assessments at the Site because of their natural occurrence at elevated concentrations within the shale bedrock. Monitor Location 23 has been used as a reference location in the past as there were no alternate locations; however, its close proximity to the refuse footprint does not provide for an accurate assessment.

A groundwater monitoring nest, designated OW5, was installed north of the closed Bayview Park Landfill Site in 2003, along King Road, approximately 350 m east of the Site, to determine the natural water quality within the overburden and the Queenston Shale bedrock. The historical chemistry results (2003 to 2020) from the four various screen depths at this location are presented in **Table 3-1**.

As shown in **Table 3-1**, major concentrations generally increase with depth in the groundwater at Monitor Locations 23 and OW5. The concentrations of most parameters in the leachate have exceeded the concentrations in groundwater within the shallow monitors at Monitor Location 23; however, some parameter concentrations in leachate have been within the respective concentration ranges for groundwater in the monitors at the background Monitor Location OW5, including the shallow monitors. Exceptions to this pattern at OW5 include alkalinity, TKN, ammonia, and iron where the concentrations within the leachate have been elevated compared to the background groundwater concentrations.

Based on the contrasts between the leachate quality and background groundwater quality at the Site, alkalinity, iron, and nitrogen compounds (particularly TKN) have been used as indicator parameters for interpretation purposes. These parameters are considered useful "tracers" to assess leachate influences because of their relatively elevated concentrations within the leachate and their mobility within groundwater and surface water. Total nitrogen concentrations were calculated from the water quality database by adding together TKN, nitrate, and nitrite. Chloride is also used as an indicator parameter owing to the mobility of chloride in groundwater, but results are interpreted with caution due to the naturally elevated chloride concentrations in the shale bedrock groundwater.

The laboratory general chemistry data for 2021 are presented in **Table C-2**, **Appendix C**, along with the historical data. The concentrations of general chemical parameters for the 2021 sampling event were

similar to historical results with some exceptions as discussed below. Time concentration graphs for chloride, alkalinity, total nitrogen, and iron at individual groundwater monitors are provided in **Figures C-1 to C-17**, **Appendix C**. As noted previously, chloride is included for reference purposes but results are interpreted with caution. In general, the parameter concentrations have remained stable over the long term with the following exceptions:

- At Monitor Location 14 (**Figure C-1**), the alkalinity values at Monitor 14-II have exhibited a steady increasing trend over the long term; however, concentrations have been generally consistent since 2013. It is noted that a slight decrease in alkalinity concentrations was observed at Monitor 14-II in 2021. The chloride concentrations have been higher at Monitor 14-I compared to Monitor 14-II, and the alkalinity values at Monitor 14-II have been greater than at Monitor 14-I. Chloride concentrations at Monitor 14-II have been slightly decreasing since 2000 and the 2021 chloride concentration at was marginally below the historical range.
- Alkalinity and total nitrogen concentrations at Monitor 15-II (**Figure C-2**), and chloride concentrations at Monitors 15-I and 15-II, have fluctuated over time. Historical total nitrogen concentrations at Monitor 15-II have generally remained stable but elevated concentrations have been observed periodically in 2000, 2006, 2009 and 2019. In each case, the total nitrogen concentrations returned to the historical range within 1 or 2 years, as was the case in 2021. The 2021 concentrations of chloride, hardness, and conductivity at Monitor 15-II were marginally below the historical range.
- Chloride concentrations at Monitors 16-I and 16-II (**Figure C-3**) decreased between 1992 and 2004 but increased through to 2007 and have remained relatively stable since that time. Chloride and nitrogen concentrations at Monitors 16-I, 16-II, and 16-III have been significantly elevated compared to the concentrations exhibited at Monitor 16-IV and other locations. Conversely, alkalinity values have been significantly higher at Monitor 16-IV compared to the other nested wells. Concentrations of iron at Monitor 16-I have fluctuated over the long term but have generally been elevated compared to the other monitors at Monitor Location 16. TKN concentrations at Monitor 16-IV were historically low but generally increased between 2003 and 2008 and exhibited noticeable fluctuations until returning in 2015 to the historical range established prior to 2003..
- Historical nitrogen (i.e., TKN concentrations at Monitors 18-II and 18-III (**Figure C-4**) have been low, but generally increased at Monitors 18-II and 18-III between 1996 and 2011 before exhibiting a decreasing trend since that time. The remaining indicator parameter concentrations have fluctuated over time. It is noted that the replacement wells 18-IIR and 18-IIIR were incorporated into the sampling program in 2017, and concentrations since that time have remained generally similar to historical ranges from the original wells.
- At Monitor 21-II (**Figure C-5**), alkalinity and nitrogen concentrations have fluctuated within a defined range over the long term. Iron concentrations exhibited a significant increase between 2004 and 2006 but subsequently returned to lower levels in 2007 and have remained low since 2008. It is noted that replacement wells 21-IR and 21-IIR were incorporated into the sampling program in 2017, and concentrations since that time have remained generally similar to historical ranges from the original wells, with the exception of an increase in alkalinity at Monitor 21-IR.
- Historical nitrogen concentrations at Monitors 22-I and 22-I (**Figure C-6**) have typically been low, although periodic spikes in concentrations have been exhibited. It is noted that replacement wells 22-IR, 22-IIR, and 22-IIIR were incorporated into the sampling program in 2017, and chloride, iron, and concentrations have remained similar to historical ranges from the original wells. However, alkalinity concentrations at 22-IR and 22-IIR have generally been elevated compared to the historical range.

- Alkalinity concentrations at Monitor 23-II (**Figure C-7**) were generally similar between 1989 and 1998, but increased slightly between 1998 and 2006, followed by a slight decrease to 2012. Since 2012 the concentrations have remained stable. Alkalinity concentrations at Monitor 23-III have exhibited a slight decreasing trend over the long term. The 2021 phenols concentration at Monitor 23-I was above the historical range.
- Chloride and nitrogen concentrations at Monitors 24-I and 24-II (**Figure C-8**) have been significantly elevated compared to the concentrations at Monitor 24-III and other locations. The concentrations of iron at Monitors 24-I and 24-II have fluctuated over the long term, although the iron concentrations at Monitor 24-I have exhibited an increasing trend since 2016, with the concentration in 2020 reaching a historical high but subsequently returned to lower levels in 2021. The alkalinity concentrations for Monitors 24-I and 24-II have been significantly lower than the concentrations at Monitor 24-III but have remained relatively stable over the long term. The 2021 concentrations of sulphate, alkalinity, hardness, potassium, sodium, and conductivity at Monitor 24-III were marginally below their historical ranges.
- Chloride and alkalinity concentrations at Monitors 26-I and 26-II (**Figure C-10**) have remained fairly consistent over time. Iron concentrations have remained low and relatively stable since 2007 at Monitor Location 26. The alkalinity concentration at Monitor 26-III appears to be slowly decreasing over time. The 2021 concentrations of sulphate, hardness, sodium, and conductivity at Monitor 26-III were marginally below the historical range, while the ammonia and phenols concentrations were above the historical range.
- At Monitor 27-III (**Figure C-11**), chloride concentrations have slowly decreased over the long term, while alkalinity concentrations have slowly increased since 1994. At Monitor 27-II, there was a notable increase in the concentration of alkalinity and nitrogen in 2000 and 2001, but the concentrations of these parameters decreased through 2002 and 2003 to values similar to pre-2000 levels and have remained relatively stable since that time. Iron concentrations at Monitors 27-I and 27-II have fluctuated over time.
- Chloride concentrations at Monitor 28-I (**Figure C-12**) have fluctuated but have shown a decreasing trend over the long term. Alkalinity concentrations at Monitor 28-I decreased between 2008 and 2016, but have since returned to be within the historical range established prior to 2008. TKN concentrations at Monitor 28-I reached a historical high in 2014 but returned to pre-2014 levels in 2015 and have remained at the low levels since that time. The 2021 concentrations of potassium and sodium at Monitor 28-I were below the historical range.
- Alkalinity concentrations at Monitor 30-I (**Figure C-12**) have fluctuated but exhibit a slight increasing trend over the long term. Iron concentrations have fluctuated over the long term with peaks observed in 1995, 1999, 2006, 2012/2013, and 2017. Alkalinity and nitrogen concentrations at Monitor 31-I have fluctuated but have remained within a defined range over the long term. The 2021 TKN concentration at Monitor 31-I was marginally below the historical range.
- The chloride concentrations at Monitor Location 32 (**Figure C-13**) have fluctuated but generally exhibit a decreasing trend over the long term whereas alkalinity concentrations have increased slightly over the long term. It is noted that chloride concentrations at Monitor 32-II have increased slightly since 2017. At Monitor 32-III, alkalinity concentrations peaked in 2001 followed by a decreasing trend since that time, while Nitrogen concentrations peaked in 2009 but have since decreased. Iron concentrations at Monitor 32-III have fluctuated over the long term, with peaks observed in 1996, 1999, 2005, 2012, and 2017.

- Concentrations of chloride and alkalinity at Monitor 33-I (**Figure C-14**) have generally increased since 2005. Chloride and alkalinity concentrations at Monitor 34-I fluctuated historically between 1996 and 2004 but have generally decreased since 2005. The 2021 BOD concentration at Monitor 33-I was marginally above the historical range.
- The concentrations for most parameters at Monitor Location 35 (**Figure C-15**) generally fluctuated for the first few years of sampling following installation in 1998, but then generally stabilized after 2005. Chloride concentrations at Monitor 35-IV have increased over the long term, whereas iron concentrations at Monitors 35-II and 35-IV peaked in 2005 followed by a decrease to low levels in 2007. The monitors at Monitor Location 35 were decommissioned in 2013 and replaced by Monitor Location 35R with screened intervals at similar elevations.
- The results for Monitor Location 35R (**Figure C-16**) indicate that the water characteristics within the replacement groundwater monitors are generally similar to the groundwater chemistry at the original Monitor Location 35. However, concentrations of chloride and nitrogen at Monitor 35-IR have been significantly higher compared to the concentrations at Monitor 35-I. Concentrations of chloride and nitrogen at Monitor 35-IR have fluctuated over a larger range and are higher than concentrations at the other monitors at Monitor Location 35R. Alkalinity concentrations have been higher at Monitor 35-IVR compared to the other monitors at Monitor Location 35R.
- There is a limited database of historical results for Monitor 38-I (**Figure C-17**). However, concentrations decreased between 2008 and 2019. It is noted that a sample has not been obtained from Monitor 38-I since 2019 due to a blockage in the well. The cause of the blockage should be determined, and if it is not repairable, then Monitor 38-I should be decommissioned and replaced.

In general, these results indicate that the chloride and alkalinity concentrations appear to have an inverse correlation with one another. Where chloride concentrations are elevated, or are increasing, the alkalinity values are low or decreasing. Groundwater quality at about half of the groundwater monitoring locations becomes noticeably poorer with depth. This can be attributed to the natural water quality of the Queenston Shale bedrock in the Site area. In general, chloride concentrations at some shallow downgradient groundwater monitors have gradually decreased over the long term, including Monitors 14-I, 27-III, 28-I, 32-I, 32-II, 32-III, and 34-I.

### 3.3.3 Organic Chemistry Results

The organic chemistry results for the 2021 sampling event are presented in **Table C-3**, **Appendix C**, along with the historical data. Parameters reported at concentrations above their RDLs are summarized in **Table 3-3**. As shown in **Table 3-3**, organic parameters were detected above the RDL at Monitor Locations 14, 16, 18R, 23, 24, 26, 30, 32, 33, 34, and 35R. The majority of these monitors are located within the southern portion of the Site (downgradient of the refuse footprint). The organic parameters detected at the downgradient monitors had generally low concentrations at, or near, their respective RDL and, for the organic parameters detected in 2021, the concentrations were generally below their respective ODWQS. The exceptions were benzene at Monitor 33-I and vinyl chloride at Monitors 14-II and 30-I. The 2021 VOC detections and ODWQS exceedances are consistent with historical results. Monitors 14-II and 30-I are located in close proximity to the refuse footprint. It is noted that the ODWQS for vinyl chloride is a health-related guideline.

The VOCs detected at the downgradient monitors reported in **Table 3-3** have historically also been detected in the leachate monitors, as shown in **Table 3-2**. VOCs detected in the groundwater but not in the leachate during 2021 included 1,1,1-trichloroethane, 1,1-dichloroethane, 1,2-dichloropropane, benzene, cis-1,2-dichloroethylene, dichloromethane, toluene, trichloroethylene, and vinyl chloride. It is

noted that the RDL for leachate samples is typically greater than the RDL for groundwater samples due to high colour and suspended solids content; therefore, the higher detection limits for some organic parameters in the leachate could obscure their presence at relatively low concentrations. Some VOCs detected downgradient of the refuse footprint (such as vinyl chloride) are also potential degradation products of organic compounds that may be present in the leachate. It is also noted that the VOCs detected in the groundwater in 2021 were generally consistent with historic results with the exception of toluene at monitors 18-IR and 35-IIR, xylenes at monitors 18-III, 35-IIR and 35-IVR, and dichloromethane at monitor 23-II.

### 3.3.4 Water Quality Compliance

The 2021 groundwater quality results were generally below their respective ODWQS, with the exception of the results summarized in **Table 3-4**. Chloride, sulphate, alkalinity, hardness, TKN, and sodium exceeded the ODWQS in the background groundwater in 2021. Downgradient exceedances of these parameters may be partially attributed to natural background conditions; however, the number of exceedances and concentration levels for chloride, sulphate, alkalinity, and hardness at Monitor Locations 14, 16, 18-II, 21, 23, 24, 26, 33-I, and 35R generally exceeded the background ranges. These monitoring locations are downgradient, and along the perimeter of, the refuse area. The exceedances for some parameters tend to be greater within the deeper monitors at several locations, which is not unexpected given the generally poor groundwater quality within the underlying Queenston shale bedrock.

The 2021 groundwater quality results at the background monitors did not exceed the ODWQS for nitrite, iron, and pH. A nitrite exceedance was observed at Monitor 16-II, iron exceedances were observed at Monitors 15-I, 24-I, and 27-I, and the pH was below the ODWQS range at Monitor 24-I. The 2021 exceedances were generally similar to historical results.

The majority of the 2021 ODWQS exceedances were for parameters that affect the aesthetic quality of water or operational guidelines for water treatment and are not health-related. The exception is nitrite which is a health-related parameter. Nitrite is produced as an intermediate step in the nitrification of ammonia to nitrate and is typically not detected above the laboratory RDL in most stable groundwater settings. The 2021 nitrite results at Monitor 16-II were within the historical range, and nitrite results have been consistently above the RDL since 2006. The results suggest that active on-going nitrification is occurring at Monitor 16-II. Nitrite has also been frequently detected above the RDL at Monitor 16-III since 2013.

Based on MECP Guideline B-7, a comparison was made between background groundwater quality and the monitors located around and downgradient of the refuse. The guideline outlines the concept of Reasonable Use Criteria to establish groundwater compliance at the Site boundary, buffer zones, or Contaminant Attenuation Zones for potential contaminants originating from landfills.

The average of the historical (2003 to 2020) inorganic parameter results at Monitor Location OW5 was used for the calculation of the inorganic parameter criteria for reasonable use. The natural background concentration for VOCs was assumed as 0.0 µg/L to calculate the organic parameter criteria. The Guideline B-7 assessment is summarized in **Table 3-5**. It is noted that compliance with Guideline B-7 only applies at property boundary monitors, but all of the sampled monitors are included in the table for comparison and assessment purposes.

The concentrations for the inorganic parameters exceeded the criteria for reasonable use at most groundwater monitors at the Site. Exceedances of the reasonable use criteria also occurred at the background location OW5 during 2021. The 2021 Guideline B-7 inorganic parameter exceedances are consistent with historical results.

It is noted that the magnitude of the exceedances for sulphate were generally greater at the upgradient background Monitor Location OW5 compared to the groundwater monitors downgradient of the refuse area.

The VOC concentrations were typically below the Guideline B-7 criteria, with the exception of the following parameters:

- 1,4-Dichlorobenzene at 14-II and 33-I;
- Benzene at 14-II, 18-IR, 18-IIIR, 33-I, and 30-I;
- Dichloromethane at 23-II; and
- Vinyl chloride at 14-II and 30-I

These exceedances are generally consistent with historical results. The exception is the Dichloromethane exceedance at Monitor 23-II, where this compound has not previously been detected. The 2021 detection may be anomalous; continued assessment of the trends are recommended.

### 3.3.5 Meridian Brick Property

The 2021 groundwater chemistry results for the samples collected from the Meridian Brick (formerly Hanson Brick and Forterra Brick) property are presented in **Table C-6**, **Appendix C**, and the time concentration graphs for chloride, alkalinity, TKN, and iron at individual groundwater monitors are provided in **Figures C-18 to C-22**, **Appendix C**.

In general, the indicator parameter concentrations at the Meridian Brick monitors have been stable or have fluctuated over the long term with no distinguishable trends. The following exceptions are noted:

- Iron concentrations at Monitor 6B and chloride concentrations at Monitor 6A (**Figure C-18**) were generally low through 2000 but have fluctuated with an overall increase since that time.
- Iron concentrations at Monitor 7A (**Figure C-19**) were historically comparable to the iron concentrations within Monitor 7B before 2010. Iron concentrations at Monitor 7B have subsequently increased since that time, with a historically high concentration observed in 2021. Iron concentrations at Monitor 7A have continued within the historical range.
- Chloride concentrations at Monitors 8A, 8B, and 9 (**Figure C-20**) have been relatively stable over the long term, whereas alkalinity concentrations have generally increased over the long term. Iron concentrations at Monitors 8A and 9 have fluctuated over the long term, with occasional spikes observed in 2005, 2010, 2014, and 2017. Iron concentrations at Monitor 8A have generally been lower compared to the concentrations at Monitor 8B.
- Historical chloride concentrations at Monitor 10A (**Figure C-21**) were significantly higher compared to concentrations at Monitor 10B and the other Meridian Brick monitors along the eastern Site property boundary, but the concentrations at Monitor 10A significantly decreased in 2009. Since 2009, the chloride concentration in Monitor 10A fluctuated with a slight decreasing trend to 2015, but the concentrations have steadily increased since that time. TKN concentrations have fluctuated at 10A with peaks observed in 2001, 2010, 2017, and 2021. Alkalinity concentrations at Monitor 10B have fluctuated over the long term. Iron concentrations peaked at Monitor 10B in 2005 and have fluctuated over a large range since that time.
- Chloride, iron, and TKN concentrations at Monitor 11 (**Figure C-22**) have fluctuated but exhibit a decreasing trend over the long term. Alkalinity concentrations at Monitor 11 were higher compared to the concentrations at the other Meridian Brick monitors but show a decreasing trend; whereas

alkalinity concentrations at Monitors 12A and 12B show an increasing trend. Iron concentrations at Monitors 11 and 12A have shown large fluctuations compared to other Meridian Brick monitors along the eastern Site property boundary.

The results from the Meridian Brick monitors will continue to be used to assess potential landfill influences on groundwater quality as the excavation activities continue on the Meridian Brick property. The parameter concentrations which exceeded the ODWQS are summarized in **Table 3-6**. In general, sodium, chloride, iron, alkalinity, hardness, vinyl chloride, benzene, and TKN were the parameters that most commonly exceeded the ODWQS in 2021. It is noted that for the majority of these inorganic parameters, the concentrations at background Monitor Location OW5 also exceeded the ODWQS.

VOCs were detected in each of the Meridian Brick monitors during the sampling event in 2021 with the exception of Monitor 5. VOC concentrations generally satisfied their respective ODWQS except for those presented in **Table 3-6**. Concentrations of vinyl chloride at Monitor 6B have increased during recent years. Continued monitoring is required to assess the long-term trend at this location. Meridian Brick Monitor 6B is located within the northwest corner of the quarry excavation area near Site Monitor Location 30, where vinyl chloride concentrations above the laboratory RDL are also observed at Monitor 30-I. Vinyl chloride concentrations at Monitor 30-I have been generally increasing since they were first detected above the RDL in 1997.

Based on MECP Guideline B-7, a comparison was made between background groundwater quality and the Meridian Brick monitors for VOCs. The natural background concentrations for VOCs was assumed as 0.0 µg/L. The Guideline B-7 assessment is summarized in **Table 3-7**.

The VOC concentrations were typically below the Guideline B-7 criteria, with the exception of the following parameters:

- 1,4-Dichlorobenzene at 8B, 10B, and 12A;
- Benzene at 6B, 8A, 8B, 9, 10B, 11, 12A, and 12B;
- Chlorobenzene at 8B, 10B, and 12A;
- Trichloroethylene at 7B; and
- Vinyl chloride at 6A, 6B, 7A, 7B, 8A, 8B, and 9.

These exceedances are generally consistent with historical results.

It is noted that the Meridian Brick monitors are located in close proximity to the refuse footprint so the presence of a landfill influence at these locations is not unexpected. However, no adverse landfill affects have been reported by Meridian Brick. The chemistry results will continue to be used to assess potential leachate influences on groundwater quality at the Meridian Brick property.

# 3.4 SURFACE WATER QUALITY

## 3.4.1 Field Measurements

The average surface water temperatures ranged between 3.8°C and 18.3°C for the December and September sampling events, respectively. Surface water temperatures are influenced by the ambient air temperature at the time of sampling. Field pH and conductivity measurements were generally similar to the laboratory results. Any differences between field and laboratory values are attributed primarily to differences in the testing environment.

### 3.4.2 Concentration Trends

The surface water field chemistry and laboratory analysis results are summarized in **Tables D-1 and D-2**, **Appendix D**. Based on the detailed parameter analysis carried out in 1995, as outlined in **Section 3.3.2**, alkalinity, iron, and nitrogen compounds (particularly TKN) are used as indicator parameters for the Site to assess for potential leachate influences. Chloride is also used as an indicator parameter but results are interpreted with caution due to the naturally elevated chloride concentrations in the shale bedrock groundwater.

The time concentration graphs for chloride, alkalinity, TKN, and iron at each surface water monitoring station are provided in **Figures D-1 to D-4**, **Appendix D**. The 2021 chemical results were generally consistent with the historical range. As shown in the figures, parameter concentrations for stations along Falcon Creek generally fluctuated through 2021.

Along the main channel of Falcon Creek (**Figure D-1**), the chloride concentrations at downstream station SW3 and intermediate station SW2 have historically been similar, while chloride concentrations at upstream station SW1-A are typically elevated relative to downstream conditions. Peak iron concentrations at SW1-A, SW2, and SW3 increased significantly in 2009 and have since shown variable concentrations. The historical concentrations for iron and TKN have been comparable between the upstream and downstream stations.

The parameter concentrations at stations SW11 to SW13 (**Figures D-2 and D-3**), which are located along intermittent tributaries of Falcon Creek, have fluctuated between each sampling event. The historical data suggests no measurable landfill influences in the Falcon Creek surface water quality, as the indicator parameter concentrations at downstream location SW14 have generally been similar to upstream conditions at SW1-A. The 2021 results are consistent with this interpretation.

Stations SW5, SW10, and SW16 (**Figure D-4**) are situated within the Indian Creek watershed east of the Site. There are no stations along Indian Creek situated upstream of the refuse footprint; however, the available historical alkalinity, iron, and TKN concentrations at the Indian Creek downstream station SW5 have generally been consistent with the upstream conditions at station SW1-A in Falcon Creek. Chloride concentrations at SW5 have been marginally elevated compared to upstream conditions at SW1-A; however, SW5 receives runoff and discharge from the Meridian Brick shale quarry and therefore elevated chloride concentrations are not unexpected. In addition, road salt influences are also inferred to contributed to elevated chloride concentrations at SW5 due to the proximity to North Service Road. Chloride concentrations have generally been lower at SW16 and SW10 in comparison to SW5. These stations are situated upstream of SW5 but downstream of the landfill and do not receive runoff or discharge from the shale quarry. These results suggest that the elevated chloride concentrations at SW5 are not related to the landfill. The 2021 results are consistent with this interpretation.

### 3.4.3 Water Quality Compliance

The surface water quality for the sampling events in 2021 generally complied with the Provincial Water Quality Objectives (PWQO, 1994), as summarized in **Table 3-8**.. The exceptions were iron and phosphorus concentrations, which exceeded the PWQO at all locations during at least one event, and the pH level at SW2 in September, which marginally exceeded the upper limit. The exceedances for iron and phosphorus also occurred at upstream station SW1-A, which indicates these exceedances were due to natural conditions within the surface water and not related to the landfill. The 2021 exceedances were consistent with historical results.

## 3.5 COMBUSTIBLE GAS MONITORING

### 3.5.1 On Site Monitoring

Results of the combustible gas monitoring for 2021, along with the historical results, are summarized in **Table F-1**, **Appendix F**. As shown in the table, combustible gas was detected at 1.0% and 0.0% by volume in air at Maintenance Hole 23 during the February and September 2021 monitoring events, respectively. Combustible gas was detected at concentrations between 25% and 56% by volume in air during the February and September 2021 monitoring events at the refuse Monitors 36-I, 37-I, and 39-I. Combustible gas has historically been sporadically detected in refuse Monitor 25-I, but was not detected in 2021. The presence of combustible gas within the refuse monitors is not unexpected. Combustible gas concentrations measured at the refuse monitors in 2021 were higher than the lower explosive limit (LEL) for methane of 5% by volume in air.

Combustible gas was generally not detected at the other gas monitoring locations during the 2021 monitoring events, with the exception of GP2 during the February event and GP5 during the September event. Both of these detections were below the LEL. Historically, combustible gas concentrations have been detected at low levels at gas probes GP2 and GP4. However, gas was not detected at GP2 between December 2005 and February 2020 and at GP4 since 2008. Gas detections at GP5 have not been observed historically. Gas concentrations at GP5 should continued to be monitored for potential emerging trends.

Based on the gas monitoring results for 2021, there were no off-site influences associated with combustible gas from the Site.

### 3.5.2 Meridian Brick Property

The combustible gas monitoring results for the Meridian Brick property are presented in **Table F-2**, **Appendix F**.

Measurable quantities of combustible gas were detected at most monitors along the western boundary of the Meridian property on at least one occasion in 2021. Where detected, the combustible gas readings ranged between 1 ppm and 513,850 ppm (48% gas by volume in air).

Historically, combustible gas has primarily been detected along the west Meridian Brick property boundary, between the excavated area and the Site. Combustible gas has only been sporadically detected in Monitors MW12A and MW12B and gas probes GP00-1 to GP00-10, and GP08-1, and at lower concentrations relative to the western boundary monitors. The 2021 results are consistent with these observations.

# 4 DISCUSSION

## 4.1 GROUNDWATER ASSESSMENT

### 4.1.1 Leachate

Leachate is produced at the landfill principally by the percolation of precipitation through refuse. The volume of leachate produced depends on a variety of criteria, including precipitation, evapotranspiration

rate, type of cover material and slope, vegetative cover, and minor groundwater infiltration. The landfill cover study that was completed in 2009 and 2010 identified potential areas of reduced cover material and areas of settlement, which the Region has enhanced and repaired over time. The placement of additional cover and regrading of deficient areas of the landfill cover should continue to reduce the amount of percolation into the refuse. Additional cover material was imported and placed along the south slope of the refuse area in 2013 and 2014 and continued within the northeast portion of the refuse area in 2015. Additional cover material was placed mainly within the southern portion of the refuse area between 2017 and 2019.

In 2021, approximately 61 million litres (61,115 $m^3$) of leachate were collected by the leachate collection systems, which is equivalent to an infiltration rate of approximately 3.4 L/min/ha, or about 19% of the annual precipitation. The volume collected in 2021 was within the lower range of annual volumes collected since 1989. The volume of leachate collected in 2021 corresponds to a 18% increase in precipitation compared to 2020. A generally decreasing volume trend has been observed since 2018, which may be attributed to the landfill cover enhancement activities that have occurred at the Site during the past few years. The effectiveness of the landfill cover enhancements can only be confirmed with a continued review of annual leachate volumes and climate data in the future.

Some leachate mounding occurs within the refuse. Mounding within the northern part of the refuse occurs between the refuse underdrains and is estimated to be less than 0.5 m above the bottom of the refuse. Some variation of the leachate mound level is likely due to the influence of the underdrains. Within the southern part of the refuse, which has a system of peripheral toe-drains to intercept shallow leachate migration, the leachate mound is approximately 7 m above the base of the refuse at monitor locations based on elevations in 2021. Saturation levels within the refuse have shown relatively constant trends over the period of record although elevations have generally risen in recent years. The leachate collection pipes are flushed annually with the most recent flushing occurring in August 2021. No obstructions within the leachate collection system were noted during the flushing in 2021.

The chemical characteristics of the leachate have varied over time. The concentrations of several parameters in the leachate, including conductivity, chloride, hardness, and sodium have been lower than in some of the groundwater monitors. Although the parameter concentrations have fluctuated between sampling events, the trendline analysis for the leachate collected from Maintenance Hole 23 shows that there has been a concentration decrease over the long term for chloride, alkalinity, and hardness. Concentrations of iron (**Figure B-1**) exhibited a significant increase in 2017 and have remained at the elevated level since that time. The concentration increase for iron is likely attributed to elevated suspended solids within the samples compared to previous sampling events, which may be associated with recent cover enhancement activities, but continued monitoring will confirm this. It is expected that leachate concentrations will continue to gradually decrease over the contaminating lifespan of the waste.

The leachate indicator parameters at Monitor 25-I have increased since 2010, with historical highs for alkalinity and total nitrogen observed in 2021 (**Figure C-9**). A notable increase in the liquid level at Monitor 25-I of about 4 m was also observed at the same time concentrations started to increase. As shown in **Table C-3**, VOC concentrations which had been detected at elevated concentrations prior to 2010 noticeably decreased or were not detected above the laboratory RDL after this time. Continued monitoring is recommended to assess this trend at Monitor 25-I.

VOCs continue to be detected within the leachate. Although the parameters detected in 2021 were comparable to historical results, the parameter concentrations continue to fluctuate from year to year.

The 2021 leachate quality at MH23 continues to comply with the Halton Region Sewer Use By-law No. 2-03, except for TKN in June and September, phosphorus, BOD, and zinc in June, suspended solids in

September, and iron during each event. TKN and BOD exceedances have frequently occurred at MH23, but the exceedances for iron and phosphorus are not typical. The elevated concentrations for iron and phosphorus are likely associated with the elevated suspended solids within the samples compared to historical events. The general increase in suspended solids since 2017 may be attributed to the cover enhancement activities that have been undertaken by the Region and/or relatively low flows at the time of sampling. Continued quarterly monitoring of MH23 is recommended to assess long term trends.

### 4.1.2 Groundwater

Regional groundwater flows in a southerly direction from higher elevations near the Escarpment toward the Hamilton Harbour portion of Lake Ontario. Shallow groundwater flow directions on the Site are influenced primarily by local terrain. More deeply incised watercourses which intersect the water table function as groundwater discharge zones, and heights of land which separate watersheds are also inferred to act as shallow groundwater divides. The 2021 results are consistent with this interpretation, but groundwater elevations at most monitoring locations were generally slightly higher compared to 2020.

Concentrations of most groundwater quality parameters have been relatively stable over the long term. Parameters such as chloride, conductivity, and sodium generally increase in concentration with depth, while the pattern is reversed for alkalinity concentrations. Part of the increase in the concentration with depth for dissolved solids is attributed to the shale bedrock, which contains soluble salts retained from deposition in a marine environment. The data indicate that local groundwater quality within the shale is naturally poor due to the presence of elevated hardness, chloride, sodium, and sulphate concentrations. The 2021 groundwater quality results were generally below the ODWQS. Concentrations of chloride, sulphate, alkalinity, hardness, organic nitrogen, and sodium are elevated in the background groundwater and exceedances of these parameters at perimeter / downgradient monitors may be partially attributed to natural conditions at the Site. Elevated sulphate concentrations in the groundwater are considered to be naturally occurring since the concentrations within the leachate are significantly lower, which is consistent with most municipal landfills in southern Ontario.

A comparison of the inorganic parameter concentrations to MECP Guideline B-7 indicates that hardness, chloride, sulphate, sodium, alkalinity, organic nitrogen, and iron exceeded the criteria for reasonable use at most perimeter / downgradient groundwater monitors, as well as the background monitors at Monitor Location OW5. However, the concentrations for the exceedances at the downgradient boundary monitors were generally lower compared to the concentrations at the background location, and therefore these exceedances are not considered to be landfill related.

VOC concentrations were typically below the criteria for reasonable use, with the exception of 1,4-dichlorobenzene at 14-II and 33-I, benzene at 14-II, 18-IR, 18-IIIR, 33-I, and 30-I, dichloromethane at 23-II, and vinyl chloride at 14-II and 30-I. The 2021 exceedances are generally consistent with historical results. These monitors are located in close proximity to the refuse footprint on the Site.

The monitors that are affected by landfill leachate are mainly situated downgradient of the refuse footprint within the southern portion of the Site and have historically been reported as impacted to some degree. In general, the deeper monitors located to the south of the refuse footprint indicate higher concentrations compared to the shallower monitors. Although the contaminant plume is migrating deeper as it flows southward, the influence of landfill leachate on the general chemical component of the groundwater is considered to be insignificant compared to the naturally poor groundwater characteristics. The downward movement of leachate is attributed to the natural downward hydraulic gradients for the area and the leachate mounding, particularly within the southern portion of the refuse, which acts as a “driving force” for the leachate. In addition, some of the organic parameters detected are a result of parameters that are

denser than water. These organics will accumulate on the bedrock and the dissolved component will move through the deeper groundwater. The downgradient monitors screened within the overburden till or the weathered shale at the northern, southern, and western property boundaries generally do not indicate a landfill influence.

The southerly extent of the contaminant plume is poorly defined. At Monitor Location 35R, located at the downgradient property boundary, a landfill leachate influence on groundwater at depth is difficult to determine. The diagnostic parameter concentrations, while elevated, are still comparable to the natural levels within the background groundwater. This similarity in parameter concentrations would indicate that there is likely no measurable landfill influence at the southern Site property boundary. As noted previously, most inorganic parameter concentrations at this location exceeded the criteria for reasonable use in 2021; however, the concentrations are generally comparable to the background monitors at Monitor Location OW5, northeast of the Site. It should also be noted that the surface elevation at Monitor Location OW5 is significantly higher compared to Monitor Location 35R and as such the deep monitor at 35R is advanced much deeper into the bedrock formation. This likely affects chemical concentrations influenced by naturally occurring parameters.

Along the western boundary of the Site, Falcon Creek represents a hydraulic boundary for groundwater flow. Therefore, it is interpreted that groundwater movement from the Site does not progress beyond the creek. Groundwater quality along the eastern Site property boundary does indicate a landfill influence, which is not unexpected due to the boundary's close proximity to the refuse footprint. As previously noted, there are no known groundwater users in the vicinity of the Site.

## 4.2 SURFACE WATER ASSESSMENT

Landfill influences were not observed in the adjacent surface water within Falcon Creek (north and west side) or Indian Creek (east side). Potentially impacted groundwater may flow radially outward from the refuse toward the adjacent watercourses. However, the surface water results to date suggest that the amount of impacted groundwater reaching the watercourses has an immeasurably small affect on surface water quality. Downstream surface water quality within Indian Creek along the east side of the Site was generally consistent with the upstream surface water quality in Falcon Creek. Marginally elevated chloride concentrations at SW5 are inferred to be the result of runoff / discharge from the Meridian Brick shale quarry and not landfill-related.

## 4.3 GAS MONITORING

Combustible gas monitoring results indicate that there is combustible gas in the refuse and along the east side of the Site at the property boundary wells, which is not unexpected. Combustible gas was also detected at most Meridian Brick monitor locations situated between the waste footprint and the quarry excavation. Gas concentrations were above the lower explosive limit for methane at some monitors on the Meridian Brick property, on the east of the Site, and within the refuse monitors on the Site. Levels measured at the Site gas probes were generally lower than the Meridian Brick monitors. This difference is likely attributed to the differences in the monitoring techniques.

Combustible gas was generally not detected at the other Site gas probes during the 2021 monitoring events, with the exception of GP2 during the February event and GP5 during the September event. Both of these detections were below the LEL. Historically, combustible gas concentrations have been detected at low levels at gas probes GP2 and GP4. However, gas was not detected at GP2 between December 2005 and February 2020 and at GP4 since 2008. Gas detections at GP5 have not been observed historically. Gas concentrations at GP5 should continued to be monitored for potential emerging trends.

It is recommended the gas monitoring results from the Meridian Brick monitors continue to be incorporated into the landfill monitoring database to provide additional delineation of landfill gas movement from the Site.

Studies have shown the principal combustible gas generated within a landfill site is methane. Since methane is lighter than air, it typically moves upwards from the refuse into the soil cover and dissipates by venting to the atmosphere. During periods of frost and/or snow cover, venting is reduced or inhibited. With the low hydraulic conductivity soils and bedrock, the relatively high groundwater table, and the configuration of the Site, gas concentrations tend to increase in the refuse during these periods. As discussed above, there is some localized lateral gas migration. Gas will collect in maintenance holes and any other on-site structures. Appropriate safety precautions should continue to be followed for work in these areas including the Meridian Brick property in the area of MW6 to MW11 and in the area of the refuse monitors.

## 4.4 MERIDIAN BRICK PROPERTY

Commencing in 1998, Meridian Brick (formerly Hanson Brick and Forterra Brick) initiated excavation activities adjacent to the Site to allow construction of the brick plant within the southern portion of the property. These excavation activities are continuing with mining of the shale bedrock in the area north of the plant. During 2009, the base of the quarry in the area of the retention pond to the north of the plant was lowered approximately 6 m compared to the base that had previously been in place. Based on a review of the proposed design drawings and correspondence with Meridian Brick, the proposed excavation depth of the mining area is 127 mASL, which is approximately 2 m to 25 m below the pre-construction groundwater table along the eastern Site property boundary. As a result, the groundwater flow within that area of the property has been altered such that a portion of the groundwater flow is directed towards the Meridian Brick excavation. A significant influence on groundwater levels or groundwater chemistry has generally not been detected to date at Site monitors, with the exception of a long-term decrease in water levels at Monitor 28-I.

The groundwater level elevations at Monitor 28-I and at Meridian Brick Monitor MW12A, located between the refuse and the brick plant, have decreased over the long term to a historical low in 2012 and have remained at lower levels since that time. Prior to 1998, water level elevations at Monitor 28-I were approximately 131 mASL, however, these levels declined to approximately 128.3 mASL in 2012, which is 1.3 m above the planned final elevation of the excavation base of 127 mASL. The historical decreasing water level pattern since 1998 is likely a response to the afore-mentioned excavation activities on the Meridian Brick property. It is noted the water level in Monitor 28-I has remained relatively constant since 2012. In winter 2016, Monitor 12A reached a historical low of 126.7 mASL before rebounding to the historical range of 128 mASL in spring 2016, and has remained constant since that time. The February 2016 water level of 126.66 mASL at Monitor 12A was 0.34 m below the planned final elevation of the excavation base of 127 mASL.

Groundwater level elevations at the Meridian Brick Monitor MW10A showed a decrease between 2002 and 2004, a decrease until 2009, and an increase between 2001 and early 2016. Water levels within the monitor exhibited a noticeable decrease through 2016 and have remained within the lower range since that time. Water levels within Monitor 7A decreased in 2009 to below the historical range of 158 mASL to 161 mASL but returned to higher levels more reflective of historical patterns in 2010. Monitor 7A is located near the northwest limit of the proposed quarry excavation. The groundwater level patterns exhibited at these monitors may be attributed to both the mining activities on the Meridian Brick property and to climatic conditions. The current area of excavation on the Meridian Brick property suggests that a

larger distance will be maintained between the eastern Site property boundary and the extent of excavation in the northern portion of the quarry than initially inferred. This pattern suggests that a potential increase in the landfill influence within the northern portion of the quarry may not occur in the future, with predicted future excavation activities. Continued monitoring is required to assess the results for these locations and the long-term trends.

Surface water sampling for the Site will be continued within the surface water channel to the west and south of the Meridian Brick property, at stations SW16 and SW10, respectively, to assess potential landfill influences on downstream surface water quality in Indian Creek. Based on discussions with Meridian Brick, any surface water sampling results which are obtained from the adjacent surface water channels/storm sewers on the Meridian Brick property will be available to be incorporated and reviewed as part of the annual monitoring program. As noted in **Section 3.4.2**, surface water quality at station SW10 has historically been consistent with the background surface water quality in Falcon Creek. To date there have been no measurable landfill influences on surface water quality in Indian Creek, however continued monitoring is recommended.

The historical groundwater chemistry results for the Meridian Brick monitors have been generally stable or have fluctuated within a defined range, with some exceptions. Historical chloride concentrations are significantly higher at Monitor 10A compared to the remaining monitors and are likely attributed to the natural water quality characteristics at the deeper screen depth; however, concentrations have significantly decreased since 2009. The cause of this noticeable decrease is unknown at the present time. Iron concentrations have increased at Monitor 6B over the long term. Also, iron concentrations are significantly higher at Monitors 11 and 12A compared to the remaining monitors. Chloride, alkalinity, iron, and nitrogen concentrations at Monitor 11 have generally decreased over the long term whereas alkalinity at Monitors 12A and 12B has increased. These monitors are located within, or close to, the “notch” area near the brick plant.

VOCs were also detected at the monitors along the western Meridian Brick property boundary in 2021, which is consistent with historical results. The concentration of vinyl chloride at Monitor 6B has exhibited a noticeable increase during recent years although continued monitoring is required to confirm the long-term trend at this location. Monitor 6B is located within the northwest corner of the Meridian Brick excavation area. Monitors 8 and 9 are located within the middle portion of the proposed quarry excavation boundary. Elevated organic parameter concentrations at these monitors are likely a result of landfill leachate migration from the Site; however, this concentration pattern is not unexpected as the monitors are located close to the refuse footprint. As discussed in **Section 4.1.1**, the annual flushing of the leachate collection pipes continued in 2021 and no obstructions were noted. Continued monitoring is recommended to better assess the long-term chemical concentration trends and to provide input to remedial measures, if required.

# 5 CONCLUSIONS AND RECOMMENDATIONS

## 5.1 CONCLUSIONS

The following conclusions are based on the findings presented in this report.

- Regional groundwater flows in a southerly direction from higher elevations near the Escarpment toward the Hamilton Harbour portion of Lake Ontario. Local shallow groundwater flow is influenced primarily by local terrain. Downward hydraulic gradients predominate within the upper portion of the shale bedrock and between the overburden and bedrock. Periodic upward hydraulic gradients occur within the northern portion of the Site at Monitors 18, 22, and 23. The 2021 groundwater elevations were consistent with previous interpretations.
- Leachate within the refuse is produced predominantly from the infiltration of precipitation and snowmelt. Leachate levels within the refuse remained relatively stable in 2021 compared to the historical range. There is minimal leachate mounding in the northern underdrained portion of the refuse. Within the southern portion of the refuse, the mounding is approximately 7 m above the base of the refuse.
- Underdrain and toe drain collectors continue to collect leachate as designed. The volume collected in 2021 (61,115 $m^3$) was about 13% lower compared to the average annual volume collected since 2003 (70,000 $m^3$) but was 40% higher than the volume collected in 2020.
- Leachate chemical characteristics have fluctuated over time; concentrations are generally decreasing over the long term for the diagnostic parameters, including chloride, iron, hardness, and alkalinity.
- Based on the leachate chemistry results, the leachate quality in 2021 generally complied with Sewer Use By-law No. 2-03 except for exceedances of TKN , phosphorus, BOD, iron, zinc, and suspended solids. The recent exceedances for suspended solids, iron, zinc and BOD since 2017 may be attributed to the cover enhancement activities at the Site and/or relatively low flows at the time of sampling, continued monitoring is required to confirm this trend over the long term.
- Leachate influences on groundwater quality have generally been limited to areas immediately adjacent to and downgradient of the refuse. Monitors located south and southwest of the refuse, within the Site property, indicate that groundwater quality is marginally influenced by landfill leachate. Most inorganic parameter concentrations at Monitor Location 35R exceeded the criteria for reasonable use in 2021; however, the concentrations were generally comparable to the background monitors at Monitor Location OW5, northeast of the Site.
- MECP Guideline B-7 criteria and ODWQS were exceeded for many inorganic parameters at a majority of the monitors along the Site property boundary; however, given the concentrations of the exceedances were comparable to the respective concentrations at the background Monitor Location OW5, the Site does not appear to be having a measurable influence on the groundwater quality at the property boundary monitors. In 2021, organic parameter exceedances near, but within, the Site property boundary consisted of 1,4-dichlorobenzene, benzene, dichloromethane, and vinyl chloride.
- There are no known groundwater users adjacent to the Site which could be affected by potentially landfill influenced groundwater. No landfill influenced groundwater has been detected beyond the

Meridian Brick property, and Meridian Brick has not expressed a concern regarding the possible landfill influence of local groundwater quality on their property.

- The groundwater chemistry results for the Meridian Brick property indicate there is a landfill influence on groundwater quality along the west side of their property. Excavation activities to lower base elevations in the Meridian Brick quarry, to date, do not appear to have had an adverse effect on the groundwater elevations at most Site monitors. The existing groundwater chemistry database and continued monitoring will permit assessment of potential groundwater quality changes and provide input to remedial measures, if required; however, no concerns regarding possible landfill influences on the quarry operations have been noted.
- No landfill influences on surface water quality were observed in Falcon Creek adjacent to and downgradient of the Site. Historically, within the Indian Creek watershed, water quality downstream of the Site has been similar to the upstream water quality along Falcon Creek and therefore it is concluded that there has been no landfill influence on the water quality within the Indian Creek tributary.
- Combustible gas is present within the refuse footprint and has been detected within the on-site maintenance hole, MH23. Combustible gas concentrations periodically exceeded the lower explosive limit for methane at some Meridian Brick monitoring wells immediately adjacent to the eastern Site property boundary, along with on-site locations MH23, at the southern extent of the refuse, and the refuse monitors. The existing gas monitoring network (sentry network) on the Meridian Brick property indicates there are no combustible gas concerns adjacent to, or inside, the brick plant. Meridian Brick has not expressed a concern regarding this limited migration of gas onto their property.

## 5.2 RECOMMENDATIONS

We respectfully submit the following recommendations based on the study findings for your consideration.

- To ensure that methane gas does not pose a potential hazard to any activities, current standard operating practices should continue to ensure that precautions are taken within the eastern portion of the landfill, near the Meridian Brick borehole locations MW6 to MW11.
- Water level and chemistry data obtained from the groundwater monitors and surface water stations within the adjacent Meridian Brick property should continue to be incorporated into any future monitoring reports prepared as part of the routine monitoring program, and the effect of operations at the Meridian Brick property should be assessed with respect to the Site.
- The 2021 Monitoring Program should be continued in 2022 for the established groundwater, surface water, and gas monitoring network, at the established frequency.
- The blockage at 38-I should be investigated. If the monitor cannot be repaired, 38-I should be decommissioned and replaced by a licensed well driller.
- It is recommended that sampling at 39-I be continued to evaluate leachate conditions within the central portion of the waste fill.
- No other remedial measures are required for the Site at the present time.

# TABLES

**TABLE 1-1**
**MONITORING PROGRAM SUMMARY**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| SAMPLING LOCATIONS | MONITORING LOCATION | PARAMETERS | SAMPLING FREQUENCY |
|---|---|---|---|
| **GROUNDWATER MONITORS** | 14-I, 14-II, 15-I, 15-II<br>16-I, 16-II, 16-III, 16-IV<br>18-II, 18-III, 21-I, 21-II, 21-III<br>22-IR, 22-IIR, 22-IIIR, 23-I, 23-II, 23-III<br>24-I, 24-II, 24-III<br>26-I, 26-II, 26-III<br>27-I, 27-II, 27-III<br>28-I, 29-I, 30-I, 31-I<br>32-I, 32-II, 32-III, 33-I, 34-I<br>35-IR, 35-IIR, 35-IIIR, 35-IVR<br>38-I | pH, conductivity, chloride<br>sulphate, nitrate, nitrite, iron<br>potassium, sodium, hardness, alkalinity<br>TKN, ammonia, BOD, phenols<br><br>volatile organics | Once per year |
| **REFUSE MONITORS** | 25-I, 37-I, 39-I | | |
| | All accessible monitors | Water levels | |
| **LEACHATE COLLECTOR SYSTEM** | Maintenance Hole 23 | pH, conductivity, chloride<br>sulphate, nitrate, nitrite, iron<br>potassium, sodium, hardness, alkalinity<br>phosphorous, TKN, ammonia, BOD, metals<br>suspended solids, phenols, volatile organics | Four times per year |
| **SURFACE WATER STATIONS** | SW1A, SW2, SW3,<br>SW5, SW10, SW11, SW12<br>SW13, SW14, SW16 | pH, conductivity, chloride<br>sulphate, nitrate, nitrite, iron<br>potassium, sodium, hardness, alkalinity<br>phosphorous, TKN, ammonia, BOD<br>suspended solids, phenols | Four times per year |
| **GAS MONITORING** | MH 23, 22-III, 24-III, 28-I<br>29-I, 30-I, 31-I, 32-III, 38-I<br>GP1, GP2, GP3, GP4, GP5 | Combustible gas (methane) | Twice per year |

NOTES: 1) Water levels taken prior to purging.
2) Flow rates calculated at surface water stations based on field measurements.

**TABLE 2-1**
**LEACHATE QUANTITY SUMMARY**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| YEAR | TOTAL ANNUAL PRECIPITATION | | LEACHATE REMOVED | | | |
|---|---|---|---|---|---|---|
| | (mm) | ($m^3$) | ($m^3$) | | (% of Precip.) | Rate (L/min/ha) |
| **1987** | 1057 | 364,734 | 102,525 | (351) | 28.1 | 5.9 |
| **1988** | 902 | 311,328 | 48,543 | (131) | 15.6 | 7.5 |
| **1989** | 884 | 305,084 | 31,969 | (360) | 10.5 | 1.8 |
| **1990** | 1098 | 378,707 | 46,935 | (361) | 12.4 | 2.6 |
| **1991** | 985 | 339,722 | 40,289 | (365) | 11.9 | 2.2 |
| **1992** | 1213 | 418,589 | 71,616 | (364) | 17.1 | 4.0 |
| **1993** | 942 | 324,956 | 47,775 | (365) | 14.7 | 2.6 |
| **1994** | 1027 | 354,246 | 51,253 | (365) | 14.5 | 2.8 |
| **1995** | 1080 | 372,669 | 36,117 | (365) | 9.7 | 2.0 |
| **1996** | 1261 | 434,942 | 60,660 | (366) | 13.9 | 3.3 |
| **1997** | 977 | 337,031 | 42,773 | (365) | 12.7 | 2.4 |
| **1998** | 837 | 288,593 | 44,640 | (365) | 15.5 | 2.5 |
| **1999** | 858 | 295,838 | 59,854 | (365) | 20.2 | 3.3 |
| **2000** | 1042 | 359,387 | 81,624 | (366) | 22.7 | 4.5 |
| **2001** | 887 | 305,843 | * 105,087 | (365) | * 34.4 | * 5.8 |
| **2002** | 859 | 296,286 | * 17,665 | (365) | * 6.0 | * 1.0 |
| **2003** | 1016 | 350,520 | 60,726 | (365) | 17.3 | 3.3 |
| **2004** | 942 | 324,990 | 63,475 | (366) | 19.5 | 3.5 |
| **2005** | 900 | 310,604 | 69,014 | (365) | 22.2 | 3.8 |
| **2006** | 1047 | 361,181 | 80,928 | (365) | 22.4 | 4.5 |
| **2007** | 716 | 247,089 | 59,176 | (365) | 23.9 | 3.3 |
| **2008** | 1014 | 349,658 | 110,519 | (366) | 31.6 | 6.1 |
| **2009** | 866 | 298,667 | 96,553 | (365) | 32.3 | 5.3 |
| **2010** | 915 | 315,641 | 56,032 | (365) | 17.8 | 3.1 |
| **2011** | 900 | 310,431 | 86,548 | (365) | 27.9 | 4.8 |
| **2012** | 586 | 202,274 | 56,631 | (366) | 28.0 | 3.1 |
| **2013** | 832 | 287,144 | 74,551 | (365) | 26.0 | 4.1 |
| **2014** | 740 | 255,197 | 73,378 | (365) | 28.8 | 4.0 |
| **2015** | 698 | 240,810 | 50,695 | (365) | 21.1 | 2.8 |
| **2016** | 717 | 247,227 | 67,762 | (366) | 27.4 | 3.7 |
| **2017** | 1045 | 360,663 | 74,758 | (365) | 20.7 | 4.1 |
| **2018** | 797 | 274,965 | 81,177 | (365) | 29.5 | 4.5 |
| **2019** | 1087 | 375,015 | 68,163 | (365) | 18.2 | 3.8 |
| **2020** | 797 | 275,000 | 44,002 | (365) | 16.0 | 2.4 |
| **2021** | 938 | 323,541 | 61,115 | (365) | 18.9 | 3.4 |

NOTES: 1) 1987 to 2004 precipitation based on data from the Millgrove climatological station.
2005 to 2018 precipitation based on data from the Royal Botanical Gardens climatological station.
2019 to present precipitation based on data from the Hamilton Airport climatological station.
2) Number in brackets indicates number of days leachate volume was monitored.
* - Indicates volume is considered to be anomalous.

**TABLE 3-1**
**GENERAL CHEMISTRY CONCENTRATION SUMMARY - Leachate and Refuse**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | UNITS | LEACHATE CONCENTRATION RANGE | | | | GROUNDWATER HISTORICAL CONCENTRATION RANGE (Reference) | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | COLLECTOR | | REFUSE MONITOR | | BH23 (N.Service Rd Landfill) | | | OW5 (North of Bayview Park Landfill) | | | |
| | | | SYSTEM (MH 23) | | 25-I and 37-I | 25-I and 37-I | 23-I | 23-II | 23-III | 5-I | 5-II | 5-III | 5-IV |
| | | | 1985 to 2020 | 2021 | 1990 to 2020 | 2021 | (18 m) | (12 m) | (7 m) | (35 m) | (26 m) | (17 m) | (6 m) |
| **Specific Conductance** | | µS/cm | 620-11130 | 1900-5300 | 2010-16000 | 15000-17000 | 1230-3530 | 853-1620 | 110-959 | 8300-22600 | 3362-4900 | 4520-5500 | 7120-9300 |
| **Chloride** | **250** | mg/L | 18-1457 | 140-550 | 107-2800 | 2200-2500 | 4.7-250 | 1.2-230 | <1.6-220 | 1500-11000 | 140-365 | 42-57 | 221-440 |
| **Sulphate** | **500** | mg/L | <1-517 | 33-91 | <1.0-664 | <20 | 409-2120 | 100-282 | 22-111 | 1700-3200 | 1550-1900 | 2830-3410 | 3630-6590 |
| **Alkalinity** | | mg/L | 223-4058 | 730-2100 | 1150-6400 | 5100-7300 | 66-393 | 497-898 | 340-495 | 45-74 | 100-120 | 58-80 | 700-846 |
| **Hardness** | | mg/L | 385-3710 | 0.78-1000 | 1100-3300 | 1200-3000 | 267-1880 | 598-848 | 330-572 | 740-5590 | 232-310 | 1480-2100 | 5700-7000 |
| **TKN** | | mg/L | 2.8-1000 | 34-240 | 5.7-930 | 710-950 | 1.0-8.0 | 0.08-5.7 | 0.02-1.9 | 4.40-14.5 | 0.44-6.00 | <0.5-31.0 | 0.1-9.0 |
| **Ammonia** | | mg/L | 1.4-328 | 33-210 | 3.4-880 | 510-740 | 0.9-5.4 | <0.01-3.15 | <0.01-0.86 | 4.8-13.4 | 0.6-4.3 | 0.16-3.2 | <0.05-0.29 |
| **Nitrate** | **10.0** | mg/L | <0.1-6.3 | <0.1-1.33 | <0.02-0.6 | <0.5 | <0.1-2.51 | <0.02-0.6 | <0.02-0.3 | <0.1 | 0.7-2.47 | 0.95-2.0 | <0.1 |
| **Nitrite** | **1.0** | mg/L | <0.01-1.9 | <001-0.201 | <0.01-0.1 | <0.05 | <0.01-1.36 | <0.01-0.52 | <0.01-<0.2 | <0.01 | 0.09-0.38 | 0.03-0.7 | <0.01-<0.1 |
| **Sodium** | | mg/L | 41.8-710 | 85-390 | 52-1600 | 1400-1700 | 65-328 | 40-79 | 9-41 | 1500-4570 | 755-980 | 600-776 | 420-700 |
| **Iron** | **0.3** | mg/L | 0.2-1400 | 110-2300 | 0.03-75.4 | 3.3-8.7 | <0.01-1.57 | <0.01-0.42 | <0.01-1.69 | <0.5-1.10 | <0.1-<0.5 | <0.1 | <0.1 |
| **BOD** | | mg/L | 4-9860 | 27-760 | 0.6-254 | 71->230 | <0.5-44 | 0.1-75 | 0.2-12 | <0.5-<4 | <0.5-15 | <0.5-10 | <0.5-<4 |
| **Phenolics** | | µg/L | 0.4-3400 | 2.2-170 | 0.015-72 | 0.019 | 0.02-6.5 | <1-32.0 | <0.1-41 | <1-4.9 | <1-1.0 | <1-1.0 | <1-<10 |

NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates).
2) "-" - Indicates parameter concentration was not historically detected above the method detection limit.

**TABLE 3-2**
**ORGANIC PARAMETERS CONCENTRATION SUMMARY - Leachate and Refuse**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | LEACHATE CONCENTRATION RANGE | | | |
|---|---|---|---|---|---|
| | | COLLECTOR SYSTEM (MH 23) | | REFUSE MONITORS 25-I and 37-I | REFUSE MONITORS 25-I and 37-I |
| | | 1984-2020 | 2021 | 1984-2020 | 2021 |
| **1,1,1-Trichloroethane** | | <0.5-236 | <1-<5 | <0.2-3.8 | <5 |
| **1,1-Dichloroethane** | | 0.1-330 | <1-<5 | <0.2-230 | <5 |
| **1,2-Dichlorobenzene** | 200 | <1-20 | <2-<10 | <0.2-6.7 | <10 |
| **1,2-Dichloroethane** | 5 | <0.2-40 | <2-<10 | <0.2-5.4 | <10 |
| **1,2-Dichloropropane** | | <0.1-25.6 | <1-<5 | <0.2-15.8 | <5 |
| **1,4-Dichlorobenzene** | 5 | <0.2-12 | 5.3-<10 | <0.2-37 | <10-22 |
| **Acetone** | | <20-761 | <100-<500 | <100-<250 | <500 |
| **Benzene** | 1 | <0.1-58 | 2.1-<5 | <0.2-24 | <5 |
| **Chlorobenzene** | 80 | <0.2-188 | 8.2-16 | <0.2-50 | <5-57 |
| **Chloroform** | 100 | <0.2-11.8 | <1-<5 | <0.2-7.8 | <5 |
| **cis-1,2-Dichloroethylene** | | <0.2-385 | <1-<5 | <0.2-365 | <5 |
| **Dichloromethane** | 50 | <0.3-2300 | <5-<25 | <1.0-510 | <25 |
| **Ethyl benzene** | 1.6 | <0.2-129 | <1-<5 | <0.2-190 | 33-77 |
| **Methyl ethyl ketone** | | <5-976 | <50-<250 | <5-527 | <250 |
| **m/p-Xylenes** | 20 | <0.2-377 | 5.3-17 | <0.5-490 | 100-270 |
| **o-Xylene** | 20 | <0.2-180 | 1.8-<5 | <0.1-120 | 46-130 |
| **Tetrachloroethylene** | 10 | <0.2-23 | <1-<5 | <0.2-420 | <5 |
| **Toluene** | 24 | 0.2-1060 | <2-<10 | <0.2-839 | <10 |
| **trans-1,2-Dichloroethylene** | | 0.2-32 | <1-<5 | <0.2-20 | <5-7.1 |
| **Trichloroethylene** | 5 | <0.3-137 | <1-<5 | <0.2-167 | <5 |
| **Vinyl chloride** | 1 | <0.2-212 | <2-<10 | <0.2-100 | <10 |

NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates).
2) Value ranges presented are for historical parameter concentrations which have been detected above the Reported Detection Limit.
3) All values are in µg/L.

**TABLE 3-3**
**DETECTED ORGANIC PARAMETERS - Groundwater**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 14-I | 14-II | 15-I | 15-II | 16-I | 16-II | 16-III | 16-IV | 18-IR | 18-IIR | 18-IIIR | 21-IR | 21-IIR | 21-IIIR | 22-IR | 22-IIR | 22-IIIR | 23-I | 23-II | 23-III | 24-I | 24-II | 24-III | 26-I | 26-II | 26-III |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | | | | | 11 | 5.6 | 0.92 | 0.12 | | | | | | | | | | | | | | | | | | |
| 1,1-Dichloroethane | | | 0.99 | | | | | 1.1 | | | | | | | | | | | | | | | | | | | |
| 1,2-Dichloropropane | | | 0.15 | | | | | | | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | 5 | | 4.9 | | | | | | | | | | | | | | | | | | | | | | | | |
| Benzene | 1 | | 0.72 | | | | | | | 0.41 | 0.16 | 0.39 | | | | | | | | | | | | 0.12 | | | |
| Chlorobenzene | 80 | | 8.7 | | | | | | | | | | | | | | | | | | | | | | | | |
| cis-1,2-Dichloroethylene | | | 6.9 | | | | | | | | | | | | | | | | | | | | | | | | |
| Dichloromethane | 50 | | | | | | | | | | | | | | | | | | | 23 | | | | | | | |
| m/p-Xylenes | 20 | | | | | | | | | | | 0.11 | | | | | | | | | | | | | | | 0.1 |
| Toluene | 24 | | | | | | | 1.3 | | 0.2 | | 0.27 | | | | | | | | | | | | | | | |
| Total Xylenes | 20 | | | | | | | | | | | 0.11 | | | | | | | | | | | | | | | 0.1 |
| trans-1,2-Dichloroethylene | | | 0.31 | | | | | | | | | | | | | | | | | | | | | | | | |
| Trichloroethylene | 5 | | 0.12 | | | | | | | | | | | | | | | | | | | | | | | | |
| Vinyl Chloride | 1 | | 3.6 | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | BAYVIEW PARK REFERENCE MONITORS | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PARAMETER | ODWQS | 27-I | 27-II | 27-III | 28-I | 29-I | 30-I | 31-I | 32-I | 32-II | 32-III | 33-I | 34-I | 35-IR | 35-IIR | 35-IIIR | 35-IVR | 38-I | 5-I | 5-II | 5-III | 5-IV |
| 1,1,1-Trichloroethane | | | | | | | | | | | | | | | | | | * | | | | |
| 1,1-Dichloroethane | | | | | | | 0.83 | | 0.21 | 0.26 | 0.1 | 0.44 | 0.12 | | | | | | | | | |
| 1,2-Dichloropropane | | | | | | | | | | | | | | | | | | | | | | |
| 1,4-Dichlorobenzene | 5 | | | | | | | | | | | 2.3 | | | | | | | | | | |
| Benzene | 1 | | | | | | 0.32 | | | | | 2.1 | | | | | | | | | | |
| Chlorobenzene | 80 | | | | | | | | | | | 7.4 | | | | | | | | | | |
| cis-1,2-Dichloroethylene | | | | | | | 9.7 | | 0.13 | 0.16 | | | | | | | | | | | | |
| Dichloromethane | 50 | | | | | | | | | | | | | | | | | | | | | |
| m/p-Xylenes | 20 | | | | | | | | | | | | | | 0.19 | | 0.1 | | | | | |
| Toluene | 24 | | | | | | | | | | | | | | 0.33 | | | | | | | |
| Total Xylenes | 20 | | | | | | | | | | | | | | 0.19 | | 0.1 | | | | | |
| trans-1,2-Dichloroethylene | | | | | | | 1.1 | | | | | | | | | | | | | | | |
| Trichloroethylene | 5 | | | | | | 0.6 | | 0.14 | 0.17 | | | | | | | | | | | | |
| Vinyl Chloride | 1 | | | | | | 6.7 | | | | | | | | | | | | | | | |

NOTES: 1) Values presented are for parameter concentrations detected above the Reported Detection Limit in 2021.
2) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates)
Blank indicates parameter concentration is below the Reported Detection Limit.
3) Shading indicates monitor not sampled.
4) All values are in µg/L.
5) * 38-I not sampled due to blockage.
6) Organic parameter concentrations shown for the Bayview Park reference monitors from September 2021.

**TABLE 3-4**
**GROUNDWATER ODWQS EXCEEDANCES**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | | | PARAMETER and ODWQS | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | MONITOR LOCATION | CHLORIDE (250 mg/L) | SULPHATE (500 mg/L) | ALKALINITY (30-500 mg/L) | HARDNESS (80-100 mg/L) | ORGANIC N (0.15 mg/L) | NITRITE (1.0 mg/L) | SODIUM (200 mg/L) | IRON (0.3 mg/L) | pH (6.5-8.5) |
| REFERENCE | KING ROAD | 5-I | 2800 | 3000 | | 1800 | 0.70 | | 2300 | | |
| | | 5-II | 310 | 1800 | | 290 | | | 930 | | |
| | | 5-III | | 3300 | | 2000 | 0.50 | | 680 | | |
| | | 5-IV | 460 | 5900 | 740 | 6400 | 0.69 | | 520 | | |
| PERIMETER | North | 21-IR | | 1200 | 650 | 680 | 0.16 | | 590 | | |
| | | 21-IIR | | 2700 | 580 | 1100 | 0.53 | | 1000 | | |
| | | 21-IIIR | | 750 | 650 | 1200 | | | | | |
| | | 22-IR | | 540 | 730 | 740 | | | 310 | | |
| | | 22-IIR | | | 650 | 780 | 0.18 | | | | |
| | | 22-IIIR | | | 530 | 660 | | | | | |
| | | 23-I | | 1600 | | 1300 | 0.50 | | | | |
| | | 23-II | | | 770 | 730 | 0.20 | | | | |
| | | 23-III | | | | 350 | | | | | |
| | West | 29-I | | | | 380 | 0.40 | | | | |
| | East | 28-I | | | 600 | 970 | 0.57 | | | | |
| | | 30-I | | | 770 | 680 | 0.22 | | | | |
| | | 31-I | | | 740 | 700 | 0.19 | | | | |
| DOWNGRADIENT | West | 14-I | 1300 | 1500 | | 1900 | 1.37 | | 790 | | |
| | | 14-II | | | 880 | 1000 | 0.35 | | | | |
| | | 33-I | 390 | | 1300 | 1200 | 0.94 | | 290 | | |
| | | 34-I | | | 510 | 720 | 0.30 | | | | |
| | East | 18-IR | | | | 560 | 0.46 | | | | |
| | | 18-IIR | | | | 730 | 0.40 | | | | |
| | | 18-IIIR | | | | 500 | 1.90 | | | | |
| | South | 15-I | 1300 | | | 1400 | 1.40 | | 430 | 0.66 | |
| | | 15-II | | | | 560 | 0.76 | | 220 | | |
| | | 16-I | 15000 | 1800 | | 9700 | 1.0 | | 7700 | | |
| | | 16-II | 13000 | 2000 | | 7000 | 2.0 | 1.64 | 6800 | | |
| | | 16-III | 26000 | 1300 | | 16000 | 2.0 | | 8800 | | |
| | | 16-IV | | | | 460 | 0.6 | | | | |
| | | 24-I | 44000 | 1100 | | 27000 | | | 15000 | 25 | 6.4 |
| | | 24-II | 38000 | 1100 | | 26000 | 6.0 | | 13000 | | |
| | | 24-III | | | | 320 | 0.27 | | | | |
| | | 26-I | 450 | 840 | | 500 | | | 590 | | |
| | | 26-II | | | | 440 | 0.20 | | | | |
| | | 26-III | | | 600 | 760 | 1.40 | | | | |
| | | 27-I | 3300 | 760 | | 2100 | | | 1500 | 1.7 | |
| | | 27-II | 810 | | | 740 | 0.60 | | 470 | | |
| | | 27-III | 260 | | 550 | 770 | | | | | |
| | | 32-I | | | | 770 | 0.16 | | | | |
| | | 32-II | 260 | | | 860 | 0.18 | | 230 | | |
| | | 32-III | | | | 690 | 0.50 | | 220 | | |
| | | 35-IR | 72000 | 810 | | 51000 | 3.0 | | 22000 | | |
| | | 35-IIR | 1600 | | | 1200 | 0.40 | | 740 | | |
| | | 35-IIIR | 690 | | | 890 | 0.30 | | 380 | | |
| | | 35-IVR | | 1500 | 580 | 1600 | | | 400 | | |

NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates)
2) Blank indicates parameter concentration below ODWQS guideline.
3) Results for King Road (Bayview Park) monitors from April and September 2021.

**TABLE 3-5**
**GUIDELINE B-7 CRITERIA - On Site Monitors**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | | CRITERIA FOR REASONABLE USE | | REFERENCE | | | | DOWNGRADIENT | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 5-I | 5-II | 5-III | 5-IV | 14-I | 14-II | 15-I | 15-II | 16-I | 16-II | 16-III | 16-IV | 18-IR | 18-IIR | 18-IIIR |
| | | | SHALLOW | DEEP | D | S | S | S | S | S | S | S | D | S | S | S | D | S | S |
| | MAC | MDC | MONITORS | MONITOR | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep |
| **Alkalinity** | | 500 | 403 | 279 | 50 | 120 | 67 | **740** | 120 | **880** | 220 | **410** | 35 | 23 | 35 | **430** | **440** | 380 | 400 |
| **Chloride** | | 250 | 226 | 1710* | **2800** | **310** | 47 | **460** | **1300** | 160 | **1300** | 110 | **15000** | **13000** | **26000** | 85 | 27 | 100 | 68 |
| **Hardness** | | 100 | 1465* | 1033* | **1800** | 290 | **2000** | **6400** | **1900** | 1000 | 1400 | 560 | **9700** | **7000** | **16000** | 460 | 560 | 730 | 500 |
| **Organic Nitrogen** | | 0.15 | 0.93* | 0.42* | **0.7** | <0.05 | 0.5 | 0.69 | **1.4** | 0.4 | **1.4** | 0.7 | **1.0** | **2.0** | **2.0** | 0.6 | 0.5 | 0.4 | **1.9** |
| **Sodium** | | 200 | 448* | 1322* | **2300** | **930** | **680** | **520** | **790** | 140 | 440 | 89 | **7700** | **6800** | **8800** | 71 | 40 | 110 | 61 |
| **Sulphate** | | 500 | 2052* | 1596* | **3000** | 1800 | **3300** | **5900** | 1500 | 350 | 310 | 220 | 1800 | 2000 | 1300 | 99 | 180 | 440 | 150 |
| **1,1-Dichloroethylene** | 14 | | 3.5 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dichlorobenzene** | 200 | | 50.0 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.50 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | 5 | | 1.3 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.50 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | 5.0 | | 1.3 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | **4.9** | <0.20 | <0.50 | <0.50 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Benzene** | 1.0 | | 0.3 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | **0.72** | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | **0.41** | 0.16 | **0.39** |
| **Carbon tetrachloride** | 2.0 | | 0.5 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | 80.0 | | 20.0 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 8.7 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Dichloromethane** | 50 | | 12.5 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <1.3 | <1.3 | <1.3 | <1.3 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | | 1.6 | 0.8 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 |
| **m/p-Xylenes** | | 20 | 10.0 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | 0.1 |
| **o-Xylene** | | 20 | 10.0 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Tetrachloroethylene** | 10 | | 2.5 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | | 24 | 12.0 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.50 | <0.50 | 1.3 | <0.20 | 0.2 | <0.20 | 0.27 |
| **Trichloroethylene** | 5 | | 1.3 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.12 | <0.10 | <0.25 | <0.25 | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Vinyl chloride** | 1 | | 0.3 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | **3.6** | <0.20 | <0.50 | <0.50 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 |

NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates).
MAC - Maximum Acceptable Concentration (health related parameter)
MDC - Maximum Desirable Concentration (aesthetic parameter)
* - Indicates reference concentration exceeds the ODWQS.
D - Indicates that the 2021 values are compared to the criteria for deep groundwater monitors (greater than, or equal to, 30 m in depth)
S - Indicates that the 2021 values are compared to the criteria for shallow groundwater monitors (less than 30 m in depth)
2) Concentrations in mg/L for inorganic parameters and µg/L for organic parameters.
3) Reference average is assumed as 0.0 µg/L for all organic parameters.
4) Shading indicates parameter exceeds criteria for reasonable use.
5) ** 38-I not sampled due to blockage.

**TABLE 3-5**
**GUIDELINE B-7 CRITERIA - On Site Monitors**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | | CRITERIA FOR REASONABLE USE | | DOWNGRADIENT | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 24-I | 24-II | 24-III | 26-I | 26-II | 26-III | 27-I | 27-II | 27-III | 32-I | 32-II | 32-III | 33-I | 34-I | 35-IR | 35-IIR | 35-IIIR | 35-IVR |
| | | | SHALLOW | DEEP | S | S | S | S | S | S | S | S | S | S | S | S | S | S | D | S | S | S |
| | MAC | MDC | MONITORS | MONITOR | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep |
| **Alkalinity** | | 500 | 403 | 279 | 26 | 40 | 400 | 230 | **470** | **600** | 190 | 160 | **550** | **500** | **470** | **490** | **1300** | **510** | 44 | 260 | 180 | **580** |
| **Chloride** | | 250 | 226 | 1710* | **44000** | **38000** | 31 | **450** | 28 | 13 | **3300** | **810** | **260** | 160 | **260** | 220 | **390** | 96 | **72000** | **1600** | **690** | 170 |
| **Hardness** | | 100 | 1465* | 1033* | **27000** | **26000** | 320 | 500 | 440 | 760 | **2100** | 740 | 770 | 770 | 860 | 690 | 1200 | 720 | **51000** | 1200 | 890 | **1600** |
| **Organic Nitrogen** | | 0.15 | 0.93* | 0.42* | <0.05 | **6** | 0.27 | 0.1 | 0.2 | **1.4** | <0.05 | 0.6 | 0.13 | 0.16 | 0.178 | 0.5 | 0.9 | 0.3 | **3.0** | 0.4 | 0.3 | 0.152 |
| **Sodium** | | 200 | 448* | 1322* | **15000** | **13000** | 55 | **590** | 160 | 77 | **1500** | **470** | 150 | 190 | 230 | 220 | 290 | 110 | **22000** | **740** | 380 | 400 |
| **Sulphate** | | 500 | 2052* | 1596* | 1100 | 1100 | 32 | 840 | 330 | 270 | 760 | 300 | 210 | 420 | 490 | 350 | 130 | 320 | 810 | 370 | 470 | 1500 |
| **1,1-Dichloroethylene** | 14 | | 3.5 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **1,2-Dichlorobenzene** | 200 | | 50.0 | | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.50 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | 5 | | 1.3 | | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.50 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | 5.0 | | 1.3 | | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | **2.3** | <0.20 | <0.50 | <0.20 | <0.20 | <0.20 |
| **Benzene** | 1.0 | | 0.3 | | <0.25 | <0.25 | 0.12 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | **2.1** | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **Carbon tetrachloride** | 2.0 | | 0.5 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | 80.0 | | 20.0 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 7.4 | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **Dichloromethane** | 50 | | 12.5 | | <1.3 | <1.3 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <1.3 | <0.50 | <1.3 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | | 1.6 | 0.8 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **m/p-Xylenes** | | 20 | 10.0 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | 0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.25 | 0.19 | <0.10 | 0.1 |
| **o-Xylene** | | 20 | 10.0 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **Tetrachloroethylene** | 10 | | 2.5 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **Toluene** | | 24 | 12.0 | | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.50 | 0.33 | <0.20 | <0.20 |
| **Trichloroethylene** | 5 | | 1.3 | | <0.25 | <0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.14 | 0.17 | <0.10 | <0.25 | <0.10 | <0.25 | <0.10 | <0.10 | <0.10 |
| **Vinyl chloride** | 1 | | 0.3 | | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.50 | <0.20 | <0.20 | <0.20 |

NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates).
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(greater than, or equal to, 30 m in depth)
S - Indicates that the 2021 values are compared to the criteria for shallow groundwater monitors (less than 30 m in depth)
2) Concentrations in mg/L for inorganic parameters and µg/L for organic parameters.
3) Reference average is assumed as 0.0 µg/L for all organic parameters.
4) Shading indicates parameter exceeds criteria for reasonable use.
5) ** 38-I not sampled due to blockage.

**TABLE 3-5**
**GUIDELINE B-7 CRITERIA - On Site Monitors**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | | CRITERIA FOR REASONABLE USE | | PERIMETER | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | 21-IR | 21-IIR | 21-IIIR | 22-IR | 22-IIR | 22-IIIR | 23-I | 23-II | 23-III | 28-I | 29-I | 30-I | 31-I | 38-I |
| | | | SHALLOW | DEEP | S | S | S | S | S | S | S | S | S | S | S | S | S | S |
| | MAC | MDC | MONITORS | MONITOR | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep | Sep |
| **Alkalinity** | | 500 | 403 | 279 | **650** | **580** | **650** | **730** | **650** | **530** | 200 | **770** | 370 | **600** | 340 | **770** | **740** | ** |
| **Chloride** | | 250 | 226 | 1710* | 8.3 | 9.7 | 5.3 | 7.5 | 6.8 | 14 | 8.2 | 4.1 | 4.8 | 38 | 6.4 | 18 | 33 | |
| **Hardness** | | 100 | 1465* | 1033* | 680 | 1100 | 1200 | 740 | 780 | 660 | 1300 | 730 | 350 | 970 | 380 | 680 | 700 | |
| **Organic Nitrogen** | | 0.15 | 0.93* | 0.42* | 0.2 | 0.5 | 0.13 | 0.1 | 0.2 | <0.10 | | 0.2 | 0.08 | 0.6 | 0.4 | 0.2 | 0.2 | |
| **Sodium** | | 200 | 448* | 1322* | **590** | **1000** | 140 | 310 | 110 | 20 | **790** | 64 | 21 | 43 | 8.9 | 32 | 33 | |
| **Sulphate** | | 500 | 2052* | 1596* | 1200 | **2700** | 750 | 540 | 310 | 130 | 1600 | 140 | 28 | 420 | 49 | 36 | 43 | |
| **1,1-Dichloroethylene** | 14 | | 3.5 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | <0.10 | <0.10 | |
| **1,2-Dichlorobenzene** | 200 | | 50.0 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | |
| **1,2-Dichloroethane** | 5 | | 1.3 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | |
| **1,4-Dichlorobenzene** | 5.0 | | 1.3 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | |
| **Benzene** | 1.0 | | 0.3 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | **0.32** | <0.10 | |
| **Carbon tetrachloride** | 2.0 | | 0.5 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | <0.10 | <0.10 | |
| **Chlorobenzene** | 80.0 | | 20.0 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | <0.10 | <0.10 | |
| **Dichloromethane** | 50 | | 12.5 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | | **23** | <0.50 | <5.0 | <0.50 | <0.50 | <0.50 | |
| **Ethyl benzene** | | 1.6 | 0.8 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | <0.10 | <0.10 | |
| **m/p-Xylenes** | | 20 | 10.0 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | <0.10 | <0.10 | |
| **o-Xylene** | | 20 | 10.0 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | <0.10 | <0.10 | |
| **Tetrachloroethylene** | 10 | | 2.5 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | <0.10 | <0.10 | |
| **Toluene** | | 24 | 12.0 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | | <0.20 | <0.20 | <2.0 | <0.20 | <0.20 | <0.20 | |
| **Trichloroethylene** | 5 | | 1.3 | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | <0.10 | <0.10 | <1.0 | <0.10 | 0.6 | <0.10 | |
| **Vinyl chloride** | 1 | | 0.3 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | | <0.20 | <0.20 | <2.0 | <0.20 | **6.7** | <0.20 | |

NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates).
MAC - Maximum Acceptable Concentration (health related parameter)
MDC - Maximum Desirable Concentration (aesthetic parameter)
* - Indicates reference concentration exceeds the ODWQS.
D - Indicates that the 2021 values are compared to the criteria for deep groundwater monitors
(greater than, or equal to, 30 m in depth)
S - Indicates that the 2021 values are compared to the criteria for shallow groundwater monitors (less than 30 m in depth)
2) Concentrations in mg/L for inorganic parameters and µg/L for organic parameters.
3) Reference average is assumed as 0.0 µg/L for all organic parameters.
4) Shading indicates parameter exceeds criteria for reasonable use.
5) ** 38-I not sampled due to blockage.

**TABLE 3-6**
**GROUNDWATER ODWQS EXCEEDANCES - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR LOCATION | SAMPLING EVENT | PARAMETER and ODWQS | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Iron | Sodium | Chloride | Sulphate | Nitrate | Organic Nitrogen | Alkalinity | Hardness | Benzene | 1,4-Dichloro benzene | Chloro-benzene | Vinyl chloride |
| | | 0.3 mg/L | 200 mg/L | 250 mg/L | 500 mg/L | 10.0 mg/L | 0.15 mg/L | 500 mg/L | 100 mg/L | 1 µg/L | 5 µg/L | 80 µg/L | 1 µg/L |
| **6A** | May 21 | | 520 | 540 | | | | | 180 | | | | |
| **6B** | May 21 | 6.5 | | | | | | 750 | 550 | 2.8 | | | 47 |
| **7A** | May 21 | | | | | | | | 300 | | | | 16 |
| **7B** | May 21 | 13.0 | | | | | 0.33 | 850 | 700 | | | | 4.7 |
| **8A** | May 21 | | | | | | 0.24 | 1400 | 1300 | | | | 3.1 |
| **8B** | May 21 | 0.85 | | | | | 0.40 | 1600 | 1300 | 3.0 | 5.3 | | 3.4 |
| **9** | May 21 | 0.75 | 420 | | | | | 1700 | 840 | | | | |
| **10A** | May 21 | | 9900 | 25000 | 1400 | 45.2 | 12.0 | | 16000 | | | | |
| **10B** | May 21 | 10.0 | 520 | 920 | | | 6.0 | 1600 | 1600 | 4.4 | 13 | 120 | |
| **11** | May 21 | 3.1 | 300 | 470 | | | 1.0 | 1300 | 1200 | 3.4 | | | |
| **12A** | May 21 | | 380 | 960 | 1000 | | 0.40 | 870 | 2300 | | | | |
| **12B** | May 21 | | 360 | 840 | | | 0.73 | 1200 | 1900 | | | | |

NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates)
2) Blank indicates parameter concentration was within the ODWQS.
3) Inorganic parameter concentrations in mg/L, organic parameter concentrations in µg/L.

**TABLE 3-7**
**GUIDELINE B-7 CRITERIA - Volatile Organic Compounds : Meridian Brick Monitors**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | | CRITERIA FOR REASONABLE | 6A | 6B | 7A | 7B | 8A | 8B |
|---|---|---|---|---|---|---|---|---|---|
| | MAC | MDC | USE | Jun | Jun | Jun | Jun | Jun | Jun |
| **1,1-Dichloroethylene** | 14 | | 3.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | 200 | | 50 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **1,2-Dichloroethane** | 5 | | 1.3 | <0.49 | 0.58 | <0.49 | <0.49 | <0.49 | <0.49 |
| **1,4-Dichlorobenzene** | 5.0 | | 1.3 | <0.40 | <0.40 | <0.40 | <0.40 | 0.53 | **5.3** |
| **Benzene** | 1.0 | | 0.3 | <0.20 | **2.8** | <0.20 | <0.20 | **0.92** | **3.0** |
| **Carbon tetrachloride** | 2.0 | | 0.5 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 |
| **Chlorobenzene** | 80 | | 20 | <0.20 | 1.0 | <0.20 | <0.20 | 9.0 | **22** |
| **Dichloromethane** | 50 | | 12.5 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Ethyl Benzene** | | 1.6 | 0.8 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **m/p-Xylenes** | | 20 | 10 | <0.20 | 0.25 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | | 20 | 10 | <0.20 | 0.60 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | 10 | | 2.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Toluene** | | 24 | 12 | <0.20 | 0.39 | <0.20 | <0.20 | <0.20 | 0.52 |
| **Trichloroethylene** | 5 | | 1.3 | <0.20 | 0.44 | <0.20 | **1.4** | <0.20 | <0.20 |
| **Vinyl chloride** | 1 | | 0.3 | **0.31** | **47** | **16** | **4.7** | **3.1** | **3.4** |

| PARAMETER | ODWQS | | CRITERIA FOR REASONABLE | 9 | 10A | 10B | 11 | 12A | 12B |
|---|---|---|---|---|---|---|---|---|---|
| | MAC | MDC | USE | Jun | Jun | Jun | Jun | Jun | Jun |
| **1,1-Dichloroethylene** | 14 | | 3.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | 200 | | 50 | <0.40 | 0.82 | 7.0 | <0.40 | <0.40 | <0.40 |
| **1,2-Dichloroethane** | 5 | | 1.3 | <0.49 | <0.49 | <0.49 | <0.49 | <0.49 | <0.49 |
| **1,4-Dichlorobenzene** | 5.0 | | 1.3 | <0.40 | <0.40 | **13** | 1.1 | **3.7** | <0.40 |
| **Benzene** | 1.0 | | 0.3 | **0.69** | <0.20 | **4.4** | **3.4** | **0.55** | **0.38** |
| **Carbon tetrachloride** | 2.0 | | 0.5 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 |
| **Chlorobenzene** | 80 | | 20 | 0.58 | <0.20 | **120** | 4.3 | **42** | 7 |
| **Dichloromethane** | 50 | | 12.5 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Ethyl Benzene** | | 1.6 | 0.8 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **m/p-Xylenes** | | 20 | 10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | | 20 | 10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | 10 | | 2.5 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Toluene** | | 24 | 12 | <0.20 | <0.20 | 0.32 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | 5 | | 1.3 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl chloride** | 1 | | 0.3 | **0.36** | <0.20 | <0.20 | <0.20 | 0.22 | <0.20 |

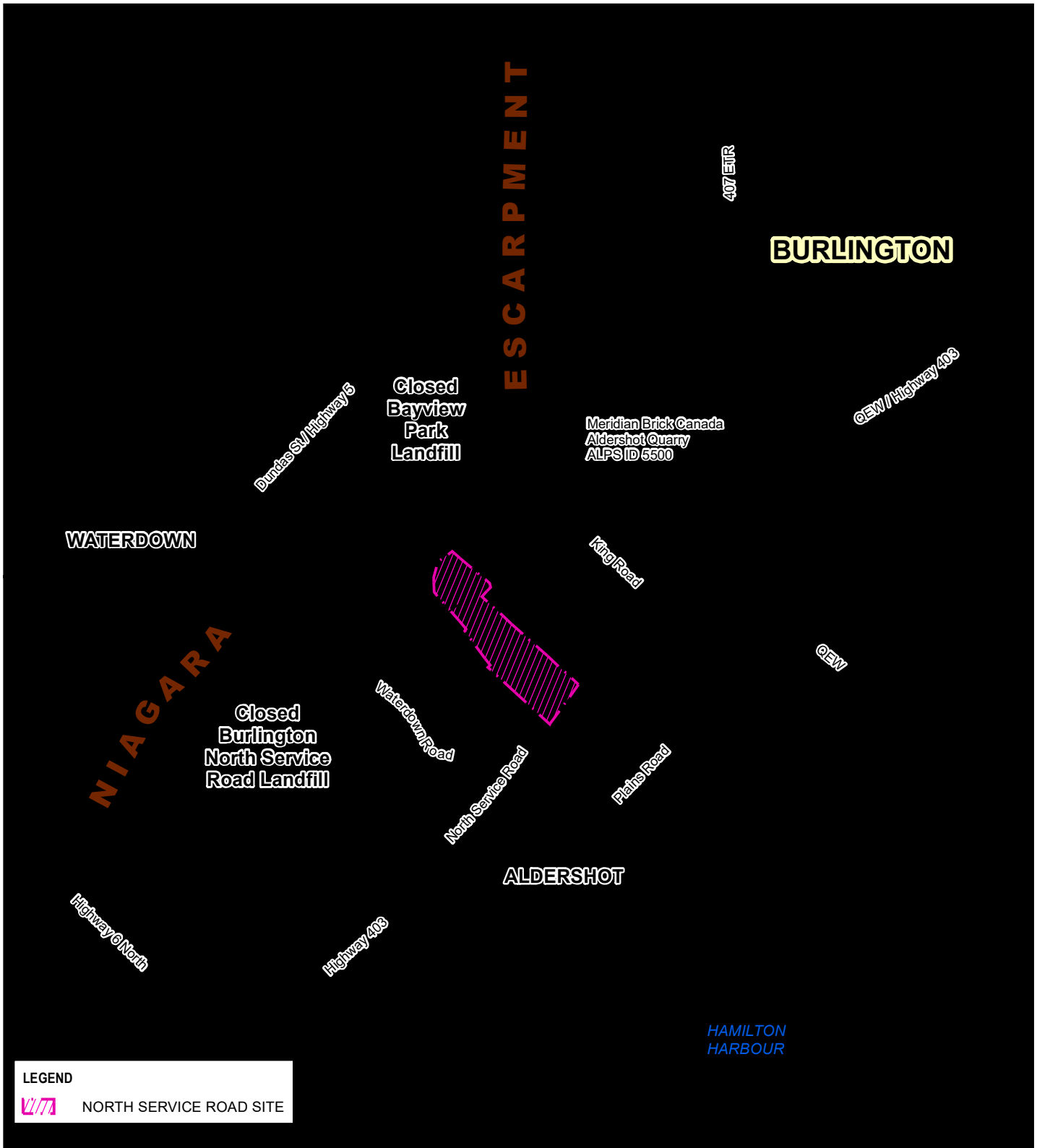
NOTES: 1) ODWQS - Ontario Drinking Water Quality Standards (2006 and updates).
MAC - Maximum Acceptable Concentration (health related parameter)
MDC - Maximum Desirable Concentration (aesthetic parameter)
"*" - Indicates concentration detected below the Limit of Quantitation
2) Concentrations in µg/L.
3) Reference average is assumed as 0.0 µg/L for all organic parameters.
4) Shading indicates parameter exceeds criteria for reasonable use.

**TABLE 3-8**
**SURFACE WATER PWQO EXCEEDANCES**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| LOCATION | | | SAMPLING EVENT | PARAMETER and PWQO | | |
|---|---|---|---|---|---|---|
| | | | | pH (6.5 - 8.5) | IRON (0.300 mg/L) | PHOSPHORUS (0.030 mg/L) |
| FALCON CREEK | UPSTREAM | SW1A | March | | 13 | 0.460 |
| | | | June | | 0.79 | 0.087 |
| | | | September | | 1.3 | 0.090 |
| | | | December | | 0.68 | 0.053 |
| | ADJACENT/ DOWNSTREAM | SW2 | March | | 18 | 0.610 |
| | | | June | | 0.74 | 0.120 |
| | | | September | 8.54 | 0.53 | 0.074 |
| | | | December | | | 0.054 |
| | | SW3 | March | | 25 | 0.830 |
| | | | June | | 0.94 | 0.130 |
| | | | September | | 0.34 | 0.080 |
| | | | December | | | 0.051 |
| | DOWNSTREAM | SW11 | March | | 1.3 | 0.150 |
| | | | June | | (dry) | |
| | | | September | | (dry) | |
| | | | December | | (ponded / stagnant) | |
| | | SW12 | March | | 1.3 | 0.110 |
| | | | June | | (dry) | |
| | | | September | | 1.3 | 0.150 |
| | | | December | | | |
| | | SW13 | March | | 1.1 | 0.090 |
| | | | June | | 6.8 | 0.240 |
| | | | September | | 2.1 | 0.081 |
| | | | December | | | 0.05 |
| | | SW14 | March | | 22 | 0.660 |
| | | | June | | 1.7 | 0.120 |
| | | | September | | | 0.057 |
| | | | December | | | 0.049 |
| INDIAN CREEK | DOWNSTREAM | SW5 | March | | (dry) | |
| | | | June | | 0.52 | |
| | | | September | | | |
| | | | December | | (dry) | |
| | | SW10 | March | | 1.1 | 0.140 |
| | | | June | | 2.6 | 0.130 |
| | | | September | | 0.93 | 0.130 |
| | | | December | | | |
| | | SW16 | March | | 0.66 | 0.120 |
| | | | June | | (dry) | |
| | | | September | | 2.5 | 0.100 |
| | | | December | | | |

NOTES: 1) PWQO - Provincial Water Quality Objectives (1994)
2) Blank indicates parameter concentration was within the PWQO.

# FIGURES




126 DON HILLOCK DRIVE, UNIT 2
AURORA, ONTARIO CANADA L4G 0G9
TEL.: 905-750-3080 | FAX: 905-727-0463 | WWW.WSP.COM

| | | |
|---|---|---|
| PROJECT: 2021 ANNUAL MONITORING REPORT<br>CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE | SCALE: 1:50,000 | |
| | DRAWN BY: JLD | CHECKED BY: - |
| TITLE: LOCATION MAP | PROJECT NO: 181-30000-100-1004 | |
| | DATE: FEBRUARY 2022 | |
| CLIENT: REGIONAL MUNICIPALITY OF HALTON | FIGURE NO: 1-1 | REV.: - |

Document Path: H:\Projects\2018\181-30000-00\100 Burlington North Service Road\1004\Grph\181-30000-100-1004-F1-1-LM.mxd

INSET MAP SOURCE:
YEAR 2004 ANNUAL MONITORING REPORT - CANADA BRICK, ALDERSHOT BRICK PLANT AND QUARRY, GOLDER ASSOCIATES, 2005.
- UPDATED FROM MONITORING WELL/GAS PROBE LOCATION PLAN, GOLDER ASSOCIATES, FEB. 2009.

MAP SOURCE:
GARTNER LEE LIMITED, 1991; 1991 GROUND WATER AND SURFACE WATER MONITORING REPORT FOR THE CLOSED BURLINGTON LANDFILL, AND HENDERSON, PADDON ENVIRONMENTAL INC., 1994; 1993.

LIMIT OF QUARRY ACTIVITIES (TOE AND TOP OF SLOPE) FROM AERIAL PHOTOGRAPHY PROVIDED BY MERIDIAN BRICK, 2020.

INSET MAP

KING ROAD
BRICK PLANT
INDUSTRIAL PARK
NORTH SERVICE ROAD
HIGHWAY 403
CLOSED BAYVIEW PARK LANDFILL
SCHOOL
POND
INDIAN CREEK TRIBUTARY
PROPOSED LIMIT OF EXTRACTION
PONDS
MERIDIAN BRICK PROPERTY
BRICK PLANT
INDUSTRIAL PROPERTY
Yorkton Court
CAR DEALERSHIP
SWMH
Former Seep
CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL
FORMER BELL CANADA LINE
FORMER MAINTENANCE BUILDING
FORMER WASTE TRANSFER PAD
FLOW METER BUILDING
MAINTENANCE HOLE 23
FALCON CREEK
TRUE NORTH
STUDY NORTH
1000 500 0 60 metres


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LEGEND

- 24 GROUNDWATER MONITOR LOCATION AND DESIGNATION
- 18 FORMER MONITOR LOCATION, DECOMMISSIONED IN 2016
- 35 PREVIOUS BOREHOLE LOCATION AND DESIGNATION (DESTROYED, DECOMMISSIONED OR DAMAGED AND NO LONGER IN USE)
- MW1 MERIDIAN BRICK BOREHOLE LOCATION & DESIGNATION
- SW3 SURFACE WATER MONITORING STATION & DESIGNATION
- INTERMITTENT DRAINAGE COURSE WITH FLOW DIRECTION
- FORMER DRAINAGE COURSE
- PROPERTY BOUNDARY
- APPROXIMATE EXTENT OF REFUSE
- LEACHATE COLLECTION SYSTEM
- STORM SEWER (LANDFILL SITE)
- STORM SEWER (HANSON BRICK SITE)
- SEEP REPAIR LOCATION
- APPROX. LIMIT OF QUARRY ACTIVITIES - TOP OF SLOPE
- APPROX. LIMIT OF QUARRY ACTIVITIES - TOE OF SLOPE

CLIENT:
**REGIONAL MUNICIPALITY OF HALTON**

CLIENT REF. #:

PROJECT:
**2021 ANNUAL MONITORING REPORT CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE**

| PROJECT NO: | DATE / DATE: |
|---|---|
| 181-30000-100-1004 | FEBRUARY 2022 |

DESIGNED BY:

DRAWN BY:
JLD

CHECKED BY:

| FIGURE NO: | SCALE: |
|---|---|
| 1-2 | 1:6000 (APPROX.) |

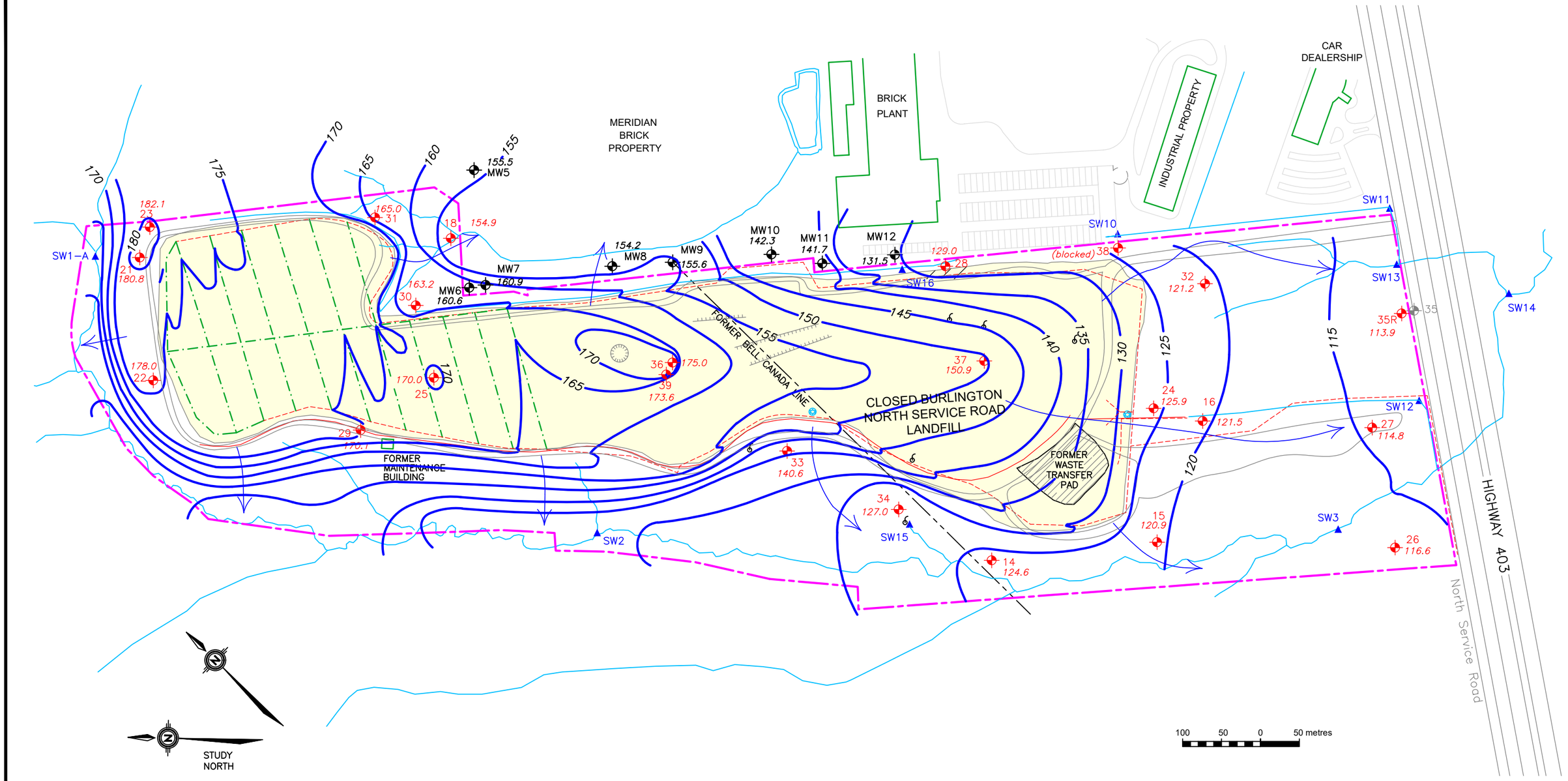
TITLE:
**SITE PLAN**

DISCIPLINE:
**ENVIRONMENT**

ISSUE:

DATE OF:


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wsp

126 DON HILLOCK DRIVE, UNIT 2
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LEGEND

- PROPERTY BOUNDARY
- LIMIT OF EXISTING LANDFILL
- 29 / 166.3 — BOREHOLE LOCATION, DESIGNATION AND SHALLOW GROUNDWATER ELEVATION (mASL), (SEPTEMBER 2021)
- 35 — PREVIOUS BOREHOLE LOCATION AND DESIGNATION (DESTROYED, DECOMMISSIONED OR DAMAGED AND NO LONGER IN USE)
- MW6 / 159.6 — MERIDIAN BRICK BOREHOLE LOCATION, DESIGNATION AND SHALLOW GROUNDWATER ELEVATION (mASL), (NOVEMBER 2021)
- SW3 — SURFACE WATER MONITORING STATION LOCATION AND DESIGNATION
- INTERMITTENT DRAINAGE COURSE
- FORMER INTERMITTENT DRAINAGE COURSE
- LEACHATE UNDERDRAIN SYSTEM
- EXISTING TOE DRAIN SYSTEM
- 175 — INFERRED GROUNDWATER TABLE CONTOUR (mASL)
- PROBABLE DIRECTION OF SHALLOW GROUNDWATER FLOW

CLIENT:
**REGIONAL MUNICIPALITY OF HALTON**

CLIENT REF. #:

PROJECT:
**2021 ANNUAL MONITORING REPORT CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE**

| | |
|---|---|
| PROJECT NO: 181-30000-100-1004 | DATE: FEBRUARY 2022 |
| DESIGNED BY: | |
| DRAWN BY: JLD | |
| CHECKED BY: | |
| FIGURE NO: 2-1 | SCALE: 1:5000 |

TITLE:
**SHALLOW GROUNDWATER FLOW REGIME - FALL 2021**

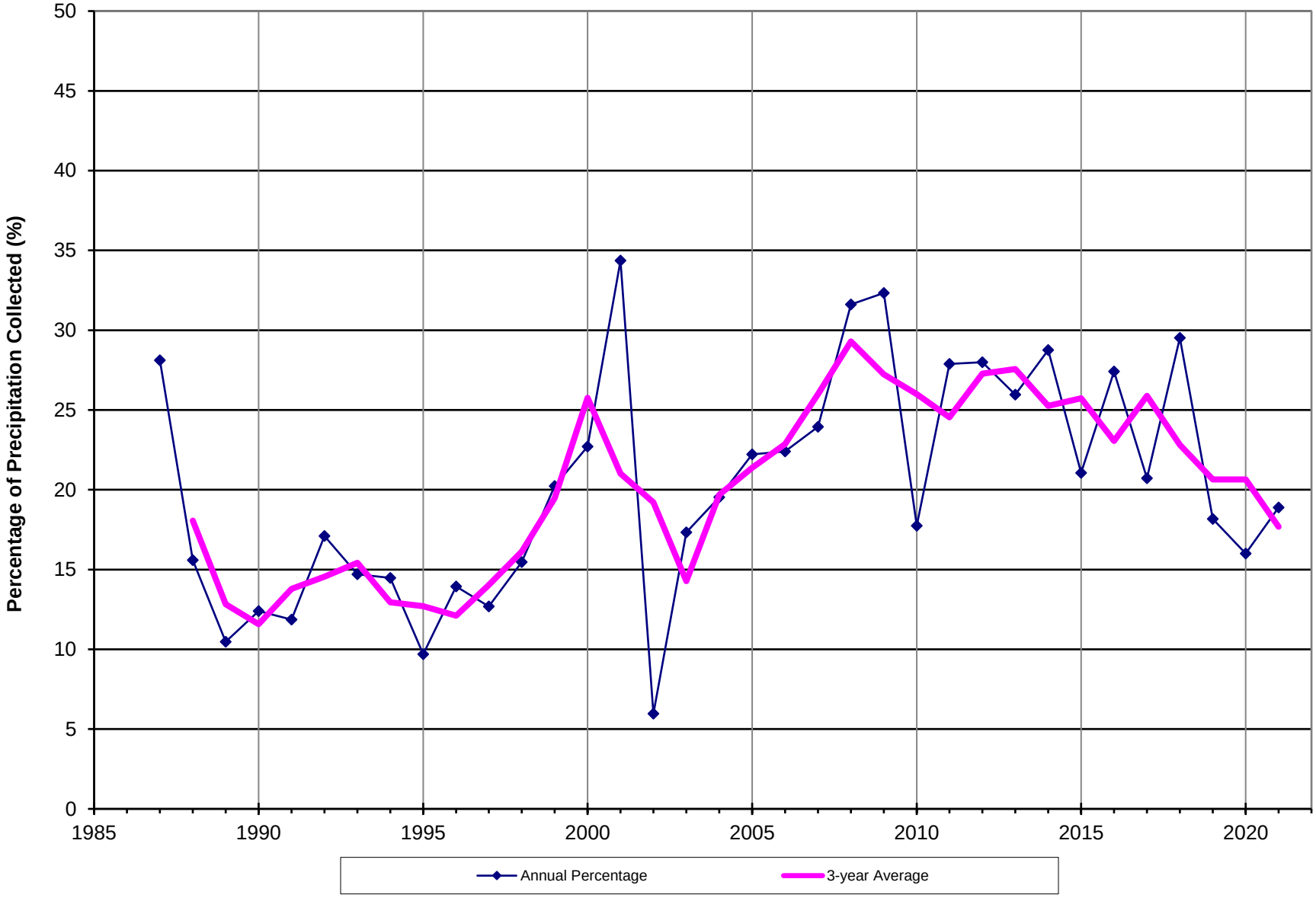
DISCIPLINE:
**ENVIRONMENT**

ISSUE:

DATE OF:


Ansi B-SCE, H:\Projects\2018\181-30000-00\100 Burlington North Service Road\1004\Grph\181-30000-100-1004-F2-1-GW.dwg, 28/01/2022 3:53:37 PM

# FIGURE 2-2
## Leachate Volumes vs Time



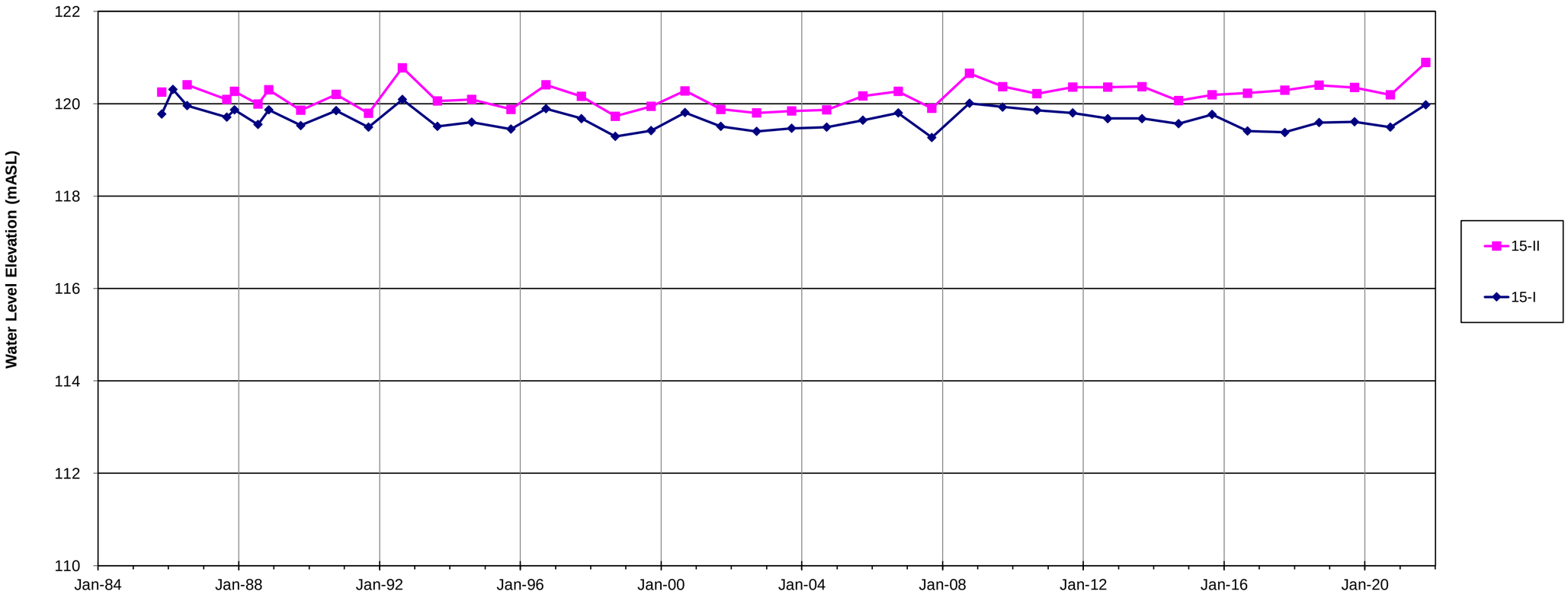
# APPENDIX

# A GROUNDWATER REGIME

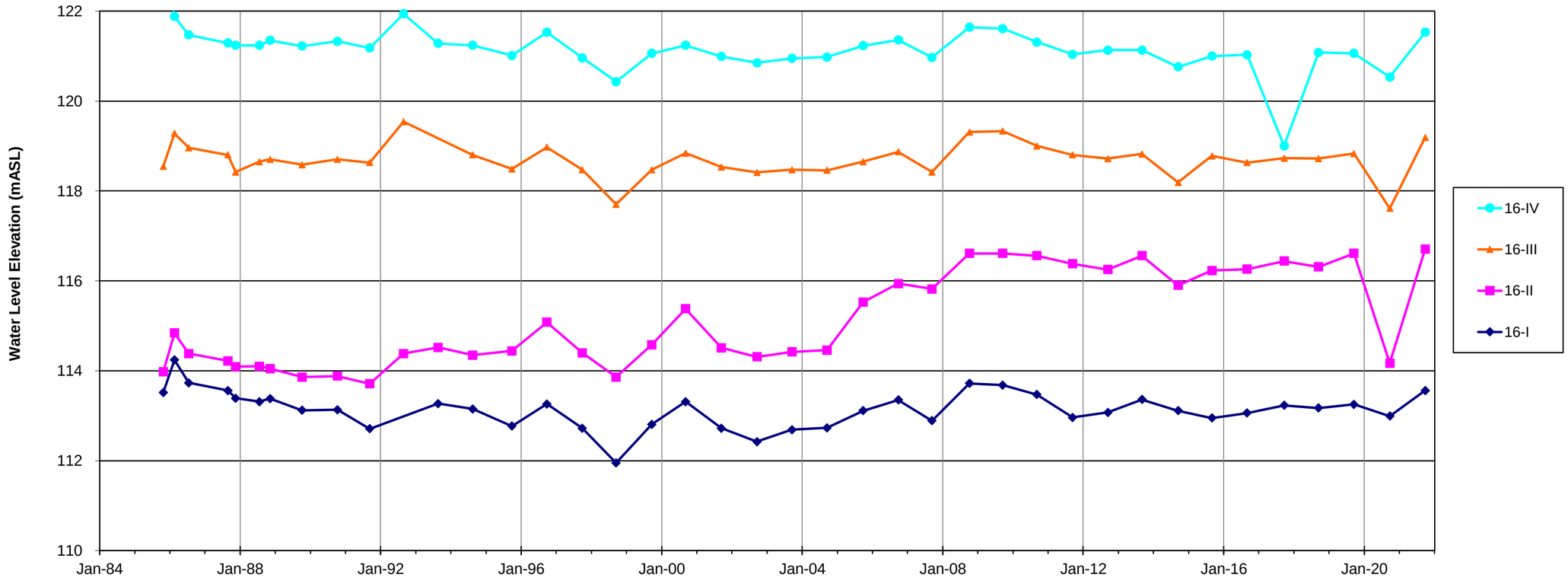
# FIGURE A-1
## GROUNDWATER HYDROGRAPH - Monitor Location 14



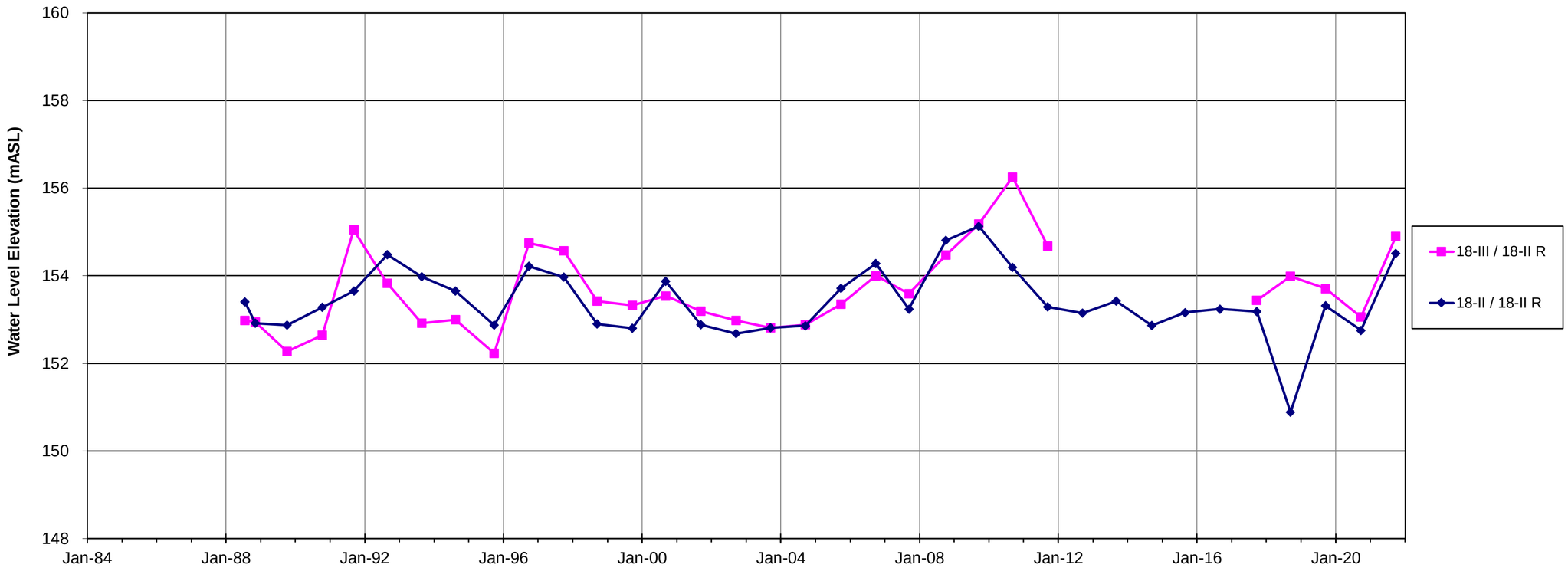

# FIGURE A-2
## GROUNDWATER HYDROGRAPH - Monitor Location 15



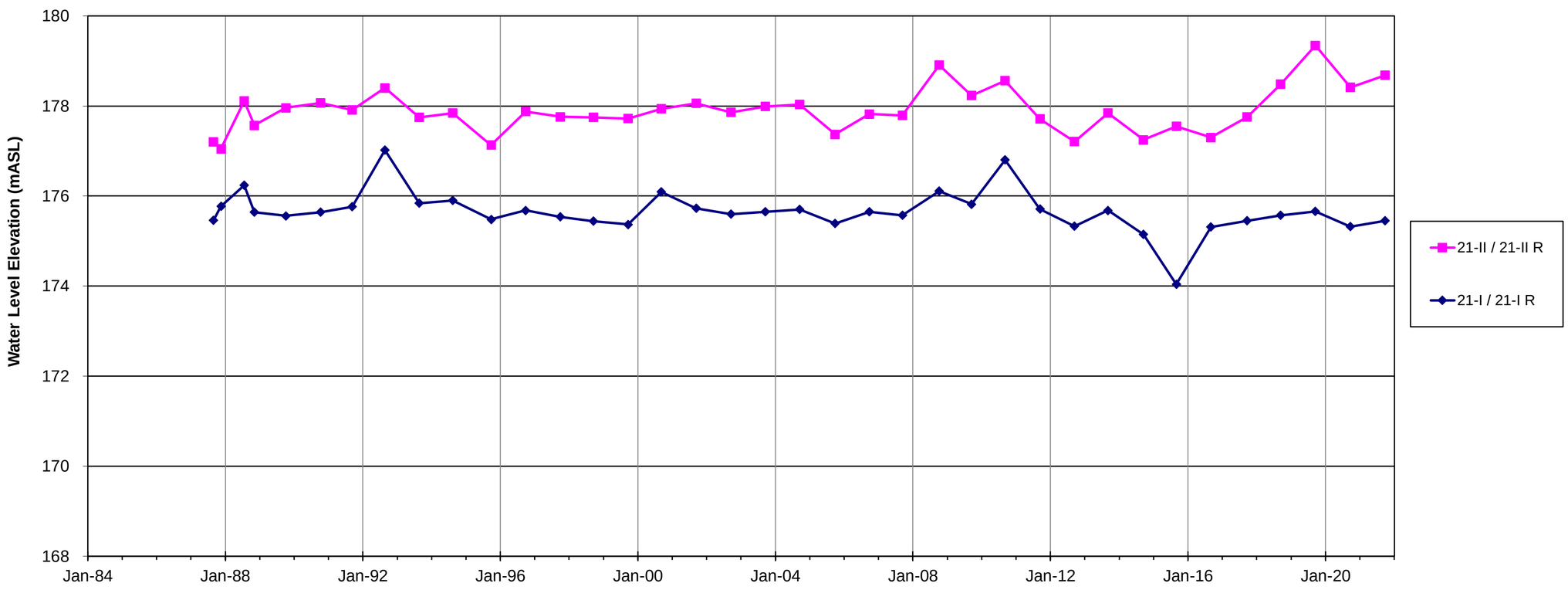

# FIGURE A-3
## GROUNDWATER HYDROGRAPH - Monitor Location 16



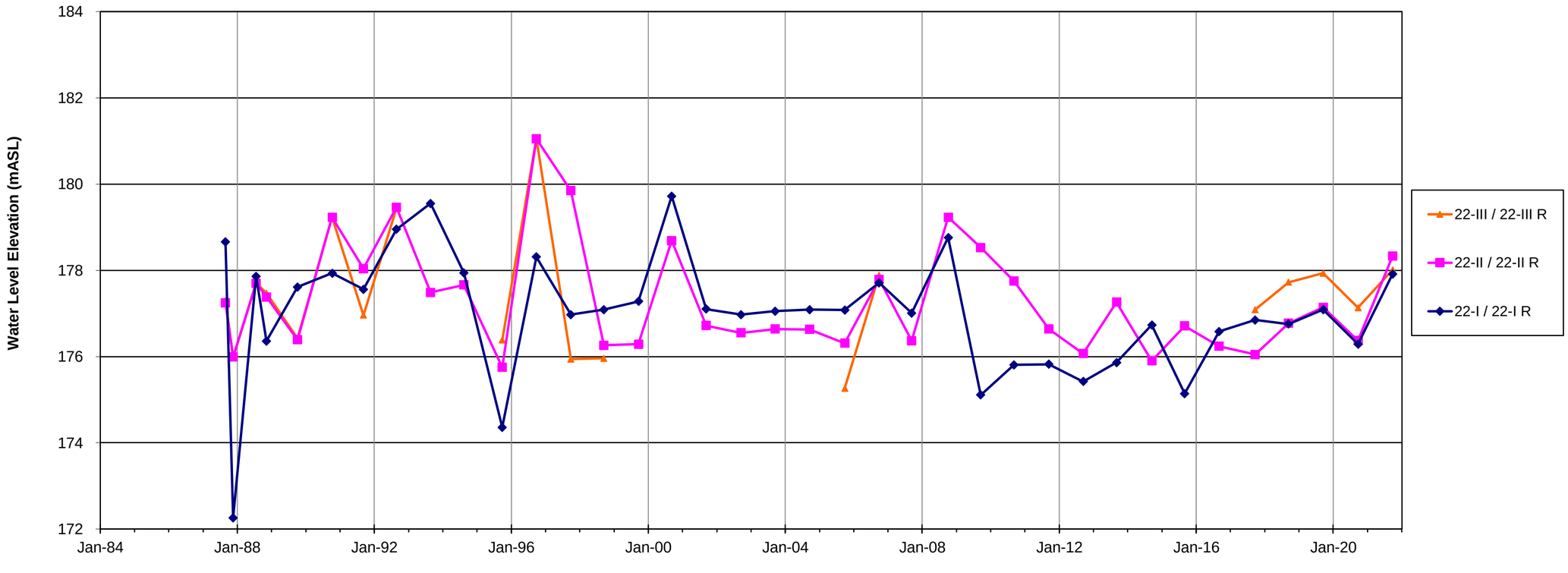
# FIGURE A-4
## GROUNDWATER HYDROGRAPH - Monitor Location 18



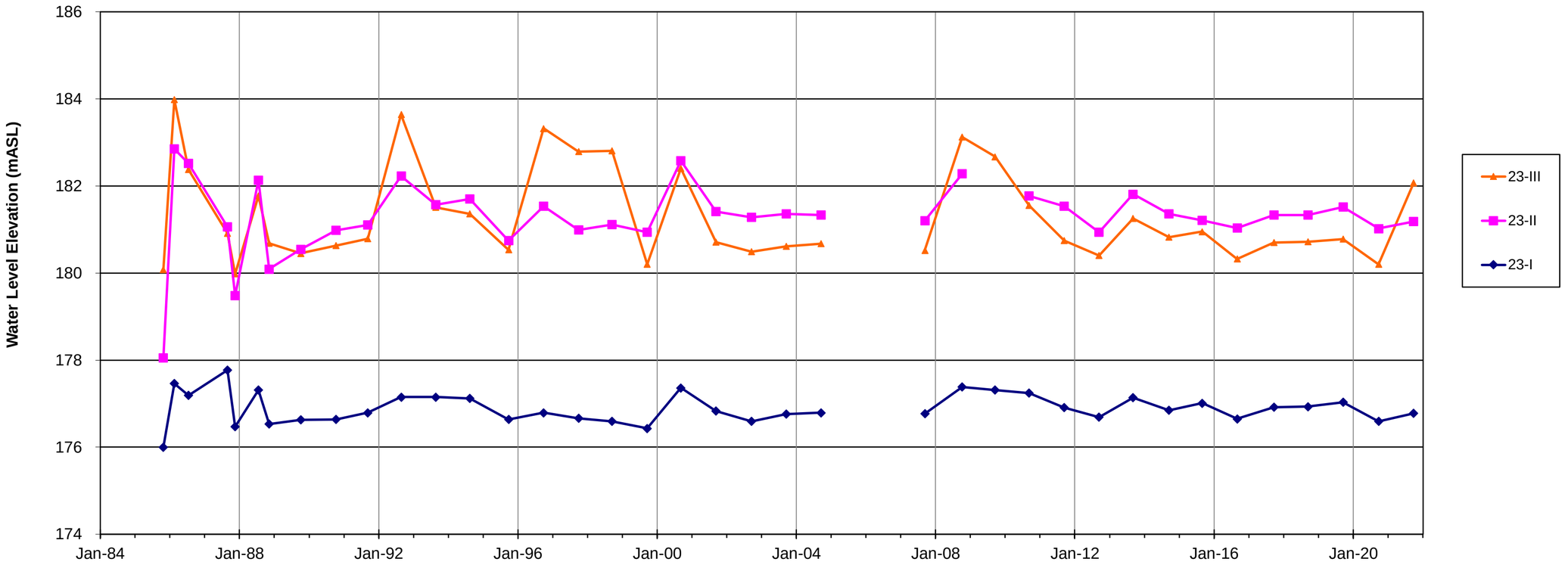

# FIGURE A-5
## GROUNDWATER HYDROGRAPH - Monitor Location 21



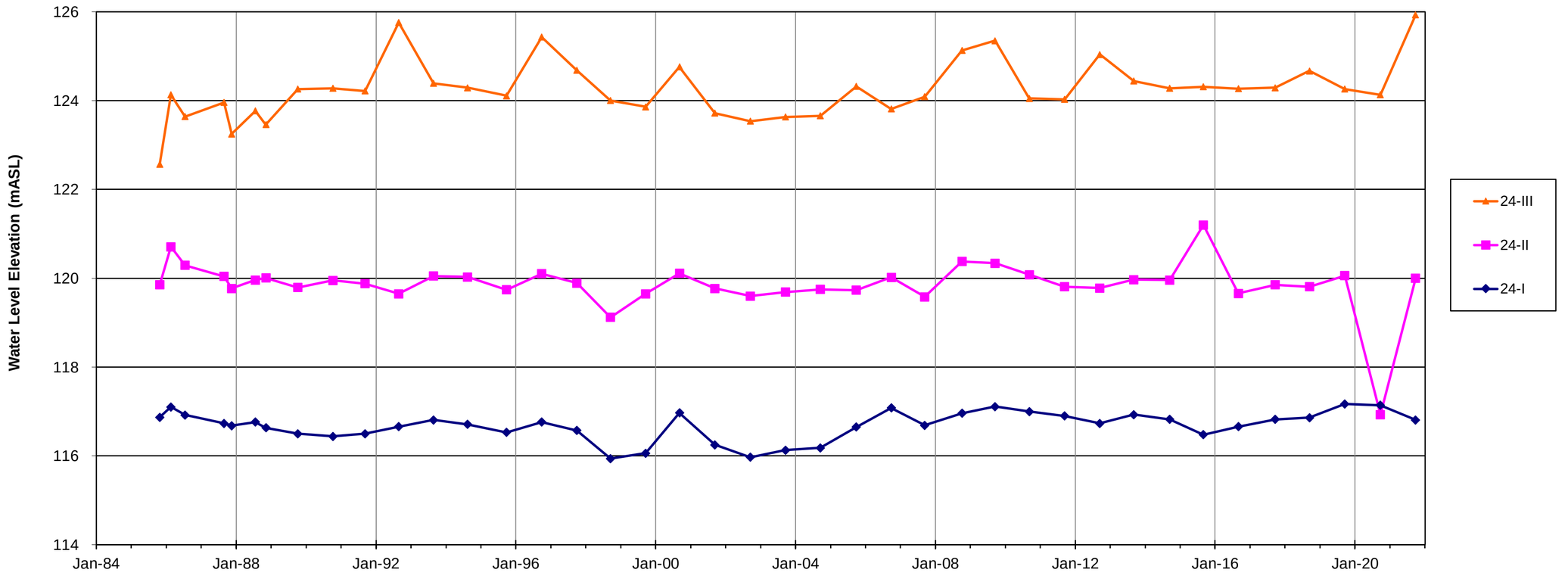

# FIGURE A-6
## GROUNDWATER HYDROGRAPH - Monitor Location 22



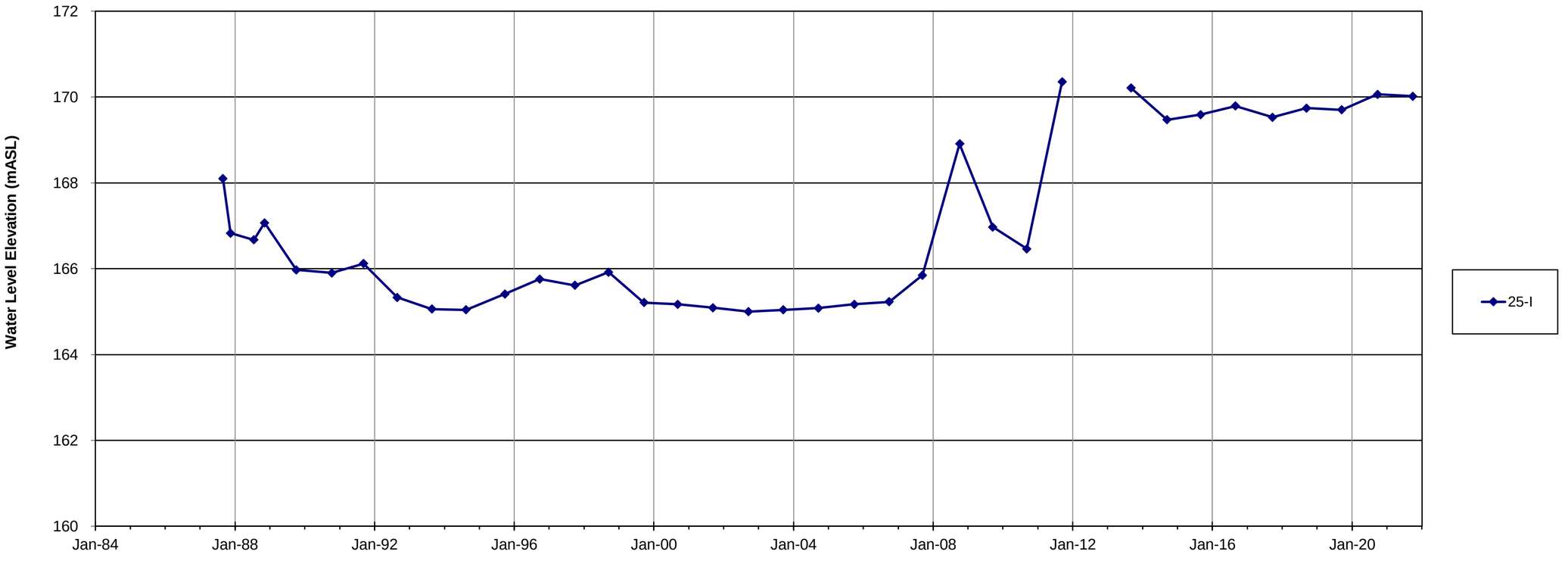
# FIGURE A-7
## GROUNDWATER HYDROGRAPH - Monitor Location 23



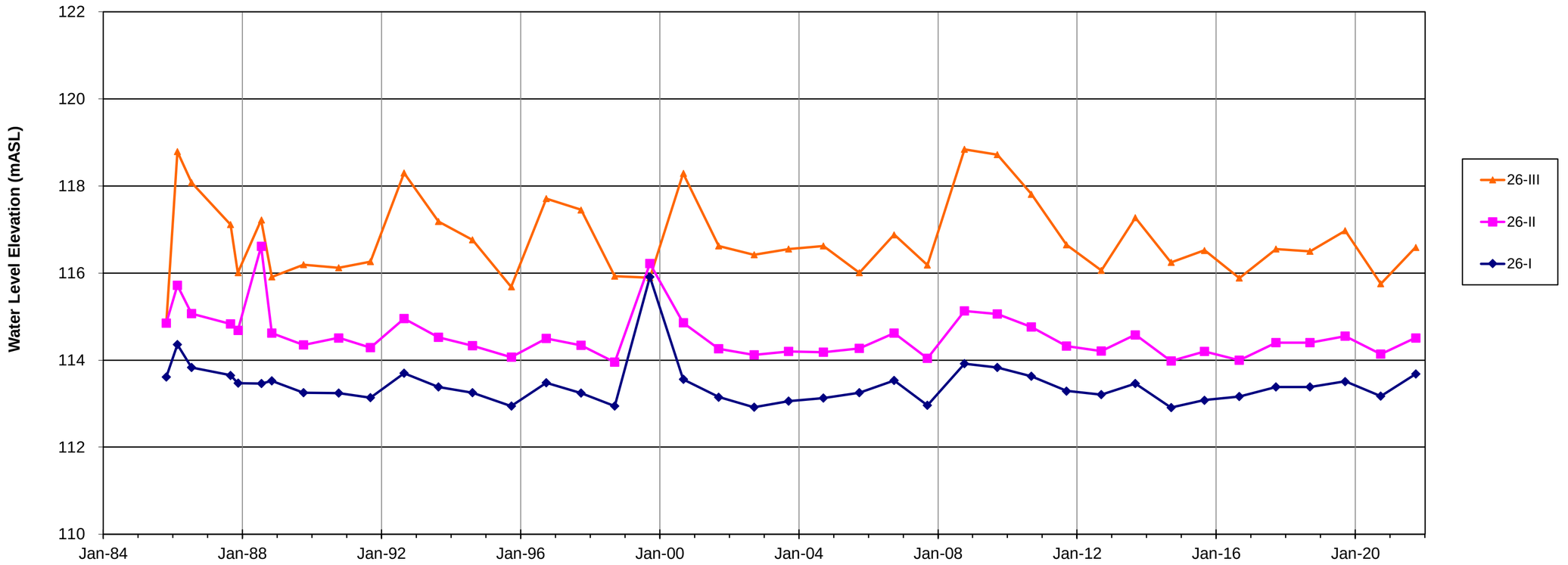

# FIGURE A-8
## GROUNDWATER HYDROGRAPH - Monitor Location 24



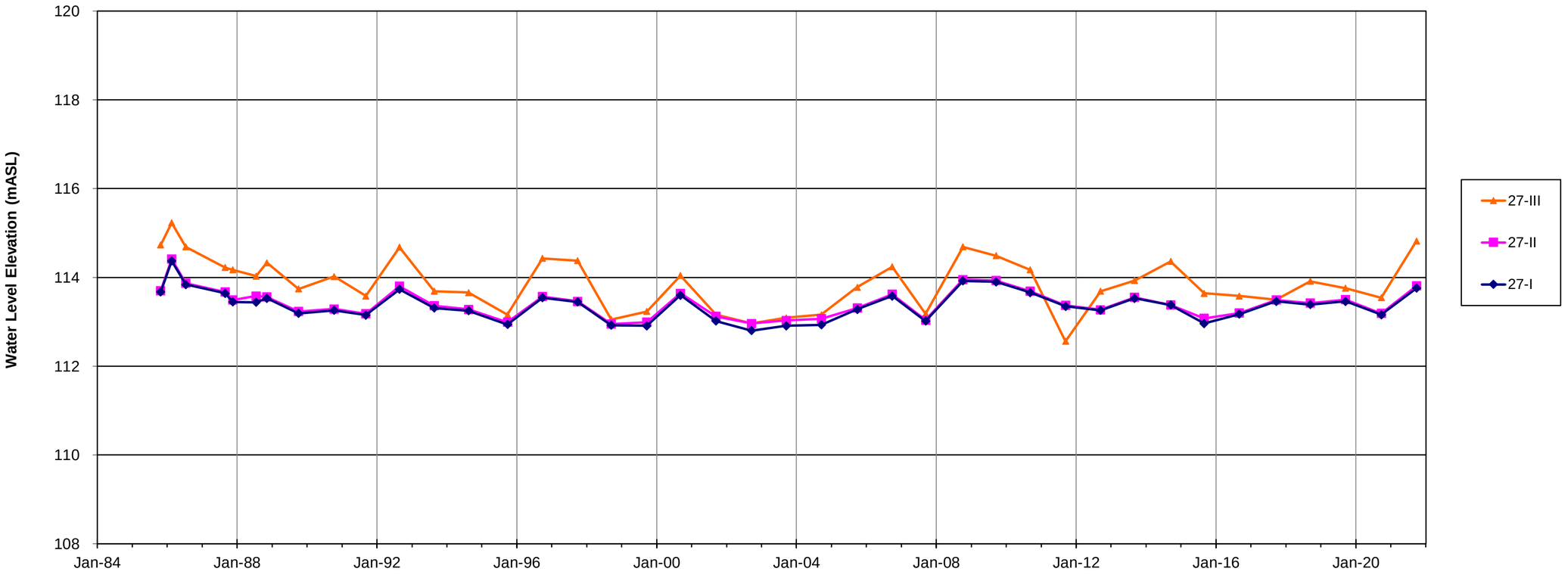

# FIGURE A-9
## LEACHATE HYDROGRAPH - Monitor Location 25



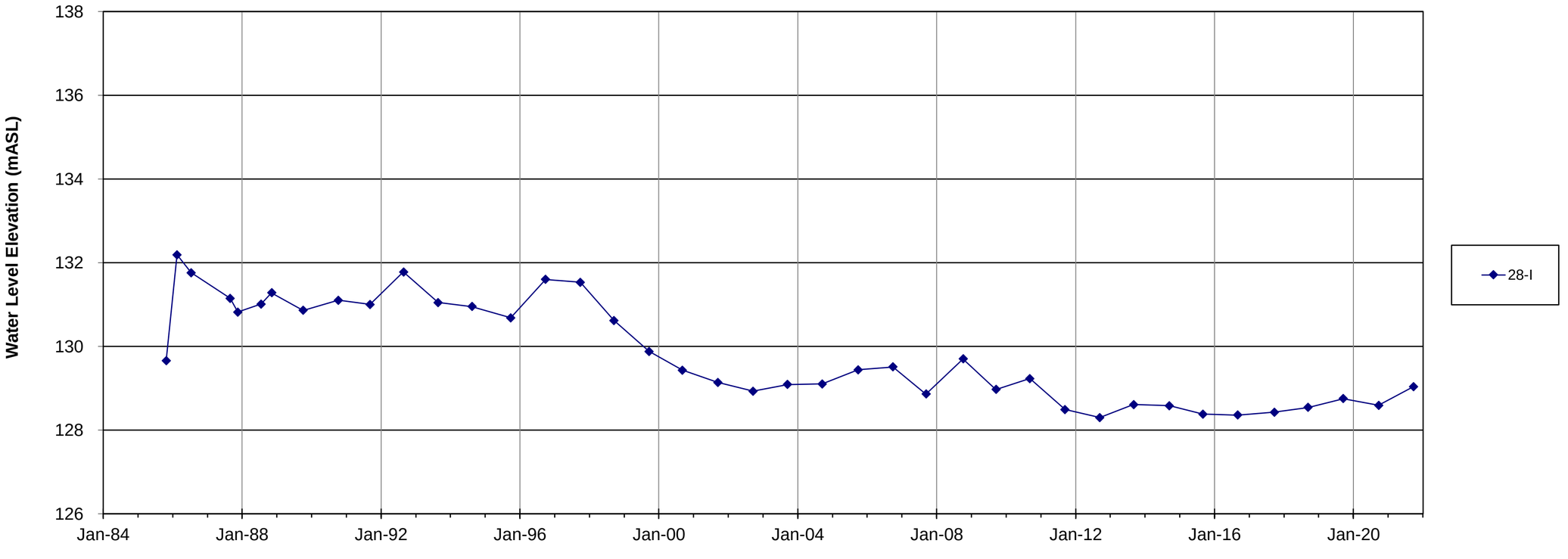
# FIGURE A-10
## GROUNDWATER HYDROGRAPH - Monitor Location 26



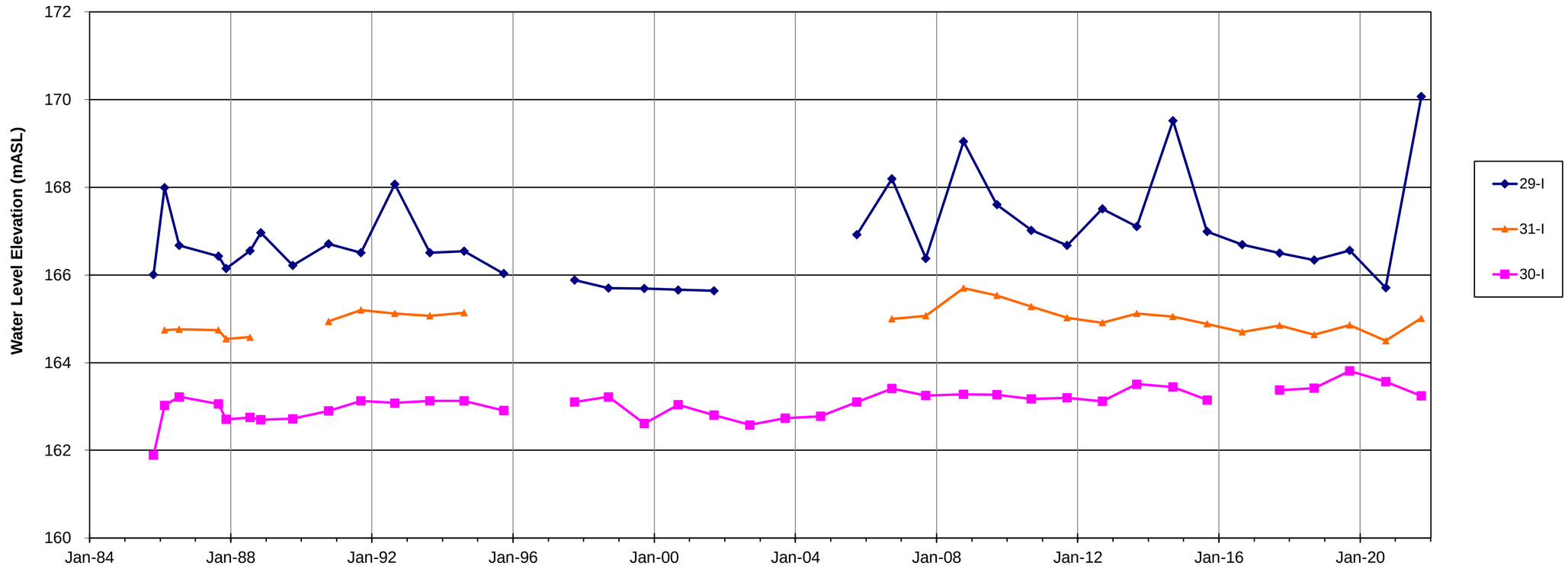

# FIGURE A-11
## GROUNDWATER HYDROGRAPH - Monitor Location 27



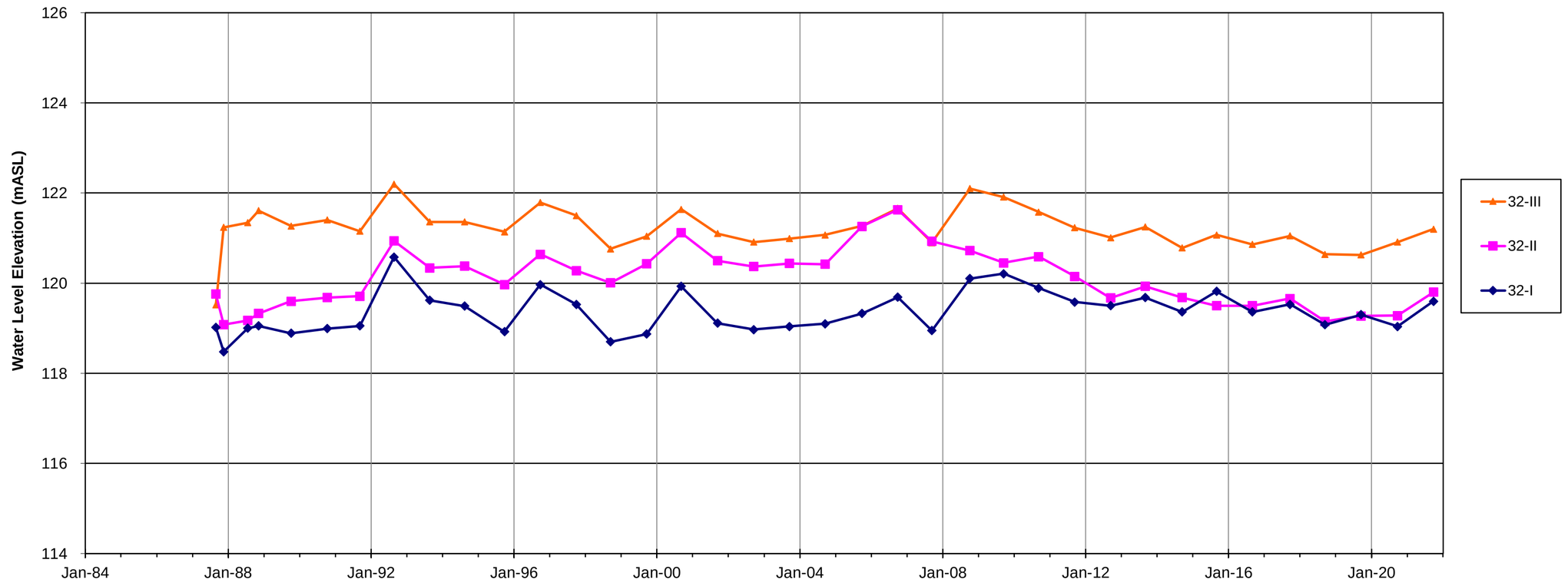

# FIGURE A-12
## GROUNDWATER HYDROGRAPH - Monitor Location 28



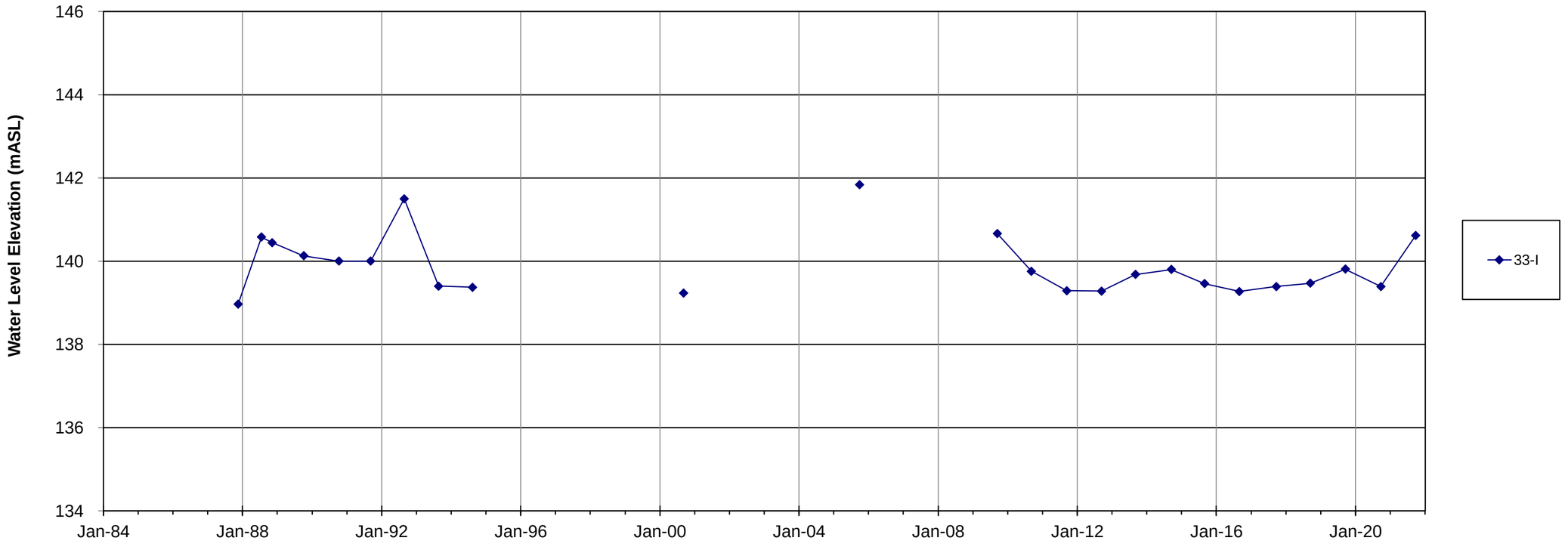
# FIGURE A-13
## GROUNDWATER HYDROGRAPH - Monitor Locations 29 - 31



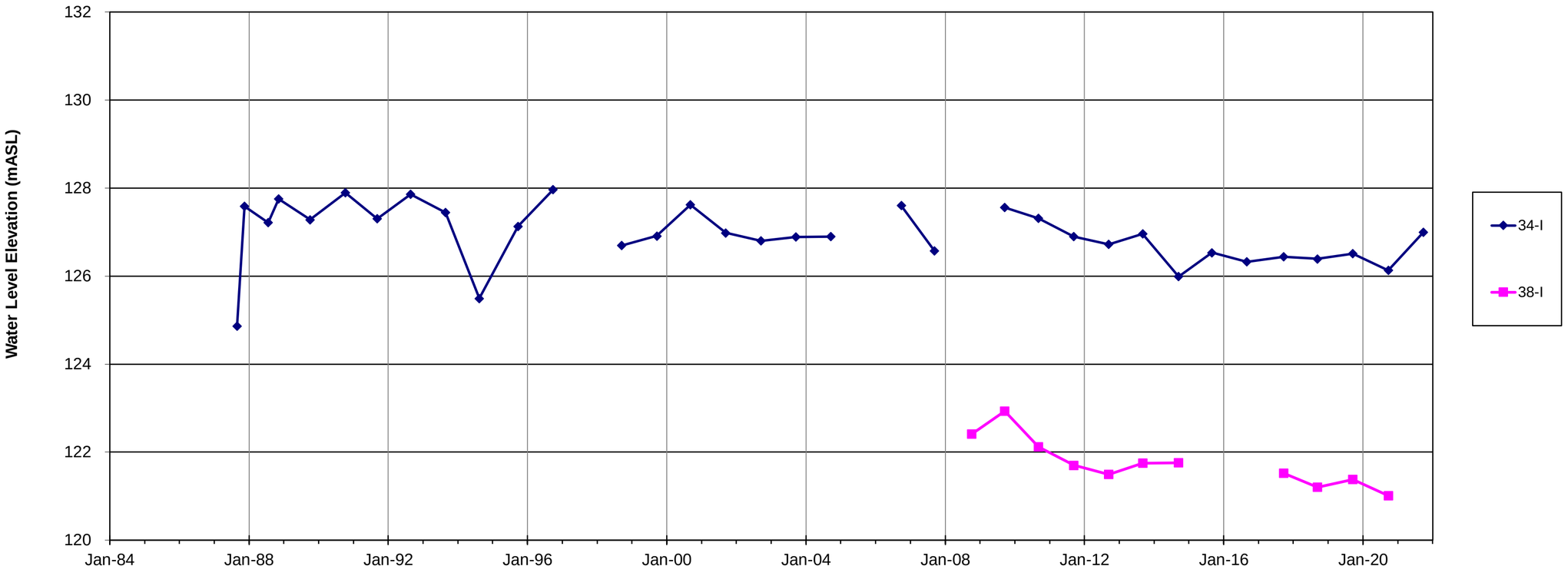

# FIGURE A-14
## GROUNDWATER HYDROGRAPH - Monitor Location 32



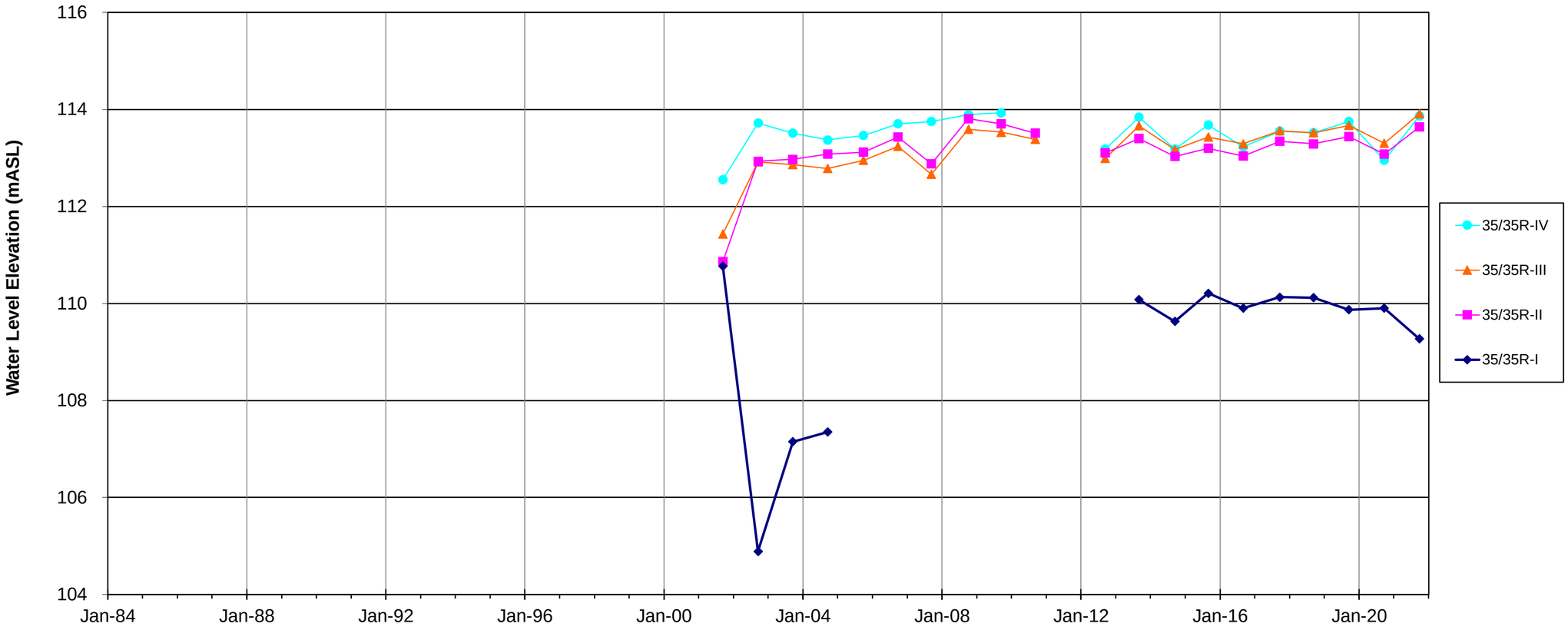

# FIGURE A-15
## GROUNDWATER HYDROGRAPH - Monitor Location 33



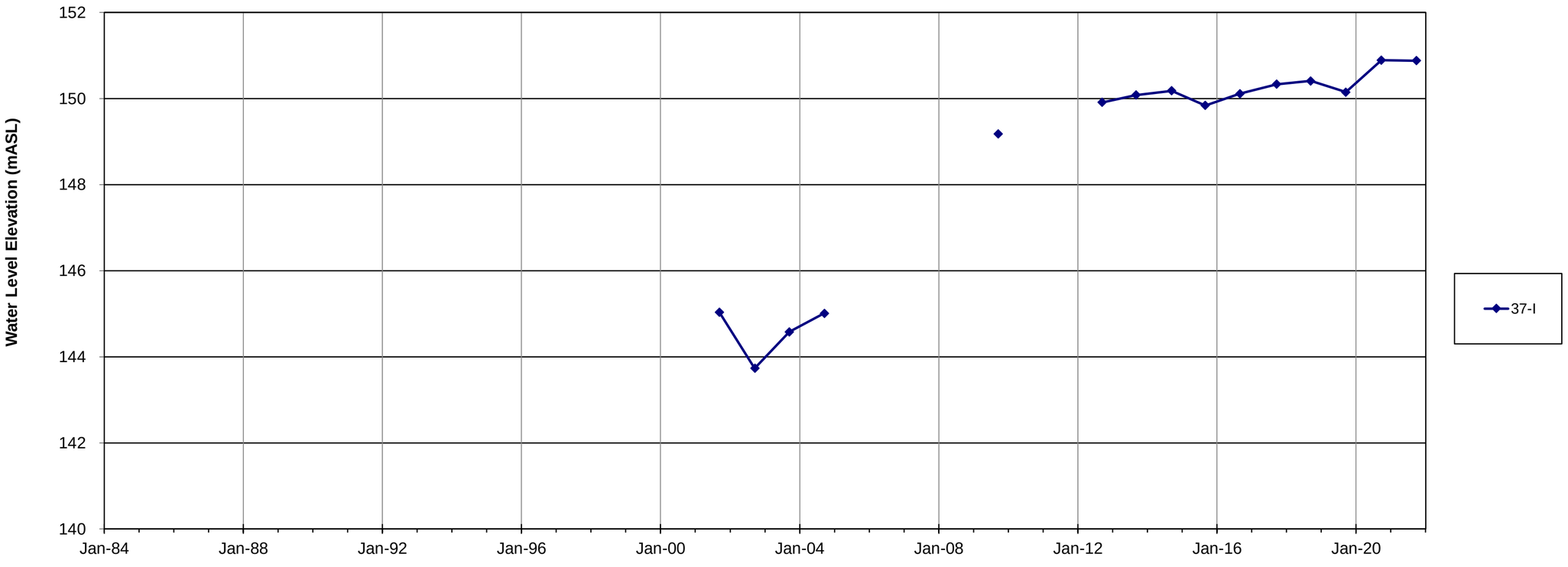
# FIGURE A-16
## GROUNDWATER HYDROGRAPH - Monitor Location 34 & 38




# FIGURE A-17
## GROUNDWATER HYDROGRAPH - Monitor Location 35/35R

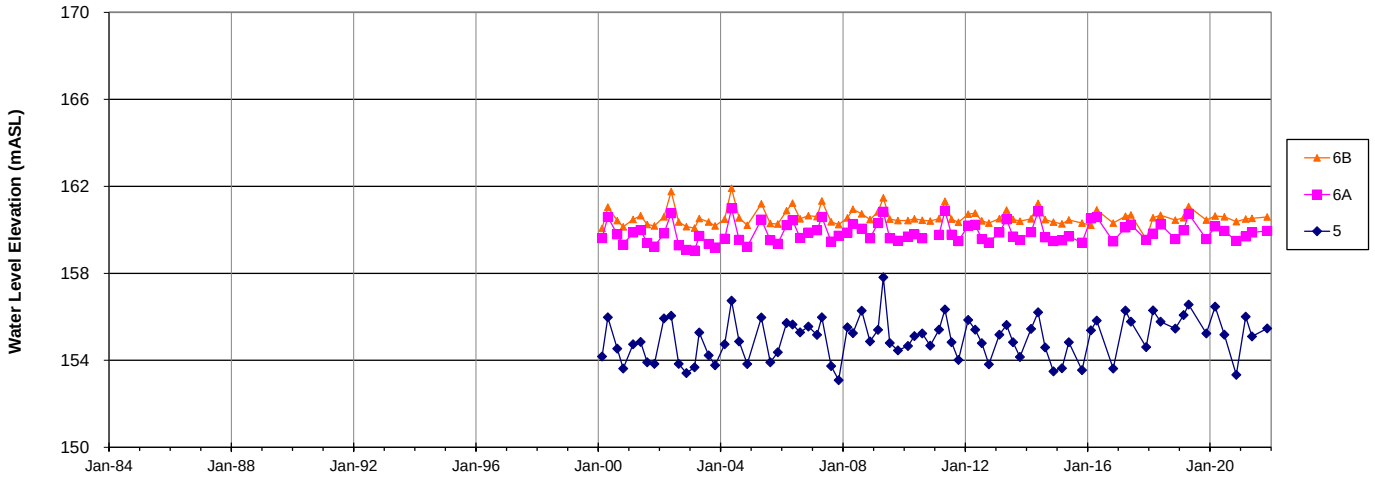



# FIGURE A-18
## LEACHATE HYDROGRAPH - Monitor Location 37



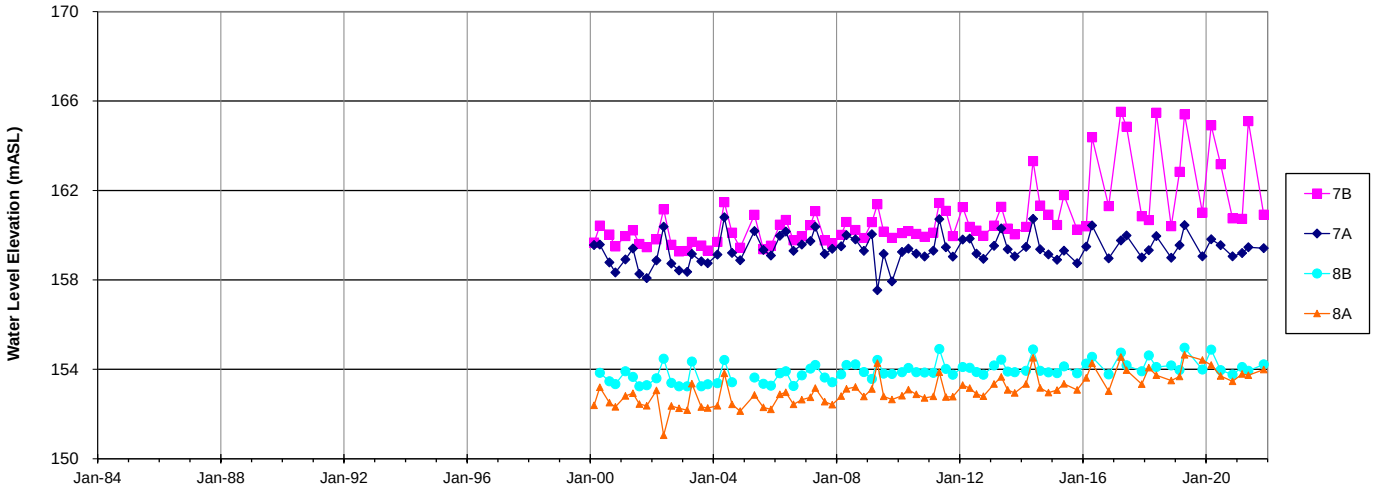
## FIGURE A-19

**GROUNDWATER HYDROGRAPH - Meridian Brick Borehole Locations 5 & 6**



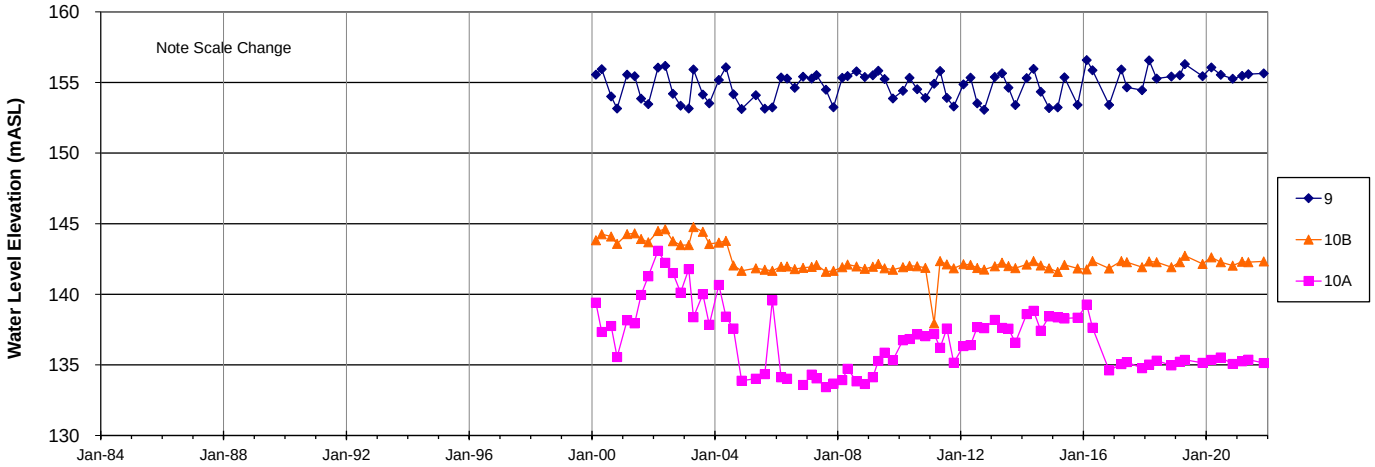

## FIGURE A-20

**GROUNDWATER HYDROGRAPH - Meridian Brick Borehole Locations 7 & 8**




## FIGURE A-21

**GROUNDWATER HYDROGRAPH - Meridian Brick Borehole Locations 9 & 10**



# FIGURE A-22

## GROUNDWATER HYDROGRAPH - Meridian Brick Borehole Locations 11 & 12

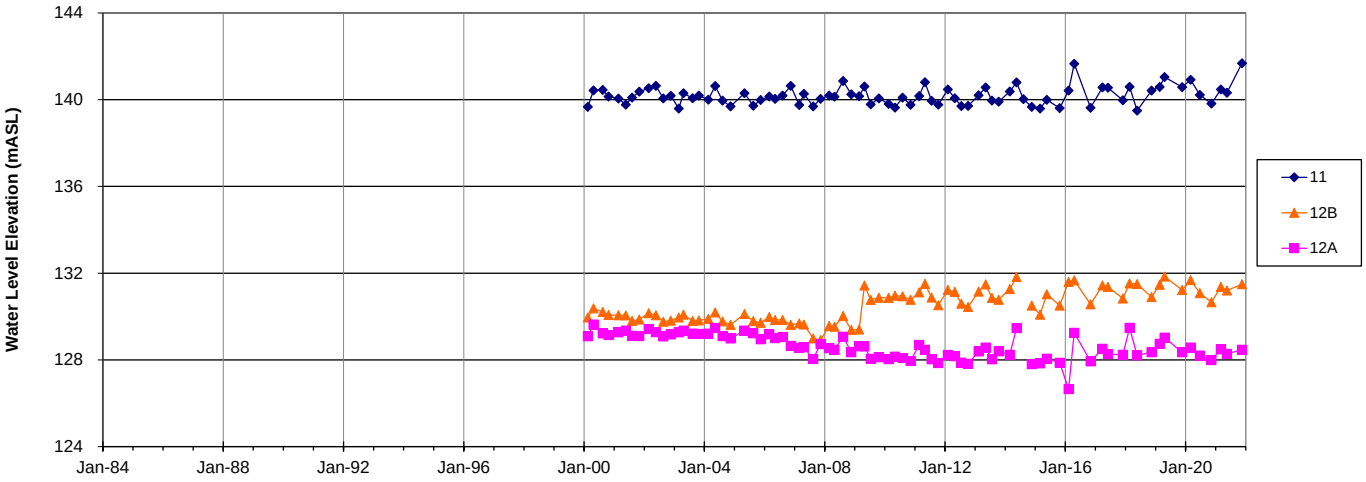


**TABLE A-1**
**GROUNDWATER MONITOR DETAILS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR NO. | MONITOR NO. | TYPE | DIAMETER (mm) | (T.O.P.) (mASL) | SCREENED INTERVAL (mASL) | FILTER PACK (mASL) | SEAL (mASL) | BACKFILL (mASL) |
|---|---|---|---|---|---|---|---|---|
| **11A** | **II** | S | 31 | 135.14 | 132.2 - 128.1 | 132.8 - 128.1 | 129.2 - 128.1 | |
| | | | | | | | 134.2 - 133.0 | |
| | **I** | P | 31 | 134.97 | 121.6 - 121.1 | 122.2 - 121.1 | 123.2 - 122.2 | |
| **12** | **III** | S | 19 | 127.9 | 126.3 - 124.9 | 126.3 - 124.9 | 127.4 - 126.3 | |
| | **II** | P | 32 | 127.7 | 120.4 - 120.1 | 120.4 - 120.1 | 121.4 - 120.4 | |
| | **I** | P | 32 | 127.9 | 115.2 - 114.7 | 115.4 - 114.7 | 116.4 - 115.4 | |
| **13** | **II** | S | 19 | 122.6 | 119.0 - 115.9 | 119.0 - 115.9 | 115.9 - 114.4 | |
| | | | | | | | 122.0 - 120.9 | |
| | **I** | P | 19 | 122.6 | 112.7 - 112.2 | 112.9 - 112.2 | 113.1 - 112.1 | |
| **14** | **II** | S | 31 | 125.74 | 124.17 - 119.17 | 124.17 - 119.17 | 119.2 - 117.7 | |
| | | | | | | | 125.3 - 124.2 | |
| | **I** | P | 31 | 125.73 | 114.77 - 114.27 | 115.37 - 114.27 | 116.4 - 115.4 | |
| **15** | **II** | S | 31 | 121.81 | 119.60 - 114.90 | 119.60 - 114.90 | 114.9 - 113.4 | |
| | | | | | | | 121.0 - 119.6 | |
| | **I** | P | 31 | 121.39 | 110.60 - 110.10 | 111.10 - 110.10 | 112.1 - 111.1 | |
| **16** | **IV** | S | 31 | 123.91 | 121.50 - 116.90 | 121.50 - 116.90 | 116.9 - 116.5 | |
| | | | | | | | 123.0 - 121.5 | |
| | **III** | P | 31 | 123.92 | 113.60 - 113.10 | 114.20 - 113.10 | 115.2 - 114.2 | |
| | **II** | P | 31 | 124.03 | 105.90 - 105.40 | 106.90 - 105.40 | 105.4 - 104.9 | |
| | | | | | | | 107.9 - 106.9 | |
| | **I** | P | 31 | 123.61 | 94.70 - 94.20 | 96.10 - 94.20 | 97.1 - 96.1 | |
| **18** | **III** | S | 31 | 157.75 | 155.45 - 149.65 | 155.45 - 149.65 | 156.4 - 155.5 | |
| | **II** | P | 31 | 157.75 | 146.35 - 145.85 | 147.05 - 145.85 | 151.4 - 150.4 | |
| **18** | **III R** | S | 51 | 158.15 | | | | 157.15 |
| | **II R** | P | 51 | 158.29 | | | | 157.15 |
| | **I R** | P | 51 | 158.05 | | | | 157.15 |
| **21** | **III** | S | 31 | 185.30 | 183.65 - 174.85 | 183.65 - 174.85 | 184.5 - 183.7 | |
| | **II** | P | 31 | 185.03 | 170.15 - 169.65 | 170.65 - 169.65 | 171.7 - 170.7 | |
| | **I** | P | 31 | 185.90 | 167.26 - 166.76 | 167.66 - 166.76 | 168.7 - 167.7 | |

NOTES: 1) T.O.P. - Top Of Pipe
mASL - Metres Above Sea Level
2) P - Indicates piezometer.
S - Indicates standpipe.
3) Details of monitor construction for Borehole Locations 14 to 34 are based on data contained in the "Halton Regional Landfill - Burlington: 1987 Monitoring Report", March, 1988, prepared by Gartner Lee Limited.

**TABLE A-1**
**GROUNDWATER MONITOR DETAILS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR NO. | MONITOR NO. | TYPE | DIAMETER (mm) | (T.O.P.) (mASL) | SCREENED INTERVAL (mASL) | FILTER PACK (mASL) | SEAL (mASL) | BACKFILL (mASL) |
|---|---|---|---|---|---|---|---|---|
| **21** | **III R** | S | 51 | 185.16 | | | | 184.30 |
| | **II R** | P | 51 | 185.11 | | | | 184.30 |
| | **I R** | P | 51 | 185.17 | | | | 184.30 |
| **22** | **III** | S | 31 | 182.93 | 181.28 - 175.08 | 181.78 - 175.08 | 182.3 - 181.8 | |
| | **II** | P | 31 | 182.84 | 170.98 - 170.48 | 171.48 - 170.48 | 172.5 - 171.5 | |
| | **I** | P | 31 | 183.26 | 166.08 - 165.58 | 166.48 - 165.58 | 167.5 - 166.5 | |
| **22** | **III R** | S | 51 | 183.42 | | | | 182.51 |
| | **II R** | P | 51 | 183.44 | | | | 182.51 |
| | **I R** | P | 51 | 183.40 | | | | 182.51 |
| **23** | **III** | S | 51 | 185.60 | 178.59 - 177.39 | 183.49 - 177.39 | 185.0 - 183.5 | |
| | **II** | P | 51 | 185.54 | 173.23 - 172.63 | 173.83 - 172.63 | 184.9 - 173.8 | |
| | **I** | P | 51 | 185.77 | 167.34 - 166.74 | 168.24 - 166.74 | 184.9 - 168.2 | |
| **24** | **III** | S | 51 | 128.16 | 122.49 - 121.29 | 125.39 - 121.29 | 127.5 - 125.4 | |
| | **II** | P | 51 | 128.10 | 115.69 - 115.09 | 116.29 - 115.09 | 127.5 - 116.3 | |
| | **I** | P | 51 | 127.96 | 109.66 - 109.06 | 110.26 - 109.06 | 127.4 - 110.3 | |
| **25** | **I** | P | 51 | 183.29 | 165.28 - 164.08 | 170.18 - 164.08 | 181.2 - 170.2 | |
| **26** | **III** | S | 51 | 120.44 | 114.83 - 113.63 | 118.93 - 113.63 | 119.8 - 118.9 | |
| | **II** | P | 51 | 120.51 | 108.10 - 107.50 | 108.70 - 107.50 | 119.9 - 108.7 | |
| | **I** | P | 51 | 120.46 | 101.95 - 101.35 | 102.55 - 101.35 | 119.9 - 102.6 | |
| **27** | **III** | S | 51 | 116.35 | 110.84 - 109.64 | 114.24 - 109.64 | 115.7 - 114.2 | |
| | **II** | P | 51 | 116.36 | 103.95 - 103.35 | 104.55 - 103.35 | 115.8 - 104.6 | |
| | **I** | P | 51 | 116.31 | 97.80 - 97.20 | 98.40 - 97.20 | 115.7 - 98.4 | |
| **28** | **I** | S | 51 | 134.48 | 128.38 - 127.18 | 133.18 - 127.18 | 134.2 - 133.2 | |
| **29** | **I** | S | 51 | 174.41 | 166.49 - 165.29 | 173.49 - 165.29 | 174.1 - 173.5 | |
| **30** | **I** | S | 51 | 170.75 | 162.35 - 161.15 | 169.55 - 161.15 | 170.2 - 169.6 | |
| **31** | **I** | S | 51 | 173.10 | 165.74 - 164.54 | 171.64 - 164.54 | 172.6 - 171.6 | |

NOTES: 1) T.O.P. - Top Of Pipe
mASL - Metres Above Sea Level
2) P - Indicates piezometer.
S - Indicates standpipe.
GP - Indicates gas probe.
3) Details of monitor construction for Borehole Locations 14 to 34 are based on data contained in the "Halton Regional Landfill - Burlington: 1987 Monitoring Report", March, 1988, prepared by Gartner Lee Limited.

**TABLE A-1**
**GROUNDWATER MONITOR DETAILS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR NO. | MONITOR NO. | TYPE | DIAMETER (mm) | (T.O.P.) (mASL) | SCREENED INTERVAL (mASL) | FILTER PACK (mASL) | SEAL (mASL) | BACKFILL (mASL) |
|---|---|---|---|---|---|---|---|---|
| **32** | **III** | S | 51 | 123.29 | 117.15 - 116.55 | 121.15 - 117.15 | 122.1 - 121.2 | 122.7 - 122.1 |
| | **II** | P | 51 | 123.16 | 111.25 - 110.65 | 114.15 - 110.35 | 115.4 - 114.2 | 121.1 - 115.4 |
| | **I** | P | 51 | 122.90 | 104.94 - 104.34 | 107.94 - 102.74 | 109.2 - 107.9 | 122.2 - 109.2 |
| **33** | **I** | S | 51 | 143.80 | 139.33 - 138.73 | 141.83 - 138.13 | 142.4 - 141.8 | 143.3 - 142.4 |
| **34** | **I** | S | 51 | 129.12 | 124.68 - 124.08 | 127.18 - 123.48 | 127.8 - 127.2 | 128.7 - 127.8 |
| **35** | **IV** | S | 51 | 115.39 | 112.35 - 109.30 | 113.32 - 109.30 | 114.2 - 113.3 | |
| | **III** | P | 51 | 115.41 | 106.21 - 104.69 | 107.43 - 104.69 | 113.7 - 107.4 | 114.3 - 113.7 |
| | **II** | P | 51 | 115.35 | 100.67 - 98.38 | 101.53 - 98.38 | 113.4 - 101.5 | 114.3 - 113.4 |
| | **I** | P | 51 | 115.30 | 85.96 - 82.91 | 86.60 - 82.91 | 113.6 - 86.6 | 114.1 - 113.6 |
| **35R** | **IV** | S | 51 | 115.76 | 113.19 - 110.15 | 114.05 - 110.00 | 114.92 - 114.05 | |
| | **III** | P | 51 | 115.70 | 106.99 - 105.47 | 107.91 - 105.62 | 108.82 - 107.91 | 113.70 - 108.82 |
| | **II** | P | 51 | 115.80 | 101.05 - 98.92 | 102.12 - 98.92 | 103.34 - 102.12 | 113.70 - 103.34 |
| | **I** | P | 51 | 115.71 | 86.87 - 83.83 | 87.43 - 83.68 | 88.10 - 87.49 | 113.70 - 88.10 |
| **36** | **I** | S | 51 | 181.19 | 170.32 - 162.70 | 171.54 - 162.70 | 180.53 - 179.31 | 179.31 - 171.54 |
| **37** | **I** | S | 51 | 161.43 | 149.41 - 141.79 | 150.63 - 141.79 | 160.68 - 159.46 | 159.46 - 150.63 |
| **38** | **I** | S | 51 | 129.26 | | | | |
| **39** | **I** | S | 51 | 179.35 | | | | 178.53 |
| **GP1** | **I** | GP | 51 | 179.21 | | | | |
| **GP2** | **I** | GP | 51 | 167.47 | | | | |
| **GP3** | **I** | GP | 51 | 147.24 | | | | |
| **GP4** | **I** | GP | 51 | 134.89 | | | | |

NOTES: 1) T.O.P. - Top Of Pipe
mASL - Metres Above Sea Level
2) P - Indicates piezometer.
S - Indicates standpipe.
GP - Indicates gas probe.
3) Details of monitor construction for Borehole Locations 14 to 34 are based on data contained in the "Halton Regional Landfill - Burlington: 1987 Monitoring Report", March, 1988, prepared by Gartner Lee Limited.

**TABLE A-2**
**GROUNDWATER ELEVATIONS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | | | TOP OF | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | NO. | TYPE | PIPE | Oct-85 | Feb-86 | Jul-86 | Aug-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 |
| 14 | II | S | 125.74 | 124.39 | 124.88 | 124.66 | 124.29 | 124.49 | 124.22 | 124.67 | 124.25 | 124.48 | 124.08 | 124.61 | 124.28 | 124.39 | 124.12 | 124.82 | | 123.87 |
| | I | P | 125.73 | 123.95 | 124.27 | 124.21 | 123.91 | 123.97 | 123.82 | 124.03 | 123.75 | 124.02 | 123.58 | 123.96 | 123.76 | 123.71 | 123.50 | 123.93 | ^ 124.32 | 123.29 |
| 15 | II | S | 121.81 | 120.25 | Frozen | 120.41 | 120.09 | 120.27 | 119.99 | 120.30 | 119.86 | 120.20 | 119.79 | 120.78 | 120.06 | 120.09 | 119.88 | 120.41 | ^ 120.16 | 119.73 |
| | I | P | 121.39 | 119.78 | 120.31 | 119.96 | 119.71 | 119.87 | 119.55 | 119.87 | 119.53 | 119.85 | 119.49 | 120.09 | 119.51 | 119.60 | 119.45 | 119.89 | ^ 119.68 | 119.29 |
| 16 | IV | S | 123.91 | 123.91 | 121.88 | 121.47 | 121.29 | 121.24 | 121.24 | 121.35 | 121.22 | 121.33 | 121.18 | 121.94 | 121.28 | 121.24 | 121.01 | 121.53 | 120.96 | 120.43 |
| | III | P | 123.92 | 118.55 | 119.28 | 118.96 | 118.80 | 118.42 | 118.65 | 118.70 | 118.58 | 118.70 | 118.63 | 119.54 | 122.08 | 118.80 | 118.49 | 118.97 | 118.47 | 117.70 |
| | II | P | 124.03 | 113.98 | 114.84 | 114.38 | 114.22 | 114.09 | 114.10 | 114.05 | 113.86 | 113.88 | 113.71 | 114.38 | 114.52 | 114.35 | 114.44 | 115.08 | 114.40 | 113.86 |
| | I | P | 123.61 | 113.52 | 114.24 | 113.73 | 113.56 | 113.39 | 113.31 | 113.38 | 113.12 | 113.13 | 112.71 | 119.61 | 113.27 | 113.15 | 112.77 | 113.26 | 112.72 | 111.95 |
| 18 | III | S | 157.75 | | | | | | 152.98 | 152.94 | 152.27 | 152.64 | 155.05 | 153.83 | 152.92 | 153.00 | 152.23 | 154.75 | 154.57 | 153.42 |
| | II | P | 157.75 | | | | | | 153.40 | 152.92 | 152.87 | 153.28 | 153.65 | 154.48 | 153.98 | 153.65 | 152.87 | 154.22 | 153.97 | 152.90 |
| 18 | III R | S | 158.15 | | | | | | | | | | | | | | | | | |
| | II R | P | 158.29 | | | | | | | | | | | | | | | | | |
| | I R | P | 158.05 | | | | | | | | | | | | | | | | | |
| 21 | III | S | 185.30 | | | | 181.03 | 180.07 | 182.09 | 181.67 | 180.77 | 181.00 | damaged | damaged | damaged | damaged | damaged | damaged | damaged | damaged |
| | II | P | 185.03 | | | | 177.20 | 177.05 | 178.11 | 177.57 | 177.96 | 178.07 | 177.91 | 178.40 | 177.75 | 177.84 | 177.13 | 177.88 | 177.76 | 177.75 |
| | I | P | 185.09 | | | | 175.46 | 175.77 | 176.24 | 175.64 | 175.56 | 175.64 | 175.76 | 177.02 | 175.84 | 175.90 | 175.48 | 175.68 | 175.54 | 175.44 |
| 21 | III R | S | 185.16 | | | | | | | | | | | | | | | | | |
| | II R | P | 185.11 | | | | | | | | | | | | | | | | | |
| | I R | P | 185.17 | | | | | | | | | | | | | | | | | |
| 22 | III | S | 182.93 | | Bent | | 177.29 | 175.98 | 177.70 | 177.47 | 176.42 | 179.23 | 176.96 | 179.44 | Dry | Dry | 176.38 | 181.06 | 175.94 | 175.96 |
| | II | P | 182.84 | | Bent | | 177.25 | 175.99 | 177.70 | 177.38 | 176.39 | 179.23 | 178.04 | 179.46 | 177.49 | 177.66 | 175.75 | 181.05 | 179.85 | 176.26 |
| | I | P | 183.26 | | Bent | | 178.66 | 172.26 | 177.86 | 176.36 | 177.61 | 177.93 | 177.56 | 178.95 | 179.55 | 177.94 | 174.36 | 178.31 | 176.97 | 177.09 |
| 22 | III R | S | 183.42 | | | | | | | | | | | | | | | | | |
| | II R | P | 183.44 | | | | | | | | | | | | | | | | | |
| | I R | P | 183.40 | | | | | | | | | | | | | | | | | |
| 23 | III | S | 185.60 | 180.08 | 183.98 | 182.38 | 180.91 | 179.98 | 181.77 | 180.68 | 180.45 | 180.63 | 180.79 | 183.64 | 181.51 | 181.36 | 180.53 | 183.32 | 182.79 | 182.81 |
| | II | P | 185.54 | 178.05 | 182.85 | 182.52 | 181.06 | 179.48 | 182.13 | 180.09 | 180.54 | 180.98 | 181.10 | 182.23 | 181.57 | 181.70 | 180.74 | 181.53 | 180.99 | 181.11 |
| | I | P | 185.77 | 176.00 | 177.46 | 177.19 | 177.77 | 176.47 | 177.31 | 176.53 | 176.63 | 176.64 | 176.79 | 177.15 | 177.15 | 177.12 | 176.64 | 176.79 | 176.66 | 176.59 |
| 24 | III | S | 128.16 | 122.57 | 124.13 | 123.64 | 123.96 | 123.25 | 123.77 | 123.46 | 124.26 | 124.28 | 124.22 | 125.76 | 124.39 | 124.29 | 124.11 | 125.43 | 124.68 | 124.00 |
| | II | P | 128.10 | 119.85 | 120.71 | 120.29 | 120.04 | 119.77 | 119.96 | 120.01 | 119.79 | 119.95 | 119.88 | 119.65 | 120.05 | 120.03 | 119.74 | 120.10 | 119.89 | 119.12 |
| | I | P | 127.96 | 116.87 | 117.10 | 116.92 | 116.73 | 116.68 | 116.76 | 116.63 | 116.50 | 116.44 | 116.50 | 116.66 | 116.81 | 116.71 | 116.53 | 116.76 | 116.57 | 115.94 |
| 25 | I | S ** | 183.29 | Dry | Dry | Dry | 168.10 | 166.83 | 166.67 | 167.07 | 165.97 | 165.90 | 166.12 | 165.33 | 165.06 | 165.04 | 165.41 | 165.76 | 165.61 | 165.92 |

NOTES: 1) All elevations are Metres Above Sea Level (mASL).
2) Blank indicates water levels were not taken.
3) ^ - Water levels were obtained in December, 1997.
4) * - Indicates associated value is suspected to be anomalous.
P - Indicates Piezometer
S - Indicates Standpipe ** - Indicates Leachate monitor

**TABLE A-2**
**GROUNDWATER ELEVATIONS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | | | TOP OF | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | NO. | TYPE | PIPE | Sep-99 | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 |
| 14 | II | S | 125.74 | 125.10 | 124.43 | 124.93 | 124.77 | 124.84 | 124.87 | 124.17 | 124.47 | 123.89 | 124.65 | 124.40 | 124.23 | 123.92 | 123.92 | 124.03 | 123.98 |
| | I | P | 125.73 | 123.66 | 123.48 | 123.56 | 123.33 | 123.48 | 123.55 | 123.42 | 123.63 | 123.29 | 123.68 | 123.66 | 123.61 | 123.47 | 123.46 | 123.47 | 123.26 |
| 15 | II | S | 121.81 | 119.94 | 120.28 | 119.88 | 119.80 | 119.84 | 119.87 | 120.17 | 120.27 | 119.90 | 120.66 | 120.37 | 120.22 | 120.36 | 120.36 | 120.37 | 120.07 |
| | I | P | 121.39 | 119.42 | 119.81 | 119.51 | 119.40 | 119.47 | 119.49 | 119.64 | 119.80 | 119.27 | 120.01 | 119.93 | 119.86 | 119.80 | 119.68 | 119.68 | 119.57 |
| 16 | IV | S | 123.91 | 121.06 | 121.24 | 120.99 | 120.85 | 120.95 | 120.98 | 121.23 | 121.36 | 120.97 | 121.64 | 121.61 | 121.31 | 121.04 | 121.13 | 121.13 | 120.76 |
| | III | P | 123.92 | 118.47 | 118.84 | 118.53 | 118.41 | 118.47 | 118.46 | 118.65 | 118.87 | 118.42 | 119.31 | 119.33 | 119.00 | 118.80 | 118.72 | 118.82 | 118.19 |
| | II | P | 124.03 | 114.58 | 115.38 | 114.51 | 114.31 | 114.42 | 114.46 | 115.53 | 115.94 | 115.82 | 116.61 | 116.61 | 116.56 | 116.38 | 116.25 | 116.56 | 115.90 |
| | I | P | 123.61 | 112.81 | 113.31 | 112.72 | 112.42 | 112.69 | 112.73 | 113.11 | 113.35 | 112.89 | 113.72 | 113.68 | 113.47 | 112.96 | 113.07 | 113.36 | 113.11 |
| 18 | III | S | 157.75 | 153.32 | 153.54 | 153.19 | 152.98 | 152.81 | 152.88 | 153.35 | 154.00 | 153.59 | 154.47 | 155.18 | 156.25 | 154.68 | Dry | Dry | Dry |
| | II | P | 157.75 | 152.80 | 153.87 | 152.88 | 152.68 | 152.81 | 152.86 | 153.71 | 154.28 | 153.24 | 154.81 | 155.13 | 154.19 | 153.29 | 153.15 | 153.42 | 152.86 |
| 18 | III R | S | 158.15 | | | | | | | | | | | | | | | | |
| | II R | P | 158.29 | | | | | | | | | | | | | | | | |
| | I R | P | 158.05 | | | | | | | | | | | | | | | | |
| 21 | III | S | 185.30 | damaged | damaged | damaged | damaged | damaged | damaged | 181.06 | 182.26 | 181.28 | 183.76 | 181.53 | 182.78 | 180.60 | 180.23 | 180.96 | 180.34 |
| | II | P | 185.03 | 177.72 | 177.94 | 178.06 | 177.86 | 177.99 | 178.03 | 177.37 | 177.82 | 177.79 | 178.91 | 178.23 | 178.56 | 177.71 | 177.21 | 177.84 | 177.25 |
| | I | P | 185.09 | 175.37 | 176.09 | 175.73 | 175.60 | 175.65 | 175.70 | 175.39 | 175.65 | 175.57 | 176.11 | 175.82 | 176.80 | 175.71 | 175.33 | 175.68 | 175.15 |
| 21 | III R | S | 185.16 | | | | | | | | | | | | | | | | |
| | II R | P | 185.11 | | | | | | | | | | | | | | | | |
| | I R | P | 185.17 | | | | | | | | | | | | | | | | |
| 22 | III | S | 182.93 | Dry | 178.67 | Dry | Dry | Dry | Dry | 175.26 | 177.89 | blocked | blocked | blocked | blocked | blocked | blocked | blocked | blocked |
| | II | P | 182.84 | 176.29 | 178.69 | 176.72 | 176.55 | 176.64 | 176.63 | 176.31 | 177.79 | 176.37 | 179.23 | 178.53 | 177.75 | 176.64 | 176.07 | 177.26 | 175.90 |
| | I | P | 183.26 | 177.28 | 179.72 | 177.10 | 176.97 | 177.05 | 177.09 | 177.08 | 177.71 | 177.01 | 178.76 | 175.11 | 175.81 | 175.82 | 175.42 | 175.86 | 176.73 |
| 22 | III R | S | 183.42 | | | | | | | | | | | | | | | | |
| | II R | P | 183.44 | | | | | | | | | | | | | | | | |
| | I R | P | 183.40 | | | | | | | | | | | | | | | | |
| 23 | III | S | 185.60 | 180.20 | 182.40 | 180.71 | 180.49 | 180.61 | 180.67 | | | 180.52 | 183.12 | 182.67 | 181.55 | 180.74 | 180.40 | 181.25 | 180.82 |
| | II | P | 185.54 | 180.94 | 182.58 | 181.41 | 181.28 | 181.36 | 181.33 | | | 181.20 | 182.28 | | 181.77 | 181.53 | 180.94 | 181.81 | 181.36 |
| | I | P | 185.77 | 176.43 | 177.36 | 176.83 | 176.59 | 176.76 | 176.79 | | | 176.77 | 177.38 | 177.31 | 177.24 | 176.91 | 176.69 | 177.14 | 176.85 |
| 24 | III | S | 128.16 | 123.96 | 124.76 | 123.72 | 123.54 | 123.63 | 123.66 | 124.32 | 123.81 | 124.09 | 125.13 | 125.35 | 124.05 | 124.03 | 125.04 | 124.44 | 124.28 |
| | II | P | 128.10 | 119.65 | 120.11 | 119.77 | 119.60 | 119.69 | 119.75 | 119.73 | 120.02 | 119.58 | 120.38 | 120.34 | 120.08 | 119.81 | 119.78 | 119.97 | 119.96 |
| | I | P | 127.96 | 116.06 | 116.97 | 116.25 | 115.97 | 116.13 | 116.18 | 116.65 | 117.08 | 116.69 | 116.96 | 117.11 | 117.00 | 116.90 | 116.73 | 116.93 | 116.82 |
| 25 | I | S ** | 183.29 | 165.21 | 165.17 | 165.09 | 165.00 | 165.04 | 165.08 | 165.17 | 165.23 | 165.85 | 168.91 | 166.97 | 166.46 | 170.35 | | 170.21 | 169.47 |

NOTES: 1) All elevations are Metres Above Sea Level (mASL).
2) Blank indicates water levels were not taken.
3) ^ - Water levels were obtained in December, 1997.
4) * - Indicates associated value is suspected to be anomalous.
P - Indicates Piezometer
S - Indicates Standpipe ** - Indicates Leachate monitor

**TABLE A-2**
**GROUNDWATER ELEVATIONS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | | | TOP OF | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | NO. | TYPE | PIPE | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 14 | II | S | 125.74 | 123.83 | 123.71 | 123.82 | 123.87 | 124.02 | 123.64 | 124.63 |
| | I | P | 125.73 | 123.44 | 123.35 | 123.44 | 123.45 | 123.50 | 123.44 | 123.69 |
| 15 | II | S | 121.81 | 120.19 | 120.23 | 120.29 | 120.40 | 120.35 | 120.19 | 120.89 |
| | I | P | 121.39 | 119.77 | 119.41 | 119.38 | 119.59 | 119.61 | 119.49 | 119.98 |
| 16 | IV | S | 123.91 | 121.00 | 121.03 | 119.00 | 121.08 | 121.06 | 120.54 | 121.53 |
| | III | P | 123.92 | 118.78 | 118.63 | 118.73 | 118.72 | 118.83 | 117.61 | 119.19 |
| | II | P | 124.03 | 116.23 | 116.26 | 116.44 | 116.31 | 116.61 | 114.17 | 116.71 |
| | I | P | 123.61 | 112.95 | 113.06 | 113.23 | 113.17 | 113.25 | 112.99 | 113.56 |
| 18 | III | S | 157.75 | Dry | Dry | decomm | | | | |
| | II | P | 157.75 | 153.16 | 153.24 | decomm | | | | |
| 18 | III R | S | 158.15 | | | 153.44 | 153.99 | 153.71 | 153.06 | 154.90 |
| | II R | P | 158.29 | | | 153.18 | 150.88 | 153.31 | 152.75 | 154.51 |
| | I R | P | 158.05 | | | 154.10 | 154.37 | 154.22 | 154.00 | 155.32 |
| 21 | III | S | 185.30 | 180.76 | 180.16 | decomm | | | | |
| | II | P | 185.03 | 177.55 | 177.30 | decomm | | | | |
| | I | P | 185.09 | 174.04 | 175.31 | decomm | | | | |
| 21 | III R | S | 185.16 | | | 180.80 | 180.96 | 181.23 | 180.43 | 180.83 |
| | II R | P | 185.11 | | | 177.76 | 178.49 | 179.35 | 178.42 | 178.69 |
| | I R | P | 185.17 | | | 175.45 | 175.57 | 175.66 | 175.32 | 175.45 |
| 22 | III | S | 182.93 | blocked | blocked | decomm | | | | |
| | II | P | 182.84 | 176.71 | 176.24 | decomm | | | | |
| | I | P | 183.26 | 175.14 | 176.58 | decomm | | | | |
| 22 | III R | S | 183.42 | | | 177.09 | 177.72 | 177.93 | 177.13 | 178.01 |
| | II R | P | 183.44 | | | 176.05 | 176.77 | 177.14 | 176.37 | 178.33 |
| | I R | P | 183.40 | | | 176.85 | 176.76 | 177.09 | 176.29 | 177.92 |
| 23 | III | S | 185.60 | 180.95 | 180.32 | 180.70 | 180.72 | 180.78 | 180.20 | 182.07 |
| | II | P | 185.54 | 181.21 | 181.03 | 181.33 | 181.33 | 181.52 | 181.02 | 181.18 |
| | I | P | 185.77 | 177.01 | 176.65 | 176.92 | 176.93 | 177.03 | 176.59 | 176.78 |
| 24 | III | S | 128.16 | 124.31 | 124.27 | 124.29 | 124.67 | 124.26 | 124.13 | 125.93 |
| | II | P | 128.10 | 121.20 | 119.66 | 119.85 | 119.81 | 120.06 | 116.93 | 120.00 |
| | I | P | 127.96 | 116.48 | 116.66 | 116.82 | 116.86 | 117.17 | 117.14 | 116.81 |
| 25 | I | S ** | 183.29 | 169.59 | 169.79 | 169.53 | 169.74 | 169.70 | 170.06 | 170.02 |

NOTES: 1) All elevations are Metres Above Sea Level (mASL).
2) Blank indicates water levels were not taken.
3) ^ - Water levels were obtained in December, 1997.
4) * - Indicates associated value is suspected to be anomalous.
P - Indicates Piezometer
S - Indicates Standpipe ** - Indicates Leachate monitor

**TABLE A-2**
**GROUNDWATER ELEVATIONS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | | | TOP OF | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | NO. | TYPE | PIPE | Oct-85 | Feb-86 | Jul-86 | Aug-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 |
| 26 | III | S | 120.44 | 114.84 | 118.79 | 118.08 | 117.11 | 116.01 | 117.22 | 115.91 | 116.19 | 116.12 | 116.26 | 118.30 | 117.18 | 116.76 | 115.68 | 117.71 | 117.45 | 115.93 |
| | II | P | 120.51 | 114.85 | 115.72 | 115.07 | 114.83 | 114.68 | 116.61 | 114.62 | 114.35 | 114.51 | 114.29 | 114.95 | 114.52 | 114.33 | 114.07 | 114.50 | 114.34 | 113.95 |
| | I | P | 120.46 | 113.61 | 114.36 | 113.83 | 113.65 | 113.47 | 113.46 | 113.52 | 113.25 | 113.24 | 113.14 | 113.70 | 113.38 | 113.25 | 112.94 | 113.48 | 113.24 | 112.94 |
| 27 | III | S | 116.35 | 114.73 | 115.23 | 114.69 | 114.22 | 114.17 | 114.03 | 114.33 | 113.74 | 114.02 | 113.58 | 114.68 | 113.69 | 113.66 | 113.16 | 114.43 | 114.38 | 113.05 |
| | II | P | 116.36 | 113.70 | 114.41 | 113.87 | 113.67 | 113.49 | 113.58 | 113.56 | 113.23 | 113.29 | 113.18 | 113.80 | 113.36 | 113.28 | 112.99 | 113.57 | 113.46 | 112.95 |
| | I | P | 116.31 | 113.67 | 114.37 | 113.84 | 113.64 | 113.45 | 113.44 | 113.53 | 113.19 | 113.26 | 113.15 | 113.73 | 113.31 | 113.25 | 112.94 | 113.54 | 113.45 | 112.92 |
| 28 | I | S | 134.48 | 129.66 | 132.19 | 131.76 | 131.15 | 130.82 | 131.01 | 131.28 | 130.86 | 131.10 | 131.00 | 131.78 | 131.05 | 130.95 | 130.68 | 131.60 | 131.53 | 130.62 |
| 29 | I | S | 174.41 | 166.01 | 167.99 | 166.67 | 166.43 | 166.15 | 166.55 | 166.96 | 166.22 | 166.71 | 166.51 | 168.07 | 166.51 | 166.54 | 166.03 | | 165.88 | 165.70 |
| 30 | I | S | 170.75 | 161.89 | 163.02 | 163.22 | 163.06 | 162.71 | 162.75 | 162.70 | 162.72 | 162.90 | 163.13 | 163.08 | 163.13 | 163.13 | 162.91 | | 163.10 | 163.22 |
| 31 | I | S | 173.10 | Dry | 164.74 | 164.76 | 164.74 | 164.54 | 164.58 | Dry | Dry | 164.94 | 165.20 | 165.12 | 165.07 | 165.14 | Dry | Dry | Dry | Dry |
| 32 | III | S | 123.29 | | | | 119.52 | 121.24 | 121.34 | 121.61 | 121.27 | 121.40 | 121.15 | 122.20 | 121.36 | 121.36 | 121.14 | 121.79 | 121.50 | 120.76 |
| | II | P | 123.16 | | | | 119.76 | 119.08 | 119.17 | 119.33 | 119.60 | 119.68 | 119.71 | 120.94 | 120.34 | 120.38 | 119.97 | 120.64 | 120.28 | 120.01 |
| | I | P | 122.90 | | | | 119.02 | 118.48 | 119.00 | 119.05 | 118.89 | 118.99 | 119.05 | 120.58 | 119.62 | 119.49 | 118.92 | 119.97 | 119.53 | 118.70 |
| 33 | I | S | 143.80 | | | | Dry | 138.97 | 140.58 | 140.44 | 140.13 | 140.00 | 140.00 | 141.50 | 139.40 | 139.37 | Dry | Dry | Dry | Dry |
| 34 | I | S | 129.12 | | | | 124.86 | 127.58 | 127.21 | 127.75 | 127.28 | 127.89 | 127.30 | 127.86 | 127.44 | 125.49 | 127.13 | 127.96 | | 126.69 |
| 35 | IV | S | 115.39 | | | | | | | | | | | | | | | | | |
| | III | P | 115.41 | | | | | | | | | | | | | | | | | |
| | II | P | 115.35 | | | | | | | | | | | | | | | | | |
| | I | P | 115.30 | | | | | | | | | | | | | | | | | |
| 35R | IV | S | 115.76 | | | | | | | | | | | | | | | | | |
| | III | P | 115.70 | | | | | | | | | | | | | | | | | |
| | II | P | 115.80 | | | | | | | | | | | | | | | | | |
| | I | P | 115.71 | | | | | | | | | | | | | | | | | |
| 36 | I | S ** | 181.19 | | | | | | | | | | | | | | | | | |
| 37 | I | S ** | 161.43 | | | | | | | | | | | | | | | | | |
| 38 | I | S | 129.26 | | | | | | | | | | | | | | | | | |
| 39 | I | S ** | 179.35 | | | | | | | | | | | | | | | | | |

NOTES: 1) All elevations are Metres Above Sea Level (mASL).
2) Blank indicates water levels were not taken.
3) ^ - Water levels were obtained in December, 1997.
4) * - Indicates associated value is suspected to be anomalous.
P - Indicates Piezometer
S - Indicates Standpipe ** - Indicates Leachate monitor

**TABLE A-2**
**GROUNDWATER ELEVATIONS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | | | TOP OF | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | NO. | TYPE | PIPE | Sep-99 | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 |
| 26 | III | S | 120.44 | 115.89 | 118.29 | 116.62 | 116.42 | 116.55 | 116.62 | 116.01 | 116.88 | 116.18 | 118.84 | 118.72 | 117.81 | 116.65 | 116.06 | 117.27 | 116.24 |
| | II | P | 120.51 | 116.22 | 114.86 | 114.26 | 114.12 | 114.20 | 114.18 | 114.27 | 114.62 | 114.04 | 115.13 | 115.06 | 114.76 | 114.32 | 114.21 | 114.58 | 113.98 |
| | I | P | 120.46 | 115.91 | 113.56 | 113.15 | 112.92 | 113.06 | 113.13 | 113.25 | 113.53 | 112.96 | 113.92 | 113.83 | 113.63 | 113.29 | 113.21 | 113.46 | 112.91 |
| 27 | III | S | 116.35 | 113.23 | 114.04 | 113.16 | 112.96 | 113.09 | 113.16 | 113.78 | 114.24 | 113.18 | 114.69 | 114.49 | 114.17 | 112.56 | 113.69 | 113.93 | 114.36 |
| | II | P | 116.36 | 112.99 | 113.64 | 113.12 | 112.96 | 113.03 | 113.07 | 113.31 | 113.62 | 113.04 | 113.95 | 113.93 | 113.69 | 113.37 | 113.27 | 113.55 | 113.38 |
| | I | P | 116.31 | 112.91 | 113.60 | 113.02 | 112.80 | 112.91 | 112.93 | 113.28 | 113.58 | 113.02 | 113.92 | 113.90 | 113.66 | 113.35 | 113.26 | 113.53 | 113.38 |
| 28 | I | S | 134.48 | 129.88 | 129.43 | 129.14 | 128.93 | 129.09 | 129.10 | 129.44 | 129.51 | 128.86 | 129.70 | 128.97 | 129.23 | 128.49 | 128.30 | 128.61 | 128.58 |
| 29 | I | S | 174.41 | 165.69 | 165.66 | 165.64 | Dry | Dry | Dry | 166.92 | 168.19 | 166.38 | 169.04 | 167.60 | 167.02 | 166.67 | 167.51 | 167.10 | 169.52 |
| 30 | I | S | 170.75 | 162.61 | 163.04 | 162.80 | 162.58 | 162.73 | 162.78 | 163.10 | 163.41 | 163.25 | 163.28 | 163.27 | 163.17 | 163.20 | 163.12 | 163.51 | 163.44 |
| 31 | I | S | 173.10 | Dry | Dry | Dry | Dry | Dry | Dry | Dry | 165.00 | 165.07 | 165.70 | 165.53 | 165.28 | 165.02 | 164.91 | 165.12 | 165.05 |
| 32 | III | S | 123.29 | 121.04 | 121.64 | 121.10 | 120.91 | 120.99 | 121.07 | 121.27 | 121.66 | 120.90 | 122.10 | 121.91 | 121.58 | 121.23 | 121.01 | 121.25 | 120.78 |
| | II | P | 123.16 | 120.43 | 121.12 | 120.50 | 120.37 | 120.44 | 120.42 | 121.26 | 121.63 | 120.93 | 120.72 | 120.45 | 120.59 | 120.15 | 119.67 | 119.93 | 119.68 |
| | I | P | 122.90 | 118.87 | 119.93 | 119.11 | 118.97 | 119.04 | 119.10 | 119.33 | 119.69 | 118.95 | 120.10 | 120.21 | 119.89 | 119.58 | 119.50 | 119.68 | 119.36 |
| 33 | I | S | 143.80 | Dry | 139.23 | Dry | Dry | Dry | Dry | 141.84 | | | | 140.66 | 139.76 | 139.29 | 139.28 | 139.68 | 139.80 |
| 34 | I | S | 129.12 | 126.91 | 127.62 | 126.98 | 126.80 | 126.89 | 126.90 | | 127.60 | 126.57 | | 127.56 | 127.31 | 126.90 | 126.72 | 126.96 | 125.99 |
| 35 | IV | S | 115.39 | | | 112.55 | 113.72 | 113.51 | 113.37 | 113.46 | 113.70 | 113.75 | 113.89 | 113.93 | | decomm | | | |
| | III | P | 115.41 | | | 111.43 | 112.92 | 112.86 | 112.78 | 112.95 | 113.24 | 112.66 | 113.59 | 113.53 | 113.38 | decomm | | | |
| | II | P | 115.35 | | | 110.86 | 112.93 | 112.97 | 113.08 | 113.12 | 113.43 | 112.88 | 113.81 | 113.70 | 113.51 | decomm | | | |
| | I | P | 115.30 | | | 110.77 | 104.89 | 107.15 | 107.35 | | blocked | blocked | blocked | blocked | 114.15 | decomm | | | |
| 35R | IV | S | 115.76 | | | | | | | | | | | | | | 113.18 | 113.84 | 113.18 |
| | III | P | 115.70 | | | | | | | | | | | | | | 112.99 | 113.66 | 113.17 |
| | II | P | 115.80 | | | | | | | | | | | | | | 113.10 | 113.40 | 113.03 |
| | I | P | 115.71 | | | | | | | | | | | | | | 114.19 | 110.08 | 109.63 |
| 36 | I | S ** | 181.19 | | | Dry | Dry | Dry | Dry | | | | | 170.02 | | 170.47 | 170.31 | 170.32 | blocked |
| 37 | I | S ** | 161.43 | | | 145.03 | 143.73 | 144.58 | 145.01 | | | | 149.50 | 149.18 | | 150.01 | 149.91 | 150.08 | 150.18 |
| 38 | I | S | 129.26 | | | | | | | | | | 122.41 | 122.93 | 122.12 | 121.70 | 121.49 | 121.75 | 121.76 |
| 39 | I | S ** | 179.35 | | | | | | | | | | | | | | | | |

NOTES: 1) All elevations are Metres Above Sea Level (mASL).
2) Blank indicates water levels were not taken.
3) ^ - Water levels were obtained in December, 1997.
4) * - Indicates associated value is suspected to be anomalous.
P - Indicates Piezometer
S - Indicates Standpipe ** - Indicates Leachate monitor

**TABLE A-2**
**GROUNDWATER ELEVATIONS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | | | TOP OF | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| LOCATION | NO. | TYPE | PIPE | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 26 | III | S | 120.44 | 116.52 | 115.88 | 116.55 | 116.50 | 116.97 | 115.75 | 116.59 |
| | II | P | 120.51 | 114.20 | 114.00 | 114.40 | 114.40 | 114.55 | 114.14 | 114.51 |
| | I | P | 120.46 | 113.08 | 113.16 | 113.38 | 113.38 | 113.51 | 113.17 | 113.68 |
| 27 | III | S | 116.35 | 113.64 | 113.58 | 113.50 | 113.91 | 113.76 | 113.54 | 114.82 |
| | II | P | 116.36 | 113.08 | 113.20 | 113.49 | 113.42 | 113.50 | 113.19 | 113.81 |
| | I | P | 116.31 | 112.96 | 113.17 | 113.46 | 113.39 | 113.46 | 113.16 | 113.76 |
| 28 | I | S | 134.48 | 128.38 | 128.36 | 128.43 | 128.54 | 128.75 | 128.59 | 129.04 |
| 29 | I | S | 174.41 | 166.99 | 166.69 | 166.50 | 166.34 | 166.56 | 165.71 | 170.07 |
| 30 | I | S | 170.75 | 163.15 | | 163.37 | 163.42 | 163.81 | 163.57 | 163.24 |
| 31 | I | S | 173.10 | 164.88 | 164.70 | 164.85 | 164.64 | 164.86 | 164.50 | 165.01 |
| 32 | III | S | 123.29 | 121.07 | 120.86 | 121.05 | 120.64 | 120.63 | 120.91 | 121.20 |
| | II | P | 123.16 | 119.50 | 119.50 | 119.66 | 119.15 | 119.27 | 119.28 | 119.80 |
| | I | P | 122.90 | 119.82 | 119.36 | 119.53 | 119.08 | 119.30 | 119.04 | 119.60 |
| 33 | I | S | 143.80 | 139.46 | 139.27 | 139.39 | 139.47 | 139.81 | 139.39 | 140.62 |
| 34 | I | S | 129.12 | 126.53 | 126.32 | 126.44 | 126.39 | 126.51 | 126.13 | 126.99 |
| 35 | IV | S | 115.39 | | | | | | | |
| | III | P | 115.41 | | | | | | | |
| | II | P | 115.35 | | | | | | | |
| | I | P | 115.30 | | | | | | | |
| 35R | IV | S | 115.76 | 113.68 | 113.23 | 113.55 | 113.52 | 113.75 | 112.95 | 113.86 |
| | III | P | 115.70 | 113.43 | 113.29 | 113.56 | 113.52 | 113.67 | 113.30 | 113.91 |
| | II | P | 115.80 | 113.20 | 113.04 | 113.34 | 113.29 | 113.44 | 113.08 | 113.64 |
| | I | P | 115.71 | 110.21 | 109.90 | 110.13 | 110.12 | 109.87 | 109.90 | 109.27 |
| 36 | I | S ** | 181.19 | 170.76 | blocked | 174.99 | Dry | | 171.50 | 175.04 |
| 37 | I | S ** | 161.43 | 149.84 | 150.11 | 150.33 | 150.41 | 150.15 | 150.89 | 150.88 |
| 38 | I | S | 129.26 | 125.95 | blocked | 121.52 | 121.20 | 121.38 | 121.01 | blocked |
| 39 | I | S ** | 179.35 | | | | | | | 173.60 |

NOTES: 1) All elevations are Metres Above Sea Level (mASL).
2) Blank indicates water levels were not taken.
3) ^ - Water levels were obtained in December, 1997.
4) * - Indicates associated value is suspected to be anomalous.
P - Indicates Piezometer
S - Indicates Standpipe ** - Indicates Leachate monitor

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Feb-00 | Apr-00 | Aug-00 | Oct-00 | Feb-01 | May-01 | Aug-01 | Nov-01 | Feb-02 | May-02 | Aug-02 | Nov-02 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 154.18 | 155.98 | 154.54 | 153.62 | 154.74 | 154.85 | 153.91 | 153.84 | 155.93 | 156.05 | 153.84 | 153.41 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 159.62 | 160.59 | 159.79 | 159.32 | 159.88 | 159.99 | 159.40 | 159.23 | 159.84 | 160.77 | 159.29 | 159.08 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.07 | 161.05 | 160.43 | 160.14 | 160.48 | 160.65 | 160.25 | 160.18 | 160.60 | 161.76 | 160.36 | 160.15 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 159.56 | 159.58 | 158.78 | 158.33 | 158.91 | 159.40 | 158.27 | 158.08 | 158.87 | 160.38 | 158.73 | 158.42 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 159.67 | 160.43 | 160.03 | 159.50 | 159.96 | 160.21 | 159.61 | 159.46 | 159.81 | 161.15 | 159.57 | 159.27 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 152.39 | 153.20 | 152.51 | 152.32 | 152.81 | 152.93 | 152.45 | 152.37 | 153.06 | 151.05 | 152.36 | 152.26 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | <153.29 | 153.84 | 153.46 | 153.34 | 153.91 | 153.66 | 153.24 | 153.29 | 153.60 | 154.47 | 153.39 | 153.24 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 155.55 | 155.94 | 154.01 | 153.16 | 155.56 | 155.44 | 153.86 | 153.47 | 156.05 | 156.18 | 154.20 | 153.36 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 139.41 | 137.33 | 137.75 | 135.56 | 138.15 | 137.94 | 139.95 | 141.27 | 143.08 | 142.23 | 141.51 | 140.12 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 143.83 | 144.25 | 144.10 | 143.58 | 144.26 | 144.32 | 143.92 | 143.68 | 144.48 | 144.61 | 143.76 | 143.48 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 139.67 | 140.43 | 140.45 | 140.15 | 140.05 | 139.77 | 140.10 | 140.37 | 140.53 | 140.64 | 140.06 | 140.18 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 129.09 | 129.63 | 129.22 | 129.15 | 129.27 | 129.35 | 129.11 | 129.10 | 129.42 | 129.28 | 129.08 | 129.18 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 129.96 | 130.38 | 130.21 | 130.08 | 130.06 | 130.05 | 129.80 | 129.86 | 130.15 | 130.06 | 129.76 | 129.81 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 129.06 | 129.56 | 129.25 | 131.22 | 129.25 | 129.50 | 129.08 | 129.04 | 129.34 | 129.24 | 129.02 | 129.10 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 129.09 | 129.57 | 129.11 | 129.94 | 129.18 | 129.29 | 129.01 | 129.02 | 129.31 | 129.10 | 128.95 | 129.01 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 129.46 | 130.00 | 129.85 | 130.26 | 129.29 | 129.32 | 129.09 | 129.04 | 129.52 | 129.30 | 129.05 | 129.18 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | 127.56 | 128.33 | 128.43 | 127.99 | 128.28 | 128.32 | 128.19 | 128.04 | 128.33 | 128.47 | 128.08 | 127.84 |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | n.a | <127.02 | n.m. | 129.11 | 129.23 | 129.25 | 129.09 | 129.21 | 129.24 | 129.28 | 129.19 | 129.16 |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | n.a | 129.53 | 129.20 | 129.17 | 129.25 | 129.36 | 129.07 | 129.07 | 129.39 | 129.26 | 129.03 | 129.19 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | n.a | <127.24 | 129.92 | 130.26 | 130.39 | 130.48 | 130.47 | 130.58 | 130.61 | 130.65 | 130.70 | 130.59 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | n.a | <126.97 | 129.14 | 129.85 | 130.02 | 130.02 | 129.90 | 129.98 | 129.49 | 129.06 | 129.78 | 129.64 |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | n.a | 129.67 | 129.42 | 129.21 | 129.38 | 129.45 | 129.15 | 129.14 | 130.27 | 129.37 | 129.10 | 129.34 |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | n.a | 128.05 | 129.84 | n.m. | 129.46 | 129.52 | 129.13 | 129.11 | 129.56 | 130.84 | 129.18 | 129.25 |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | n.a | 130.52 | 129.21 | 129.18 | 129.40 | 129.49 | 129.08 | 129.08 | 129.43 | 129.33 | 129.05 | 129.22 |
| **GP 08-1 | Shallow | | | | | | | | | | | | | | | | |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Feb-03 | Apr-03 | Aug-03 | Oct-03 | Feb-04 | May-04 | Aug-04 | Nov-04 | May-05 | Aug-05 | Nov-05 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 153.68 | 155.28 | 154.23 | 153.77 | 154.74 | 156.74 | 154.87 | 153.83 | 155.97 | 153.91 | 154.37 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 159.05 | 159.72 | 159.35 | 159.19 | 159.59 | 160.99 | 159.54 | 159.22 | 160.47 | 159.53 | 159.36 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.08 | 160.52 | 160.36 | 160.19 | 160.49 | 161.91 | 160.55 | 160.21 | 161.20 | 160.29 | 160.27 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 158.36 | 159.16 | 158.83 | 158.75 | 159.13 | 160.80 | 159.21 | 158.88 | 160.18 | 159.34 | 159.09 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 159.29 | 159.70 | 159.54 | 159.32 | 159.70 | 161.47 | 160.11 | 159.44 | 160.91 | 159.37 | 159.53 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 152.17 | 153.36 | 152.31 | 152.27 | 152.37 | 153.82 | 152.43 | 152.13 | 152.85 | 152.30 | 152.21 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | 153.24 | 154.35 | 153.24 | 153.33 | 153.38 | 154.42 | 153.42 | Dry | 153.63 | 153.35 | 153.27 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 153.16 | 155.92 | 154.14 | 153.52 | 155.18 | 156.08 | 154.17 | 153.12 | 154.10 | 153.14 | 153.23 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 141.79 | 138.38 | 140.01 | 137.85 | 140.67 | 138.42 | 137.58 | 133.88 | 134.02 | 134.35 | 139.57 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 143.49 | 144.76 | 144.43 | 143.57 | 143.66 | 143.79 | 142.04 | 141.66 | 141.84 | 141.74 | 141.66 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 139.59 | 140.30 | 140.07 | 140.19 | 140.00 | 140.63 | 139.96 | 139.69 | 140.30 | 139.72 | 139.99 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 129.27 | 129.35 | 129.21 | 129.20 | 129.21 | 129.47 | 129.10 | 128.99 | 129.35 | 129.23 | 128.95 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 129.96 | 130.09 | 129.80 | 129.82 | 129.89 | 130.19 | 129.78 | 129.62 | 130.12 | 129.79 | 129.71 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 129.08 | 129.32 | 129.12 | 129.14 | 129.10 | 129.37 | 129.05 | 128.80 | 129.23 | 129.13 | 128.99 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 129.19 | 129.22 | 129.02 | 129.12 | 129.05 | 129.29 | 128.91 | 128.86 | 129.12 | 129.09 | 128.79 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 129.30 | 129.39 | 129.19 | 129.24 | 129.07 | 129.45 | 129.09 | 129.02 | 129.37 | 129.19 | 128.97 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | 127.89 | 128.33 | 128.05 | 127.90 | 128.03 | 128.46 | 128.07 | 127.54 | 128.27 | 127.85 | 128.70 |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | 129.36 | 129.33 | 129.15 | 129.22 | 129.22 | 129.35 | 130.10 | 128.99 | 129.29 | 129.17 | 129.09 |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | 129.15 | 129.40 | 129.19 | 129.21 | 129.15 | 129.47 | 129.07 | 128.98 | 129.40 | 129.30 | 129.06 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | 130.41 | 131.16 | 130.81 | 130.83 | 130.74 | 130.78 | 130.73 | 130.57 | 130.72 | 130.66 | 130.62 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | 130.75 | 130.69 | 129.77 | 129.89 | 129.94 | 130.28 | 129.95 | 129.66 | 130.24 | 129.79 | 129.96 |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | 129.56 | 129.78 | 129.27 | 129.92 | nm | 129.69 | 129.10 | 129.03 | 129.79 | 129.39 | 129.13 |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | 129.61 | 129.64 | 129.33 | 129.26 | nm | 129.57 | 129.10 | 129.02 | 129.60 | 129.37 | 129.12 |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | 129.27 | 129.55 | 129.23 | 129.16 | 129.36 | 129.59 | 129.28 | 129.03 | 129.71 | 129.33 | 129.16 |
| **GP 08-1 | Shallow | | | | | | | | | | | | | | | |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Feb-06 | May-06 | Aug-06 | Nov-06 | Feb-07 | Apr-07 | Aug-07 | Nov-07 | Feb-08 | Apr-08 | Aug-08 | Nov-08 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 155.72 | 155.65 | 155.29 | 155.55 | 155.17 | 155.98 | 153.74 | 153.09 | 155.52 | 155.25 | 156.28 | 154.87 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 160.22 | 160.44 | 159.63 | 159.87 | 159.98 | 160.59 | 159.46 | *159.73 | 159.87 | 160.27 | 160.05 | 159.61 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.88 | 161.23 | 160.51 | 160.65 | 160.61 | 161.33 | 160.37 | 160.24 | 160.55 | 160.95 | 160.74 | 160.47 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 159.97 | 160.16 | 159.30 | 159.58 | 159.73 | 160.38 | 159.16 | *159.39 | 159.50 | 160.00 | 159.81 | 159.30 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 160.47 | 160.68 | 159.77 | 159.95 | 160.45 | 161.07 | 159.76 | 159.63 | 160.01 | 160.59 | 160.23 | 159.87 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 152.88 | 152.97 | 152.43 | 152.64 | 152.75 | 153.16 | 152.55 | 152.42 | 152.80 | 153.13 | 153.21 | 152.78 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | 153.82 | 153.91 | 153.25 | 153.73 | 154.03 | 154.19 | 153.63 | 153.42 | 153.77 | 154.19 | 154.22 | 153.88 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 155.36 | 155.28 | 154.62 | 155.41 | 155.28 | 155.52 | 154.49 | 153.25 | 155.33 | 155.46 | 155.79 | 155.39 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 134.12 | 134.02 | nm | 133.58 | 134.31 | 134.05 | 133.42 | *133.68 | 133.92 | 134.72 | 133.84 | 133.65 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 141.95 | 141.97 | 141.79 | 141.88 | 141.94 | 142.08 | 141.60 | 141.67 | 141.92 | 142.11 | 141.98 | 141.81 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 140.15 | 140.04 | 140.19 | 140.64 | 139.76 | 140.27 | 139.69 | *140.04 | 140.19 | 140.14 | 140.86 | 140.25 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 129.18 | 129.00 | 129.06 | 128.65 | 128.56 | 128.58 | 128.04 | *128.73 | 128.54 | 128.47 | 129.07 | 128.35 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 129.98 | 129.84 | 129.84 | 129.62 | 129.68 | 129.63 | 128.99 | 128.91 | 129.57 | 129.53 | 130.02 | 129.38 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 129.08 | 128.96 | 129.03 | 128.64 | 128.56 | 128.45 | 128.07 | 128.01 | 128.44 | 128.47 | 129.06 | 128.40 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 129.01 | 128.85 | 128.95 | 128.47 | 128.34 | 128.39 | 127.86 | 127.83 | 128.39 | 128.29 | 128.94 | 128.18 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 129.17 | 128.97 | 129.05 | 128.56 | 128.44 | 128.59 | 127.95 | 127.92 | 128.62 | 128.38 | 129.03 | 128.27 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | 128.27 | 128.28 | 128.11 | 128.18 | 127.88 | 128.15 | 127.30 | 126.92 | n.a. | n.a. | n.a. | n.a. |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | 129.18 | 129.25 | 129.14 | 128.75 | 128.99 | 128.54 | 128.01 | 128.13 | 128.79 | 128.62 | 129.24 | 128.57 |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | 129.15 | 129.12 | 129.05 | 128.47 | 128.85 | 128.36 | 127.86 | 128.03 | n.a. | 128.48 | 129.20 | 128.34 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | 130.65 | 130.88 | 130.73 | 129.88 | 129.85 | 129.78 | 129.78 | 130.05 | n.a. | 129.99 | 130.03 | 129.99 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | 130.01 | 130.17 | 129.97 | 129.87 | 129.92 | 129.82 | 129.53 | 129.86 | n.a. | 130.03 | 130.33 | 130.09 |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | 129.23 | 129.12 | 129.09 | 128.32 | 128.92 | 128.23 | 127.75 | 127.91 | 128.33 | 128.31 | 129.23 | 128.18 |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | 129.30 | 129.07 | 129.11 | 128.27 | 128.74 | 128.16 | 127.73 | 127.93 | 130.13 | 128.31 | 129.22 | 128.06 |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | 129.36 | 129.07 | 129.31 | 128.31 | 128.33 | 128.14 | 127.69 | 127.88 | 128.40 | 128.29 | 128.99 | 128.11 |
| **GP 08-1 | Shallow | | | | | | | | | | | | | | | | |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Feb-09 | Apr-09 | Jul-09 | Oct-09 | Feb-10 | May-10 | Aug-10 | Nov-10 | Feb-11 | May-11 | Jul-11 | Oct-11 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 155.40 | 157.82 | 154.80 | 154.46 | 154.66 | 155.11 | 155.23 | 154.67 | 155.41 | 156.34 | 154.84 | 154.02 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 160.31 | 160.83 | 159.61 | 159.50 | 159.69 | 159.79 | 159.61 | | 159.78 | 160.88 | 159.78 | 159.48 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.82 | 161.47 | 160.49 | 160.43 | 160.43 | 160.51 | 160.44 | 160.41 | 160.52 | 161.31 | 160.49 | 160.35 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 160.05 | 157.54 | 159.17 | 157.93 | 159.25 | 159.40 | 159.18 | 159.05 | 159.30 | 160.72 | 159.46 | 159.04 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 160.58 | 161.38 | 160.16 | 159.88 | 160.09 | 160.18 | 160.06 | 159.93 | 160.12 | 161.44 | 161.09 | 159.96 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 153.12 | 154.28 | 152.79 | 152.65 | 152.82 | 153.09 | 152.88 | 152.72 | 152.79 | 153.87 | 152.76 | 152.77 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | 153.57 | 154.42 | 153.81 | 153.79 | 153.87 | 154.06 | 153.87 | 153.86 | 153.85 | 154.91 | 154.02 | 153.76 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 155.51 | 155.83 | 155.25 | 153.87 | 154.42 | 155.34 | 154.52 | 153.91 | 154.91 | 155.81 | 153.92 | 153.30 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 134.13 | 135.28 | 135.87 | 135.34 | 136.75 | 136.84 | 137.16 | 137.04 | 137.19 | 136.21 | 137.58 | 135.16 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 141.95 | 142.16 | 141.84 | 141.74 | 141.91 | 142.02 | 141.99 | 141.87 | 137.94 | 142.35 | 142.12 | 141.84 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 140.16 | 140.61 | 139.79 | 140.06 | 139.81 | 139.63 | 140.10 | 139.77 | 140.17 | 140.81 | 139.95 | 139.77 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 128.63 | 128.62 | 128.05 | 128.12 | 128.03 | 128.15 | 128.09 | 127.95 | 128.69 | 128.47 | 128.03 | 127.85 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 129.40 | 131.44 | 130.77 | 130.87 | 130.86 | 130.96 | 130.93 | 130.77 | 131.11 | 131.51 | 130.87 | 130.52 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 128.60 | 128.69 | 128.18 | 128.21 | 128.14 | 128.23 | 128.19 | 128.03 | 128.28 | 128.56 | 128.17 | 127.89 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 128.41 | 128.48 | 127.92 | 127.95 | 127.87 | 127.18 | 127.91 | 127.82 | 128.13 | 128.33 | 127.97 | 127.73 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 128.60 | 128.56 | 127.99 | 128.02 | 127.95 | 128.07 | 128.00 | 128.50 | 128.34 | 128.41 | 128.09 | 127.98 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a | n.a | n.a | n.a. | n.a | n.a | n.a |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | n.m. | 128.74 | 128.19 | 128.24 | 128.20 | 126.77 | 128.21 | 128.16 | 129.12 | 128.52 | 127.95 | 127.00 |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | 118.70 | 128.64 | 128.06 | 128.09 | 128.00 | 128.50 | 128.03 | 127.96 | 128.03 | 128.48 | 127.90 | 127.86 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | 129.98 | 129.99 | 130.05 | 130.07 | 129.96 | 128.14 | 130.03 | 129.97 | 129.83 | 129.98 | 129.83 | 130.00 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | 130.20 | 130.39 | 129.86 | 129.31 | 128.63 | 129.71 | 129.36 | 129.31 | 131.40 | 129.58 | 129.11 | 129.31 |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | n.m. | 128.59 | 127.90 | 127.94 | 127.87 | 129.37 | 128.89 | 127.82 | 127.94 | 129.56 | 127.89 | 127.77 |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | n.m. | 128.39 | 127.80 | 127.82 | 127.74 | 128.25 | 127.74 | 127.70 | 127.75 | 129.54 | 127.63 | 127.70 |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | 128.66 | 128.47 | 127.89 | 127.91 | 127.79 | 127.82 | 127.90 | 127.76 | 127.90 | 128.25 | 127.59 | 127.68 |
| **GP 08-1 | Shallow | | | | | 127.05 | 127.34 | 126.96 | 126.95 | 126.82 | 128.04 | 127.15 | 126.77 | 126.71 | 127.49 | 127.42 | 126.47 |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Feb-12 | Apr-12 | Jul-12 | Oct-12 | Feb-13 | May-13 | Jul-13 | Oct-13 | Feb-14 | May-14 | Jul-14 | Oct-14 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 155.86 | 155.41 | 154.79 | 153.82 | 155.18 | 155.63 | 154.83 | 154.16 | 155.45 | 156.21 | 154.60 | 153.49 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 160.20 | 160.23 | 159.57 | 159.42 | 159.88 | 160.48 | 159.69 | 159.53 | 159.90 | 160.84 | 159.66 | 159.48 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.72 | 160.77 | 160.41 | 160.31 | 160.51 | 160.91 | 160.48 | 160.40 | 160.51 | 161.22 | 160.47 | 160.36 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 159.80 | 159.85 | 159.17 | 158.94 | 159.52 | 160.30 | 159.37 | 159.05 | 159.47 | 160.73 | 159.37 | 159.14 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 161.26 | 160.37 | 160.20 | 159.97 | 160.43 | 161.27 | 160.30 | 160.03 | 160.37 | 163.31 | 161.33 | 160.92 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 153.30 | 153.16 | 152.90 | 152.79 | 153.35 | 153.66 | 153.08 | 152.95 | 153.35 | 154.52 | 153.17 | 152.96 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | 154.10 | 154.07 | 153.88 | 153.76 | 154.17 | 154.43 | 153.90 | 153.87 | 153.94 | 154.89 | 153.93 | 153.87 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 154.87 | 155.34 | 153.52 | 153.06 | 155.39 | 155.66 | 154.64 | 153.41 | 155.31 | 155.97 | 154.34 | 153.19 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 136.34 | 136.40 | 137.68 | 137.60 | 138.18 | 137.63 | 137.57 | 136.57 | 138.60 | 138.83 | 137.42 | 138.43 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 142.14 | 142.09 | 141.86 | 141.75 | 141.99 | 142.24 | 142.00 | 141.85 | 142.11 | 142.35 | 142.04 | 141.84 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 140.47 | 140.07 | 139.71 | 139.72 | 140.20 | 140.57 | 139.96 | 139.91 | 140.38 | 140.80 | 140.02 | 139.67 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 128.23 | 128.17 | 127.88 | 127.82 | 128.39 | 128.57 | 128.03 | 128.40 | 128.24 | 129.47 | n.m. | 127.81 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 131.23 | 131.14 | 130.60 | 130.44 | 131.15 | 131.49 | 130.86 | 130.78 | 131.27 | 131.83 | n.m. | 130.51 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 128.38 | 128.26 | 127.97 | 127.85 | 128.42 | 128.56 | 128.20 | 128.38 | 128.30 | 129.26 | 128.05 | 127.85 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 128.88 | 128.06 | 127.67 | 127.61 | 128.20 | 128.36 | 127.87 | 128.21 | 128.03 | 129.30 | 127.76 | 127.62 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 128.23 | 128.13 | 127.82 | 127.76 | 128.35 | 128.52 | 128.01 | 128.36 | 128.19 | 129.50 | 127.82 | 127.76 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | n.a | n.a | n.a | n.a | 132.80 | 132.80 | 132.80 | 132.80 | n.a. | n.a. | n.a. | n.a. |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | 128.22 | 128.18 | 128.04 | 127.94 | 128.55 | 128.66 | 128.02 | 128.55 | 131.59 | 129.62 | 128.09 | 127.95 |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | 128.23 | 127.96 | 127.90 | 127.85 | 128.42 | 128.59 | 127.88 | 129.66 | 131.80 | 129.69 | 127.99 | 127.85 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | 129.86 | 129.88 | 130.05 | 130.04 | 130.04 | 130.03 | 129.94 | 130.08 | 130.11 | 130.39 | 130.04 | 130.02 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | 129.22 | 129.50 | 129.36 | 129.39 | 129.67 | 129.75 | 129.32 | 129.52 | 129.73 | 130.40 | 129.38 | 129.78 |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | 129.18 | 127.90 | 127.76 | 127.73 | 128.76 | 128.71 | 127.79 | 128.42 | 128.12 | 129.62 | 127.91 | 128.08 |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | 127.77 | 127.71 | 127.64 | 127.63 | 128.18 | 128.41 | 127.64 | 128.30 | 127.93 | 130.84 | 127.77 | 127.68 |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | 127.82 | 127.72 | 127.66 | 127.65 | 128.23 | 128.44 | 127.65 | 128.15 | 127.97 | 129.82 | 127.79 | 127.71 |
| **GP 08-1 | Shallow | | | | | 127.36 | 127.17 | 126.68 | 126.36 | 127.14 | 127.55 | 127.20 | 126.91 | 127.00 | 127.73 | n.a. | 126.43 |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Mar-15 | May-15 | Oct-15 | Feb-16 | Apr-16 | Nov-16 | Mar-17 | Jun-17 | Nov-17 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 153.64 | 154.83 | 153.55 | 155.38 | 155.83 | 153.62 | 156.29 | 155.78 | 154.61 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 159.52 | 159.70 | 159.41 | 160.53 | 160.59 | 159.47 | 160.11 | 160.24 | 159.54 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.28 | 160.46 | 160.31 | 160.21 | 160.92 | 160.32 | 160.63 | 160.69 | 159.58 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 158.90 | 159.30 | 158.74 | 159.49 | 160.44 | 158.96 | 159.76 | 159.99 | 159.00 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 160.46 | 161.79 | 160.25 | 160.39 | 164.38 | 161.30 | 165.52 | 164.85 | 160.84 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 153.07 | 153.35 | 153.08 | 153.62 | 154.27 | 153.03 | 154.55 | 153.96 | 153.34 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | 153.83 | 154.13 | 153.82 | 154.26 | 154.56 | 153.78 | 154.75 | 154.18 | 153.92 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 153.24 | 155.37 | 153.41 | 156.59 | 155.87 | 153.42 | 155.93 | 154.66 | 154.46 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 138.37 | 138.29 | 138.34 | 139.28 | 137.64 | 134.61 | 135.06 | 135.20 | 134.77 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 141.59 | 142.09 | 141.83 | 141.76 | 142.35 | 141.84 | 142.35 | 142.28 | 141.92 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 139.59 | 139.99 | 139.61 | 140.43 | 141.66 | 139.63 | 140.57 | 140.55 | 139.98 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 127.84 | 128.06 | 127.87 | 126.66 | 129.25 | 127.94 | 128.51 | 128.26 | 128.24 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 130.09 | 131.03 | 130.51 | 131.60 | 131.67 | 130.57 | 131.43 | 131.37 | 130.84 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 127.81 | 128.13 | 127.89 | n.a. | 129.24 | 128.00 | 128.57 | 128.45 | 128.21 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 127.65 | 127.84 | 127.67 | n.a. | 129.09 | 127.74 | 128.25 | 128.16 | 127.90 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 127.15 | 128.01 | 127.83 | n.a. | 129.25 | 127.88 | 128.41 | 128.32 | 128.05 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | 132.80 | 132.80 | |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | n.m. | 128.17 | 127.80 | n.a. | 129.17 | 128.08 | n.a. | 128.44 | 130.09 |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | 128.67 | 128.07 | 127.73 | n.a. | 129.18 | 127.99 | n.a. | 128.35 | 128.15 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | 129.83 | 130.07 | 129.87 | n.a. | 130.03 | 130.08 | n.a. | 130.05 | 130.07 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | 129.96 | 129.71 | 129.41 | 128.32 | 130.06 | 129.94 | 130.14 | 130.12 | 128.68 |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | 131.26 | 127.99 | 127.72 | 128.20 | 129.98 | 127.84 | 130.42 | 128.88 | n.a. |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | 128.70 | 127.78 | 127.59 | 130.00 | 129.24 | 127.99 | 128.60 | 128.48 | 128.44 |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | 128.66 | 127.84 | 127.59 | n.a. | 129.18 | 127.80 | 128.27 | 128.20 | 127.99 |
| **GP 08-1 | Shallow | | | | | 126.28 | 127.03 | 126.27 | n.a. | 127.73 | 126.46 | 128.41 | 128.54 | 127.81 |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Feb-18 | May-18 | Nov-18 | Feb-19 | Apr-19 | Nov-19 | Mar-20 | Jun-20 | Nov-20 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 156.30 | 155.78 | 155.46 | 156.08 | 156.56 | 155.24 | 156.47 | 155.18 | 153.33 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 159.83 | 160.24 | 159.58 | 159.98 | 160.74 | 159.58 | 160.16 | 159.96 | 159.49 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.56 | 160.67 | 160.45 | 160.56 | 161.08 | 160.45 | 160.64 | 160.60 | 160.38 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 159.33 | 159.96 | 158.99 | 159.55 | 160.45 | 159.05 | 159.82 | 159.55 | 159.05 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 160.67 | 165.48 | 160.40 | 162.83 | 165.40 | 161.01 | 164.91 | 163.17 | 160.75 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 154.08 | 153.74 | 153.50 | 153.68 | 154.65 | 154.42 | 154.19 | 153.71 | 153.47 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | 154.62 | 154.10 | 154.17 | 153.97 | 154.97 | 153.99 | 154.88 | 153.96 | 153.76 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 156.57 | 155.28 | 155.42 | 155.51 | 156.30 | 155.44 | 156.06 | 155.54 | 155.27 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 135.02 | 135.30 | 134.97 | 135.22 | 135.36 | 135.15 | 135.36 | 135.52 | 135.07 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 142.33 | 142.27 | 141.92 | 142.28 | 142.74 | 142.16 | 142.62 | 142.27 | 142.03 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 140.60 | 139.50 | 140.42 | 140.59 | 141.04 | 140.58 | 140.92 | 140.22 | 139.82 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 129.48 | 128.20 | 128.35 | 128.74 | 129.02 | 128.35 | 128.57 | 128.20 | 127.99 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 131.53 | 131.50 | 130.90 | 131.47 | 131.85 | 131.22 | 131.68 | 131.08 | 130.66 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 129.22 | 128.32 | 128.41 | 128.78 | 128.82 | 128.38 | 128.67 | 128.26 | 128.04 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 129.15 | 128.12 | 128.18 | 128.56 | 128.78 | 128.16 | 128.45 | 127.96 | 127.80 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 129.31 | 128.16 | 128.29 | 128.69 | 128.90 | 128.30 | 128.58 | 128.10 | 127.94 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | | | | - | - | - | - | - | - |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | 129.46 | n.a. | 128.77 | n.a. | 129.06 | n.a. | n.a. | n.a. | n.a. |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | 129.51 | 128.38 | 128.45 | 128.85 | 129.11 | n.a. | 128.78 | 128.21 | 128.07 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | 131.20 | 127.98 | 130.02 | 130.97 | 130.55 | n.a. | 130.62 | 130.07 | 130.05 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | 131.07 | 130.13 | 129.29 | n.a. | 130.70 | n.a. | n.a. | n.a. | n.a. |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | 131.05 | 128.74 | 130.02 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | n.a. | n.a. | 130.77 | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | 129.49 | 128.10 | 128.21 | n.a. | 128.92 | n.a. | 128.53 | 127.98 | 127.84 |
| **GP 08-1 | Shallow | | | | | 128.25 | 128.51 | 127.79 | 128.16 | 128.65 | 132.91 | 128.31 | 127.81 | 127.67 |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

**TABLE A-3**
**WATER LEVEL ELEVATIONS - Meridian Brick Property**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| Monitoring Well Designation | Relative Depth | Ground Surface (m.a.s.l.) | Bottom (m.a.s.l.) | Screen | | Water Level Elevations (mASL) | | |
|---|---|---|---|---|---|---|---|---|
| | | | | Bottom (m.a.s.l.) | Top (m.a.s.l.) | Mar-21 | May-21 | Nov-21 |
| MW 5 | Deep | 168.34 | 149.01 | 149.01 | 158.13 | 156.01 | 155.10 | 155.47 |
| MW 6A | Deep | 168.65 | 150.08 | 150.08 | 156.18 | 159.70 | 159.88 | 159.95 |
| MW 6B | Shallow | 168.83 | 158.65 | 158.65 | 164.72 | 160.50 | 160.53 | 160.59 |
| MW 7A | Deep | 167.79 | 150.80 | 150.80 | 156.89 | 159.20 | 159.46 | 159.42 |
| MW 7B | Shallow | 167.57 | 158.27 | 158.27 | 164.37 | 160.73 | 165.10 | 160.92 |
| MW 8A | Deep | 164.78 | 148.02 | 148.02 | 152.59 | 153.79 | 153.74 | 153.99 |
| MW 8B | Shallow | 164.64 | 153.21 | 153.21 | 157.78 | 154.10 | 153.93 | 154.22 |
| MW 9 | Shallow | 160.82 | 151.98 | 151.98 | 156.55 | 155.47 | 155.59 | 155.64 |
| MW 10A | Deep | 146.00 | 133.12 | 133.12 | 137.70 | 135.26 | 135.37 | 135.13 |
| MW 10B | Shallow | 145.44 | 139.27 | 139.27 | 143.84 | 142.31 | 142.28 | 142.33 |
| MW 11 | Shallow | 144.32 | 135.76 | 135.76 | 138.81 | 140.47 | 140.32 | 141.68 |
| MW 12A | Deep | 135.12 | 122.55 | 122.55 | 127.12 | 128.49 | 128.28 | 128.47 |
| MW 12B | Shallow | 134.97 | 127.96 | 127.96 | 131.01 | 131.37 | 131.20 | 131.49 |
| GP 00-1 | Shallow | 131.96 | 122.82 | 122.82 | 128.91 | 128.55 | 128.33 | 128.50 |
| GP 00-2 | Shallow | 131.76 | 125.82 | 125.82 | 128.86 | 128.33 | 128.04 | 128.25 |
| GP 00-3 | Shallow | 131.93 | 125.99 | 125.99 | 129.03 | 128.48 | 128.19 | 128.40 |
| **MW 99-03 | Shallow | 132.31 | 125.00 | 125.00 | 131.10 | - | - | - |
| GP 00-04 | Shallow | 131.59 | 127.02 | 127.02 | 130.83 | n.a | n.a | n.a |
| GP 00-05 | Shallow | 131.80 | 126.01 | 126.01 | 131.04 | 128.64 | 128.32 | 128.55 |
| GP 00-06 | Shallow | 131.81 | 127.24 | 127.24 | 131.05 | 130.77 | 130.09 | 130.48 |
| GP 00-07 | Shallow | 131.54 | 126.97 | 126.97 | 130.78 | n.a | n.a | n.a |
| GP 00-08 | Shallow | 131.57 | 127.00 | 127.00 | 130.81 | n.a | n.a | 130.34 |
| GP 00-09 | Shallow | 131.83 | 127.26 | 127.26 | 131.07 | n.a | n.a | n.a |
| GP 00-10 | Shallow | 131.78 | 127.21 | 127.21 | 131.02 | n.a | 128.04 | 128.56 |
| **GP 08-1 | Shallow | | | | | 127.85 | 128.07 | 128.42 |

NOTES: 1) mASL - metres Above Sea Level
n.m.= Not measured
n.a. - Not applicable
2) * - Indicates measurement obtained in January 2008.
3) ** - GP 08-1 installed on Aug 19, 2008 to replace MW 99-03 (damaged in January 2008)

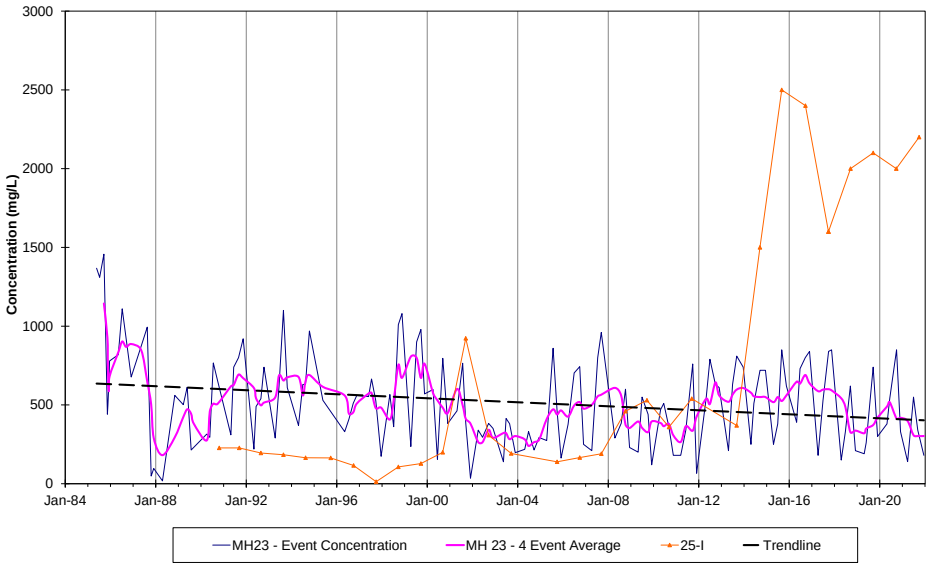
# APPENDIX

# B LEACHATE COLLECTION SYSTEM CHEMISTRY

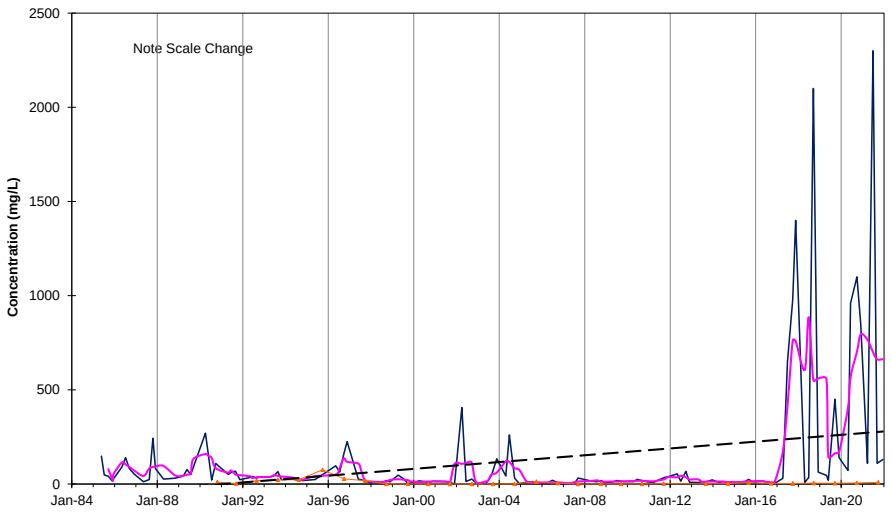
**FIGURE B-1**

**LEACHATE : MH 23 and 25-I**

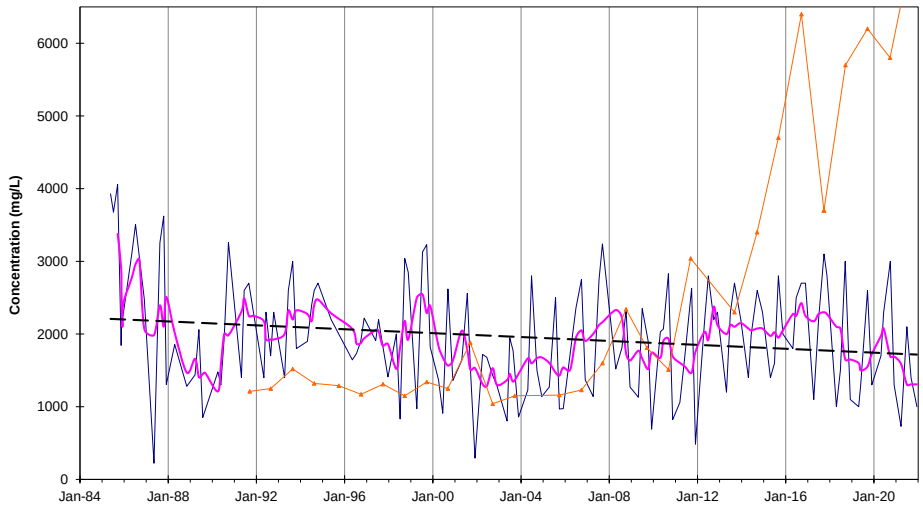
**CHLORIDE**




**IRON**




**ALKALINITY**




**NITROGEN**

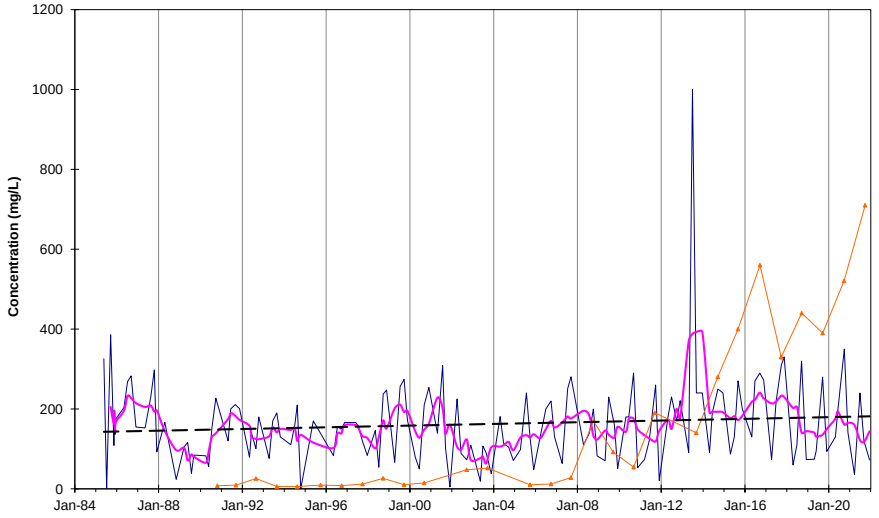
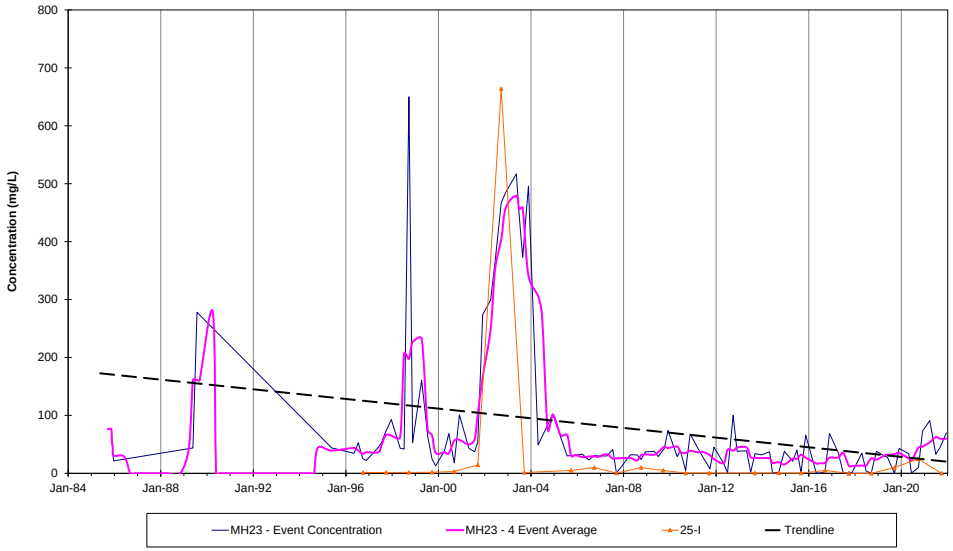


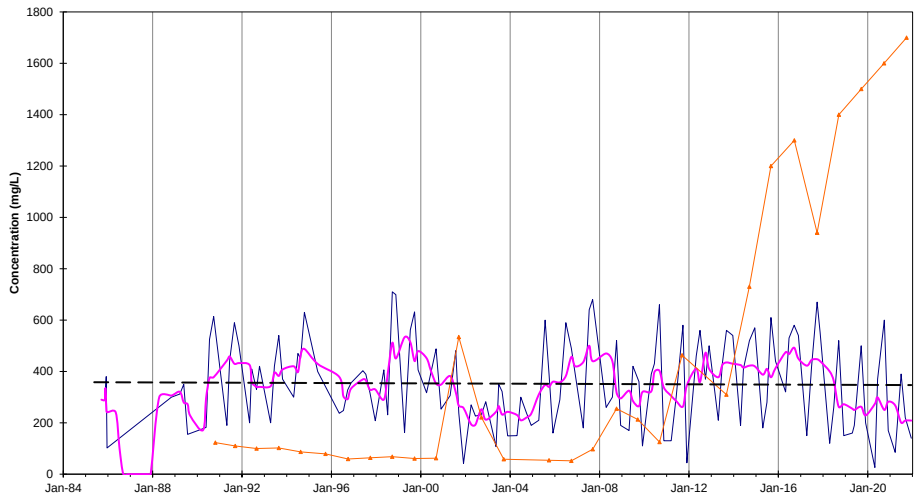
**FIGURE B-2**

**LEACHATE : MH 23 and 25-I**

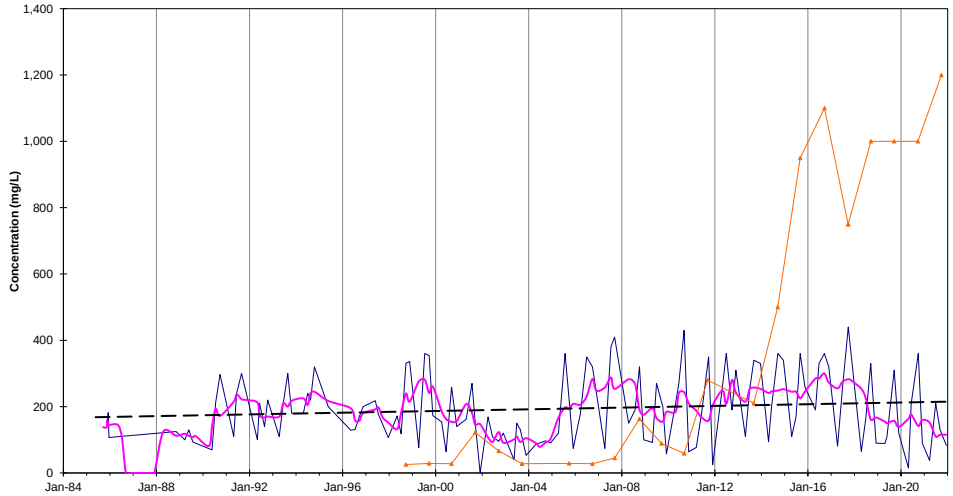
**SULPHATE**




**SODIUM**




**POTASSIUM**




**HARDNESS**

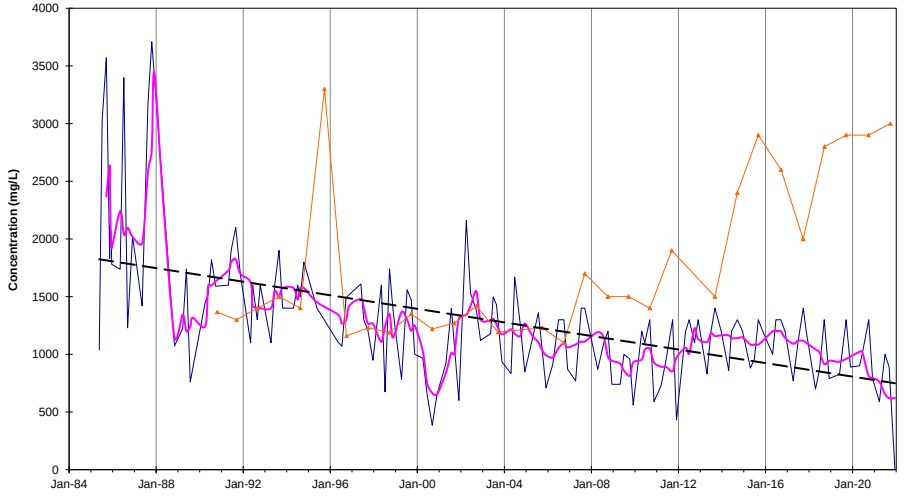


**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | May-85 | Jul-85 | Sep-85 | Nov-85 | Nov-85 | Dec-85 | Dec-85 | May-86 | Jul-86 | Sep-86 | Dec-86 | May-87 | Aug-87 | Oct-87 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 6.8 | 6.8 | 6.7 | 6.3 | 7.3 | 6.8 | 7.3 | 7.7 | 7.0 | 6.8 | 7.6 | 7.2 | 6.5 | 7.0 |
| **Specific Conductance** | µS/cm | | 10050 | 9020 | 11130 | 4920 | 5490 | 5940 | 6300 | 9050 | 8900 | 9140 | 6120 | 6720 | 7650 | 9850 |
| **Chloride** | mg/L | 1500 | 1368 | 1310 | 1457 | 441 | 497 | 631 | 779 | 819 | 1110 | | 677 | 873 | 994 | 49 |
| **Sulphate** | mg/L | 1500 | | | | 76 | | 40 | 22 | | | | | | | |
| **Alkalinity** | mg/L | | 3928 | 3676 | 4058 | 1844 | 2082 | 2210 | 2270 | 3100 | 3508 | | 2476 | 223 | 3256 | 3622 |
| **Nitrate** | mg/L | | 0.55 | 0.55 | 0.80 | 0.40 | 0.40 | 0.25 | 0.15 | 0.55 | 0.10 | <0.05 | 0.75 | 0.45 | 0.70 | 0.55 |
| **Nitrite** | mg/L | | 0.08 | 0.11 | 0.09 | 0.09 | 0.11 | 0.07 | 0.04 | 0.07 | 0.17 | <0.005 | 0.03 | 0.05 | 0.12 | 0.10 |
| **Ammonia** | mg/L | | | 300 | 328 | 100 | 120 | 130 | 143 | 178 | 237 | 5 | 140 | 152 | 198 | 280 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 325 | | 385 | 108 | 153 | 136 | 175 | 203 | 268 | 283 | 154 | 152 | 229 | 297 |
| **Organic Nitrogen** | mg/L | | | | 57 | 8 | 33 | 6 | 33 | 25 | 31 | 278 | 14 | <0.05 | 31 | 17 |
| **Calcium** | mg/L | | | | | 432 | | 432 | 250 | | | | | | | |
| **Magnesium** | mg/L | | | | | 182 | | 235 | 280 | | | | | | | |
| **Hardness** | mg/L | | 1040 | 3028 | 3571 | 1830 | 2120 | 2050 | 1780 | 1737 | 3398 | 1230 | 2024 | 1421 | 3180 | 3710 |
| **Sodium** | mg/L | | | | | 290 | | 380 | 102 | | | | | | | |
| **Potassium** | mg/L | | | | | 138 | | 182 | 107 | | | | | | | |
| **Phosphorus - total** | mg/L | 10 | 2.88 | 1.00 | 1.10 | 0.90 | 1.25 | 3.50 | 1.00 | | 1.50 | 2.00 | 0.20 | 0.25 | 0.80 | 1.05 |
| **Biochemical Oxygen Demand** | mg/L | 300 | >3835 | 3000 | 9860 | 2830 | 18 | 1925 | 2360 | 4330 | 1440 | 4500 | | | 1500 | 6000 |
| **Chemical Oxygen Demand** | mg/L | | 7560 | 4900 | | 3718 | 4726 | 2160 | | | | 114 | 16330 | <2 | 4830 | 5376 |
| **Dissolved Organic Carbon** | mg/L | | 1950 | 1700 | 1990 | 730 | 1450 | 910 | | 1690 | 2250 | | 1160 | 260 | 1480 | 2500 |
| **Suspended Solids** | mg/L | 350 | 351 | 124 | 204 | | 497 | | | 450 | 329 | 165 | | | 563 | 8130 |
| **Aluminum** | mg/L | 50 | | | | | | | | 0.97 | 0.56 | 0.49 | <0.15 | | 0.960 | 7.600 |
| **Barium** | mg/L | | | | | | | | | | | | | | | |
| **Beryllium** | mg/L | | | | | | | | | | | | | | | |
| **Boron** | mg/L | | | | | | | | | | | | | | | |
| **Cadmium** | mg/L | 1 | | | | | | | | 0.0050 | 0.0030 | <0.015 | <0.015 | <0.0020 | 0.0100 | 0.0260 |
| **Chromium** | mg/L | 3 | | | | | | | | 0.260 | 0.280 | 0.270 | 0.330 | 0.044 | 0.390 | 0.760 |
| **Cobalt** | mg/L | 5 | | | | | | | | | | | | | | |
| **Copper** | mg/L | 3 | | | | | | | | 0.530 | 0.024 | <0.05 | <0.050 | <0.005 | <0.005 | 0.170 |
| **Iron** | mg/L | 50 | 148 | 48 | 41 | | 17 | | | 90 | 140 | 83 | 53 | 12 | 24 | 243 |
| **Lead** | mg/L | 3 | | | | | | | | <0.03 | 0.041 | <0.15 | <0.150 | <0.015 | 0.072 | 0.490 |
| **Manganese** | mg/L | 5 | | | | | | | | 8.00 | 9.90 | 8.80 | 5.60 | 1.40 | 5.90 | 9.80 |
| **Molybdenum** | mg/L | 5 | | | | | | | | | | | | | | |
| **Nickel** | mg/L | 3 | | | | | | | | 0.080 | 0.089 | 0.100 | <0.050 | 0.031 | 0.092 | 0.160 |
| **Silicon** | mg/L | | | | | | | | | | | | | | | |
| **Silver** | mg/L | 5 | | | | | | | | | | | | | | |
| **Strontium** | mg/L | | | | | | | | | | | | | | | |
| **Thallium** | mg/L | | | | | | | | | | | | | | | |
| **Tin** | mg/L | 5 | | | | | | | | | | | | | | |
| **Titanium** | mg/L | 5 | | | | | | | | | | | | | | |
| **Vanadium** | mg/L | 5 | | | | | | | | | | | | | | |
| **Zinc** | mg/L | 3 | | | | | | | | 5.4 | 6.1 | 4.4 | 1.6 | 0.08 | 1.70 | 12.00 |
| **Phenolics** | µg/L | 1000 | 2140 | 1600 | 18 | | 1440 | 810 | 775 | 1980 | 2360 | 3 | 1290 | 400 | 1540 | |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Dec-87 | Apr-88 | Nov-88 | Mar-89 | May-89 | Jul-89 | Sep-89 | Apr-90 | May-90 | Jul-90 | Sep-90 | Apr-91 | Jun-91 | Aug-91 | Nov-91 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.2 | 7.3 | 7.8 | 7.7 | 7.5 | 7.2 | | 6.72 | 6.92 | 7.37 | 7.5 | 6.71 | 7.05 | 7.14 | 7.55 |
| **Specific Conductance** | µS/cm | | 3480 | 3900 | 5670 | 5013 | 6450 | 3360 | | 3130 | 3080 | 5590 | 6580 | 3700 | 6600 | 7900 | 6400 |
| **Chloride** | mg/L | 1500 | 97 | 18 | 561 | 502 | 613 | 214 | | 315 | 295 | 767 | 655 | 310 | 740 | 800 | 920 |
| **Sulphate** | mg/L | 1500 | | | | | 43.8 | 278 | | | | | | | | | |
| **Alkalinity** | mg/L | | 1306 | 1856 | 1280 | 1440 | 2060 | 851 | | 1480 | 1300 | 1970 | 3260 | 1400 | 2600 | 2700 | 2300 |
| **Nitrate** | mg/L | | 1.15 | 1.39 | | <0.07 | | <0.07 | <0.07 | <1 | <0.1 | <0.1 | <0.1 | 0.026 | 0.034 | 1.1 | 0.85 |
| **Nitrite** | mg/L | | 0.13 | 0.02 | 0.05 | <0.08 | | <0.08 | <0.08 | <1 | <1 | 0.4 | <0.1 | <0.009 | <0.009 | 0.019 | <0.009 |
| **Ammonia** | mg/L | | 82 | 140 | 100 | 82 | 104 | 66.6 | | 74.4 | 2.23 | 172 | 233 | 100 | 190 | 240 | 200 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 91 | 165 | 23.6 | 105 | 116 | 38.7 | 84.6 | 82.5 | 56 | 152 | 227 | 120 | 200 | 210 | 200 |
| **Organic Nitrogen** | mg/L | | 9 | 25 | <0.05 | 23 | 12 | <0.05 | | 8 | 54 | <0.05 | <0.05 | 20 | 10 | <0.05 | <0.05 |
| **Calcium** | mg/L | | | | 210 | 190 | 274 | 160 | | | 229 | 330 | 395 | 280 | 320 | 370 | 290 |
| **Magnesium** | mg/L | | | | 175 | 180 | 255 | 88 | | | 231 | 243 | 316 | 120 | 240 | 300 | 250 |
| **Hardness** | mg/L | | | | 1072 | 1225 | 1740 | 761 | | 1450 | 1520 | 1820 | 1590 | 1600 | 1900 | 2100 | 1700 |
| **Sodium** | mg/L | | | | 300 | 312 | 350 | 155 | | 177 | 182 | 525 | 614 | 190 | 440 | 590 | 500 |
| **Potassium** | mg/L | | | | 125 | 100 | 130 | 93 | | | 69.7 | 212 | 297 | 110 | 240 | 300 | 240 |
| **Phosphorus - total** | mg/L | 10 | 6.73 | 0.62 | 0.88 | 0.65 | 0.05 | 0.39 | 1.01 | 1.45 | <0.005 | 0.51 | 0.93 | 0.70 | 0.93 | 42.00 | 1.50 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 16 | 20 | | 260 | 250 | 1600 | 59 | >900 | 140 | 852 | 2700 | 740 | 1000 | 1200 | 1700 |
| **Chemical Oxygen Demand** | mg/L | | 3460 | 860 | 290 | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | 52 | 138 | 25 | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 521 | 108 | | 86 | 22 | 806 | 376 | | 26 | 79 | 43 | 120 | 190 | 130 | 390 |
| **Aluminum** | mg/L | 50 | | 0.500 | 0.400 | | | | | | <0.025 | <0.025 | 0.597 | 0.200 | 0.640 | 0.230 | 0.091 |
| **Barium** | mg/L | | | | 1.02 | 0.10 | 1.90 | 0.80 | 1.10 | 8.58 | 1.05 | 0.83 | 0.83 | 0.73 | 1.00 | 1.00 | 0.63 |
| **Beryllium** | mg/L | | | | <0.001 | | | | | | <0.003 | <0.003 | <0.003 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Boron** | mg/L | | | | | | | | | | | 3.02 | | 1.70 | 3.60 | 4.70 | 4.20 |
| **Cadmium** | mg/L | 1 | | 0.0500 | <0.001 | 0.0010 | <0.001 | 0.0100 | 0.0100 | <0.003 | <0.003 | <0.003 | <0.003 | <0.002 | 0.0020 | <0.002 | 0.0040 |
| **Chromium** | mg/L | 3 | | 0.070 | 0.004 | | 0.010 | <0.1 | 0.100 | <0.005 | <0.005 | 0.010 | 0.045 | 0.024 | 0.038 | 0.037 | 0.020 |
| **Cobalt** | mg/L | 5 | | 0.060 | 0.016 | | | | | | <0.005 | 0.007 | 0.013 | <0.01 | <0.01 | 0.014 | <0.01 |
| **Copper** | mg/L | 3 | | 0.050 | 0.002 | | <0.01 | <0.01 | | | <0.003 | <0.003 | 0.029 | 0.048 | 0.043 | 0.031 | 0.016 |
| **Iron** | mg/L | 50 | 82 | 26 | 31 | 42 | 77 | 50 | | 270 | 157 | 21 | 109 | 51 | 61 | 68 | 23 |
| **Lead** | mg/L | 3 | | 0.220 | <0.004 | 0.022 | 0.030 | 0.100 | 0.200 | 0.002 | <0.01 | 0.030 | 0.060 | <0.02 | <0.02 | <0.02 | 0.027 |
| **Manganese** | mg/L | 5 | | | 0.79 | | 0.27 | 3.30 | | | 1.37 | 2.75 | 4.00 | 2.40 | 2.40 | 2.80 | 2.00 |
| **Molybdenum** | mg/L | 5 | | 0.300 | 0.000 | | | | | | <0.006 | <0.006 | <0.006 | <0.02 | <0.02 | <0.02 | <0.02 |
| **Nickel** | mg/L | 3 | | 0.070 | 0.006 | | | | | | 0.012 | 0.029 | 0.057 | 0.013 | 0.034 | 0.056 | 0.030 |
| **Silicon** | mg/L | | | | | | | | | | | | | 7.6 | 8.7 | 11.0 | 8.8 |
| **Silver** | mg/L | 5 | | | <0.001 | 0.010 | 0.001 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 | <0.01 |
| **Strontium** | mg/L | | | | 5.80 | | | | | | 4.15 | 6.91 | 6.56 | 3.20 | 4.90 | 5.70 | 4.80 |
| **Thallium** | mg/L | | | | | | | | | | | | | <0.06 | <0.06 | <0.06 | <0.06 |
| **Tin** | mg/L | 5 | | | | | | | | | | | | | | | |
| **Titanium** | mg/L | 5 | | | <0.2 | | | | | | <0.003 | <0.003 | 0.01 | 0.015 | 0.02 | 0.018 | |
| **Vanadium** | mg/L | 5 | | | <0.002 | | | | | | <0.003 | 0.0050 | 0.0240 | <0.005 | <0.005 | 0.0060 | <0.005 |
| **Zinc** | mg/L | 3 | | 0.14 | 0.18 | | 0.68 | 1.90 | | | 0.02 | <0.003 | 1.590 | 0.640 | 0.930 | 0.690 | 0.330 |
| **Phenolics** | µg/L | 1000 | 3400 | | 36 | 31 | 150 | 149 | 39 | 310 | | 390 | | 660 | 590 | 360 | 460 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | May-92 | Jun-92 | Aug-92 | Oct-92 | Apr-93 | Jun-93 | Aug-93 | Oct-93 | Apr-94 | Jul-94 | Aug-94 | Oct-94 | May-95 | May-96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.61 | 7.59 | 7.29 | 7.86 | 8.17 | 7.45 | 7.33 | 7.53 | 7.40 | 7.77 | 7.54 | 7.78 | 7.56 | 7.09 |
| **Specific Conductance** | µS/cm | | 3400 | 5100 | 4500 | 6000 | 3400 | 5700 | 7300 | 5200 | 4400 | 5800 | 620 | ** 9800 | 5100 | 3944 |
| **Chloride** | mg/L | 1500 | 220 | 490 | 540 | 740 | 290 | 620 | 1100 | 610 | 370 | 630 | 630 | 970 | 530 | 330 |
| **Sulphate** | mg/L | 1500 | | | | | | | | | | | | | 44.0 | 34.6 |
| **Alkalinity** | mg/L | | 1400 | 2300 | 1700 | 2300 | 1400 | 2600 | 3000 | 1800 | 1900 | 2400 | 2600 | 2700 | 2200 | 1644 |
| **Nitrate** | mg/L | | 0.15 | 0.11 | 0.56 | | | | | | 0.1 | 0.011 | <0.02 | ** 0.064 | 0.027 | <0.1 |
| **Nitrite** | mg/L | | | | 0.009 | | <0.100 | <0.100 | 0.018 | <0.100 | ** 0.26 | 0.024 | <0.090 | 0.019 | 0.01 | <0.2 |
| **Ammonia** | mg/L | | 77 | 150 | 120 | 170 | 69 | 150 | 190 | 130 | 130 | 170 | 180 | 130 | 110 | 84 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 79 | 140 | 100 | 180 | 76 | 170 | 190 | 130 | 110 | 160 | 210 | ** 430 | 170 | 83 |
| **Organic Nitrogen** | mg/L | | 2 | <0.05 | <0.05 | 10 | 7 | 20 | <0.05 | <0.05 | <0.05 | <0.05 | 30 | 300 | 60 | <0.05 |
| **Calcium** | mg/L | | 240 | 280 | 230 | 260 | 230 | 260 | 300 | 230 | 230 | 250 | 230 | 230 | 230 | 224 |
| **Magnesium** | mg/L | | 130 | 220 | 180 | 230 | 130 | 230 | 270 | 190 | 200 | 240 | 220 | 310 | 210 | 132 |
| **Hardness** | mg/L | | 1100 | 1600 | 1300 | 1600 | 1100 | 1600 | 1900 | 1400 | 1400 | 1600 | 1500 | 1800 | 1400 | 1108 |
| **Sodium** | mg/L | | 200 | 410 | 330 | 420 | 200 | 420 | 540 | 370 | 300 | 470 | 450 | 630 | 400 | 237 |
| **Potassium** | mg/L | | 100 | 210 | 140 | 220 | 110 | 210 | 300 | 180 | 180 | 240 | 220 | 320 | 200 | 129 |
| **Phosphorus - total** | mg/L | 10 | 0.45 | 0.45 | 0.33 | 0.43 | 0.40 | 0.64 | 0.56 | 0.33 | 0.33 | 0.60 | 0.17 | ** 0.16 | 0.54 | 1.19 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 520 | 450 | 32 | 570 | 230 | 410 | 950 | 410 | 210 | 290 | 580 | 360 | 83 | 96 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 96 | 150 | 90 | 110 | 110 | 120 | 170 | 90 | 74 | 87 | 68 | ** 140 | 57 | 379 |
| **Aluminum** | mg/L | 50 | 0.140 | | | 0.130 | <0.05 | 0.058 | 0.280 | 0.054 | 0.055 | 0.067 | ** 0.21 | <0.030 | 0.044 | 1.97 |
| **Barium** | mg/L | | 0.57 | 0.72 | 1.10 | 0.72 | 0.61 | 0.86 | 0.39 | 0.58 | 0.69 | 0.68 | 0.63 | 0.72 | 0.71 | 1.02 |
| **Beryllium** | mg/L | | | | | | <0.020 | <0.020 | <0.020 | <0.020 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.0005 |
| **Boron** | mg/L | | 1.80 | 3.50 | 2.60 | 3.70 | 1.80 | 4.10 | 5.00 | 3.30 | 3.20 | 4.40 | 4.40 | 5.90 | 3.90 | 2.38 |
| **Cadmium** | mg/L | 1 | 0.0030 | | | | <0.004 | <0.004 | <0.004 | 0.0130 | <0.002 | <0.002 | <0.002 | <0.002 | 0.0030 | <0.005 |
| **Chromium** | mg/L | 3 | 0.012 | 0.021 | 0.013 | 0.022 | 0.013 | 0.022 | 0.035 | 0.031 | 0.015 | 0.022 | 0.020 | 0.027 | 0.019 | 0.020 |
| **Cobalt** | mg/L | 5 | | 0.024 | 0.019 | 0.015 | <0.020 | <0.020 | <0.020 | 0.012 | <0.010 | <0.010 | <0.010 | 0.011 | <0.010 | <0.01 |
| **Copper** | mg/L | 3 | | | 0.008 | | <0.009 | <0.010 | <0.010 | 0.059 | ** <0.006 | 0.013 | <0.006 | <0.006 | 0.008 | <0.01 |
| **Iron** | mg/L | 50 | 35 | 40 | 31 | 39 | 38 | 43 | 66 | 23 | 27 | 22 | 27 | 18 | 24 | 97 |
| **Lead** | mg/L | 3 | | | | | <0.040 | <0.040 | <0.040 | 0.037 | <0.020 | <0.020 | <0.020 | <0.020 | <0.020 | <0.05 |
| **Manganese** | mg/L | 5 | 1.80 | 1.50 | 0.90 | 1.80 | 1.80 | 1.40 | 2.60 | 1.20 | 1.30 | 1.00 | 1.00 | 0.58 | 1.00 | 1.44 |
| **Molybdenum** | mg/L | 5 | | | | | <0.010 | <0.010 | <0.010 | 0.014 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.05 |
| **Nickel** | mg/L | 3 | 0.015 | 0.021 | 0.010 | 0.030 | <0.050 | 0.016 | 0.043 | 0.032 | 0.037 | 0.051 | 0.041 | 0.063 | 0.029 | <0.05 |
| **Silicon** | mg/L | | 8.8 | 9.6 | 10.0 | 10.0 | 8.5 | 11.0 | | 9.7 | 11.0 | 11.0 | 9.9 | 11.0 | 11.0 | 10.0 |
| **Silver** | mg/L | 5 | | | | | <0.010 | <0.010 | <0.010 | 0.160 | <0.010 | <0.010 | <0.010 | <0.010 | <0.010 | <0.005 |
| **Strontium** | mg/L | | 3.00 | 4.40 | 4.50 | 4.30 | 3.00 | 4.60 | 4.90 | 4.00 | 3.60 | 4.20 | 4.10 | 4.70 | 3.80 | 3.13 |
| **Thallium** | mg/L | | | | | | <0.10 | <0.10 | <0.10 | <0.10 | <0.060 | <0.060 | <0.060 | <0.060 | <0.060 | |
| **Tin** | mg/L | 5 | | | | | | | | | | | | | <0.050 | <0.1 |
| **Titanium** | mg/L | 5 | | 0.012 | | 0.010 | <0.020 | <0.020 | <0.020 | 0.012 | 0.014 | <0.010 | <0.010 | 0.012 | <0.010 | 0.012 |
| **Vanadium** | mg/L | 5 | | | | | <0.020 | <0.020 | <0.020 | nd | <0.005 | <0.005 | <0.005 | <0.005 | <0.005 | 0.0150 |
| **Zinc** | mg/L | 3 | 0.330 | 0.390 | 0.061 | 0.730 | 0.160 | 0.140 | 0.270 | 0.170 | 0.140 | 0.140 | 0.180 | 0.170 | 0.110 | 0.490 |
| **Phenolics** | µg/L | 1000 | 150 | 230 | 73 | 220 | 320 | 160 | 370 | 170 | 430 | ** 250 | 210 | ** 210 | 52 | 36 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Jul-96 | Sep-96 | Nov-96 | May-97 | Jul-97 | Sep-97 | Dec-97 | May-98 | Jul-98 | Sep-98 | Nov-98 | Apr-99 | Jul-99 | Sep-99 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 6.76 | 7.36 | 7.61 | 7.21 | 7.2 | 7.38 | 7.61 | 7.33 | 7.08 | 7.75 | 7.96 | 7.43 | 7.69 | 7.85 |
| **Specific Conductance** | µS/cm | | 4282 | 4640 | 5398 | 4980 | 5620 | 4140 | 3130 | 4820 | 2590 | 7155 | 7108 | 2248 | 6809 | 7220 |
| **Chloride** | mg/L | 1500 | 410 | 511 | 560 | 553 | 665 | 526 | 174 | 566 | 362 | 1010 | 1080 | 236 | 900 | 979 |
| **Sulphate** | mg/L | 1500 | 52.8 | 25.3 | 22.3 | 45 | 53.2 | 72.3 | 92.9 | 43.3 | 41.9 | 650 | 53 | 161 | 65 | 25 |
| **Alkalinity** | mg/L | | 1732 | 1899 | 2219 | 1910 | 2198 | 1841 | 1410 | 2000 | 832 | 3040 | 2850 | 973 | 3130 | 3230 |
| **Nitrate** | mg/L | | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | 0.6 | <0.2 | <0.2 | <0.2 | <0.2 | 2.8 | <0.2 | <2.0 |
| **Nitrite** | mg/L | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <2.0 | <2.0 | <0.2 | <2.0 | <2.0 |
| **Ammonia** | mg/L | | 116 | 126 | 143 | 150 | 153 | 118 | 81.7 | 119 | 54 | 224 | 232 | 56 | 254 | 279 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 156 | 149 | 166 | 166 | 158 | 121 | 83 | 146 | 54 | 237 | 247 | 64 | 256 | 274 |
| **Organic Nitrogen** | mg/L | | 40 | 23 | 23 | 16 | 5 | 3 | 1 | 27 | <0.05 | 13 | 15 | 8 | 2 | <0.05 |
| **Calcium** | mg/L | | 201 | 296 | 284 | 278 | 225 | | 180 | 306 | 134 | 227 | 149 | 195 | 233 | 182 |
| **Magnesium** | mg/L | | 137 | 182 | 198 | 222 | 180 | | 120 | 205 | 82.2 | 285 | 292 | 90.4 | 269 | 264 |
| **Hardness** | mg/L | | 1070 | 1490 | 1520 | 1610 | 1300 | 1210 | 949 | 1600 | 675 | 1740 | 1380 | 784 | 1560 | 1470 |
| **Sodium** | mg/L | | 248 | 328 | 356 | 403 | 389 | 316 | 208 | 406 | 231 | 710 | 699 | 162 | 562 | 632 |
| **Potassium** | mg/L | | 131 | 172 | 200 | 218 | 177 | | 107 | 172 | 118 | 331 | 336 | 76.6 | 360 | 354 |
| **Phosphorus - total** | mg/L | 10 | 0.60 | 2.00 | 6.36 | 0.80 | 0.39 | | 0.23 | 0.03 | 0.22 | 0.52 | 0.41 | 0.89 | 0.66 | 7.60 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 660 | 122 | 253 | 88 | 88 | 151 | 17 | 34 | 11 | 4 | 354 | 22 | 348 | 228 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 634 | 564 | 588 | 26 | 49 | 29 | 29 | 118 | 46 | 66 | 99 | 157 | 96 | 1050 |
| **Aluminum** | mg/L | 50 | 0.36 | 1.1 | 1.15 | 0.23 | 0.549 | | 0.06 | 0.28 | 0.55 | 0.09 | 0.106 | 0.241 | 0.155 | 0.115 |
| **Barium** | mg/L | | 0.69 | 1.11 | 2.29 | 0.71 | 1.00 | | 0.47 | 0.86 | 0.35 | 0.75 | 0.54 | 0.89 | 0.74 | 0.75 |
| **Beryllium** | mg/L | | <0.0005 | <0.0005 | <0.001 | <0.01 | <0.001 | | <0.001 | <0.01 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Boron** | mg/L | | 2.50 | 3.00 | 3.52 | 4.30 | 3.75 | | 2.33 | 3.92 | 1.76 | 5.80 | | | 5.90 | |
| **Cadmium** | mg/L | 1 | <0.005 | <0.05 | 0.0012 | <0.001 | 0.0003 | | 0.0005 | <0.001 | 0.0003 | 0.0007 | 0.0004 | 0.0004 | 0.0007 | <0.0001 |
| **Chromium** | mg/L | 3 | 0.010 | <0.1 | 0.121 | 0.070 | 0.030 | | 0.013 | <0.05 | 0.006 | <0.05 | 0.031 | 0.012 | 0.049 | 0.039 |
| **Cobalt** | mg/L | 5 | <0.01 | <0.1 | 0.009 | 0.008 | 0.019 | | 0.003 | 0.005 | 0.003 | 0.010 | 0.008 | 0.004 | 0.008 | 0.008 |
| **Copper** | mg/L | 3 | <0.01 | <0.1 | 0.0151 | 0.0080 | 0.0186 | | 0.0021 | 0.0180 | 0.0095 | 0.0290 | 0.0119 | 0.0160 | 0.0099 | 0.0058 |
| **Iron** | mg/L | 50 | 63 | 159 | 225 | 25 | 23 | 14 | 6 | 13 | 8 | 18 | 12 | 47 | 27 | 3 |
| **Lead** | mg/L | 3 | <0.05 | <0.5 | 0.046 | 0.008 | 0.004 | | 0.002 | <0.005 | 0.003 | 0.006 | 0.005 | 0.006 | 0.005 | <0.0005 |
| **Manganese** | mg/L | 5 | 1.02 | 1.50 | 1.84 | 1.09 | 0.95 | | 0.71 | 1.15 | 0.51 | 0.71 | 0.23 | 0.61 | 0.91 | 0.38 |
| **Molybdenum** | mg/L | 5 | <0.05 | <0.5 | 0.002 | <0.01 | 0.001 | | 0.001 | <0.01 | <0.001 | 0.003 | 0.002 | 0.005 | 0.002 | 0.002 |
| **Nickel** | mg/L | 3 | <0.05 | <0.5 | 0.044 | 0.030 | 0.037 | | 0.017 | 0.030 | 0.019 | 0.054 | 0.052 | 0.015 | 0.058 | 0.055 |
| **Silicon** | mg/L | | 9.2 | 11.4 | 15.1 | 13.5 | | | 10.0 | 13.5 | 7.6 | 14.0 | | | 13.9 | |
| **Silver** | mg/L | 5 | <0.005 | <0.05 | <0.00005 | <0.0007 | <0.00007 | | <0.0001 | <0.001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| **Strontium** | mg/L | | 2.59 | 3.47 | 4.04 | 3.58 | | | 2.55 | 4.04 | 2.35 | 3.88 | 3.47 | 2.41 | 3.57 | 2.91 |
| **Thallium** | mg/L | | | | | | | | | | | | | <0.00005 | | |
| **Tin** | mg/L | 5 | <0.1 | <1 | 0.006 | <0.01 | 0.005 | | 0.003 | <0.005 | 0.003 | 0.008 | | 0.001 | 0.008 | |
| **Titanium** | mg/L | 5 | 0.013 | <0.05 | 0.055 | <0.05 | 0.014 | | 0.005 | <0.05 | 0.016 | 0.015 | 0.014 | 0.013 | 0.014 | 0.014 |
| **Vanadium** | mg/L | 5 | 0.0100 | <0.05 | 0.0372 | 0.0170 | 0.0052 | | 0.0031 | <0.01 | 0.0068 | <0.005 | 0.0024 | 0.0025 | 0.0050 | 0.0041 |
| **Zinc** | mg/L | 3 | 0.360 | 1.200 | 1.600 | 0.130 | 0.106 | | 0.077 | 0.060 | 0.035 | 0.134 | 0.170 | 0.287 | 0.216 | 0.010 |
| **Phenolics** | µg/L | 1000 | 79 | 62 | 70 | 70 | 53 | 60 | 22 | 25 | 3 | 107 | 112 | 8 | 5 | 80 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Nov-99 | Apr-00 | Jun-00 | Sep-00 | Nov-00 | Apr-01 | Jul-01 | Sep-01 | Nov-01 | Apr-02 | Jun-02 | Sep-02 | Nov-02 | May-03 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.76 | 7.07 | 7.23 | 7.93 | 7.73 | 7.45 | 7.41 | 8.32 | 8.06 | 5.88 | 7.5 | 7.64 | 7.36 | 7.5 |
| **Specific Conductance** | µS/cm | | 5002 | 4170 | 1787 | 5552 | 3045 | 3799 | 5921 | 3700 | 1094 | 4940 | 4032 | 3737 | 3305 | 2361 |
| **Chloride** | mg/L | 1500 | 570 | 598 | 155 | 796 | 382 | 463 | 765 | 386 | 35 | 340 | 295 | 383 | 351 | 139 |
| **Sulphate** | mg/L | 1500 | 12.9 | 38.4 | 68.6 | 18 | 101 | 43.3 | 37 | 53.9 | 274 | 299 | 364 | 467 | 485 | 517 |
| **Alkalinity** | mg/L | | 1820 | 1370 | 910 | 2620 | 1360 | 1640 | 2560 | 1550 | 293 | 1720 | 1680 | 1430 | 1290 | 802 |
| **Nitrate** | mg/L | | 0.3 | <0.2 | 0.4 | <0.2 | 2.8 | <0.2 | <2.0 | 1.2 | 1.7 | <2.0 | <2.0 | 1.7 | <2.0 | 6.3 |
| **Nitrite** | mg/L | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <2.0 | <0.2 | <0.4 | <2.0 | <2.0 | 1.9 | <2.0 | 1.7 |
| **Ammonia** | mg/L | | 168 | 82 | 50 | 213 | 103 | 139 | 215 | 97.9 | 1.36 | 190 | 76.3 | 55.1 | 105 | 9.8 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 172 | 79 | 49.2 | 210 | 251 | 139 | 307 | 101 | 2.8 | 223 | 86.4 | 69 | 107 | 10.9 |
| **Organic Nitrogen** | mg/L | | 4 | <0.05 | <0.05 | <0.05 | 148 | <0.05 | 92 | 3 | 1 | 33 | 10 | 14 | 2 | 1 |
| **Calcium** | mg/L | | 200 | 218 | | 201 | 214 | 189 | 192 | 241 | 113 | 669 | 189 | 178 | 137 | 157 |
| **Magnesium** | mg/L | | 174 | 123 | | 206 | 142 | 156 | 213 | 147 | 68.1 | 171 | 235 | 242 | 182 | 173 |
| **Hardness** | mg/L | | 1000 | 967 | 651 | 385 | 654 | 922 | 1400 | 1080 | 600 | 2160 | 1530 | 1380 | 1120 | 1180 |
| **Sodium** | mg/L | | 406 | 317 | | 488 | 253 | 306 | 481 | 238 | 41.8 | 270 | 226 | 233 | 282 | 107 |
| **Potassium** | mg/L | | 173 | 154 | 64.1 | 259 | 140 | 162 | 270 | 150 | 0.05 | 169 | 109 | 95.4 | 120 | 39.6 |
| **Phosphorus - total** | mg/L | 10 | 0.39 | 0.28 | 0.21 | 0.44 | 0.75 | 0.31 | 0.38 | 0.17 | 0.06 | 1.70 | 0.19 | 1.24 | 5.61 | 0.15 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 23 | 7 | 13 | 35 | 18 | 55 | 141 | <0.5 | <0.5 | 4980 | 7 | 6 | 9 | 2.6 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 59 | 49 | 45 | 48 | 836 | 45 | 38 | 17 | 13 | 935 | 49 | 104 | 70 | 25 |
| **Aluminum** | mg/L | 50 | 0.222 | 0.07 | | 0.196 | 3.19 | 0.062 | 0.131 | 0.151 | 0.396 | 4.07 | 0.184 | 2.39 | 0.479 | 0.126 |
| **Barium** | mg/L | | 0.88 | 0.48 | | 0.91 | 0.50 | 0.56 | 0.70 | 0.35 | 0.06 | 0.27 | 0.24 | 0.41 | 0.20 | 0.098 |
| **Beryllium** | mg/L | | <0.001 | <0.001 | | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 | <0.001 |
| **Boron** | mg/L | | 3.70 | | | 4.81 | 2.40 | 3.01 | 4.68 | 0.69 | 0.20 | 0.84 | 1.93 | 1.90 | 1.77 | 1.11 |
| **Cadmium** | mg/L | 1 | 0.0003 | 0.0023 | | 0.0019 | 0.0014 | 0.0006 | 0.0003 | <0.0001 | 0.0004 | 0.0040 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| **Chromium** | mg/L | 3 | 0.012 | 0.007 | | 0.028 | 0.016 | 0.026 | 0.031 | 0.011 | <0.005 | 0.023 | <0.005 | 0.007 | 0.046 | <0.005 |
| **Cobalt** | mg/L | 5 | 0.008 | 0.004 | | 0.008 | 0.007 | 0.0047 | 0.0065 | 0.0069 | 0.0004 | 0.0875 | 0.0055 | 0.0048 | 0.0065 | 0.0021 |
| **Copper** | mg/L | 3 | 0.0047 | 0.0036 | | 0.0228 | 0.0231 | 0.0015 | 0.0020 | 0.0088 | 0.0075 | 0.0160 | 0.0056 | 0.0181 | 0.0581 | 0.0079 |
| **Iron** | mg/L | 50 | 6 | 17 | 14 | 9 | 15 | 14 | 13 | 7 | 1 | 406 | 13 | 26 | 8 | 1.59 |
| **Lead** | mg/L | 3 | 0.006 | 0.005 | | 0.004 | 0.008 | 0.002 | 0.0036 | 0.0005 | 0.0013 | 0.0195 | 0.003 | 0.0168 | 0.014 | 0.0062 |
| **Manganese** | mg/L | 5 | 0.66 | 0.92 | | 0.57 | 0.77 | 0.73 | 0.62 | 1.04 | 0.03 | 16.80 | 0.37 | 0.37 | 0.4 | 0.173 |
| **Molybdenum** | mg/L | 5 | 0.001 | <0.001 | | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 | 0.001 | 0.004 | 0.003 | 0.003 | 0.003 | 0.004 |
| **Nickel** | mg/L | 3 | 0.026 | 0.027 | | 0.039 | 0.027 | 0.024 | 0.039 | 0.030 | 0.003 | 0.090 | 0.012 | 0.011 | 0.014 | 0.01 |
| **Silicon** | mg/L | | 11.4 | | | 11.0 | 11.6 | 9.7 | 11.3 | 11.4 | 6.4 | | 9.1 | 8.2 | 8.4 | |
| **Silver** | mg/L | 5 | <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 |
| **Strontium** | mg/L | | 3.00 | 3.29 | | 3.06 | 2.21 | 2.43 | 2.80 | 1.41 | 0.71 | 1.43 | 1.96 | 2.36 | 1.62 | 1.26 |
| **Thallium** | mg/L | | | <0.00005 | | 0.00007 | 0.0001 | <0.00005 | <0.00005 | 0.00008 | <0.00005 | <0.00005 | 0.00006 | 0.00007 | <0.00005 | 0.0001 |
| **Tin** | mg/L | 5 | | | | 0.005 | 0.003 | 0.004 | 0.005 | 0.003 | <0.001 | 0.027 | 0.001 | 0.003 | 0.002 | <0.001 |
| **Titanium** | mg/L | 5 | 0.01 | 0.005 | | 0.012 | 0.069 | <0.005 | 0.009 | <0.005 | 0.009 | 0.091 | 0.008 | 0.055 | 0.014 | <0.005 |
| **Vanadium** | mg/L | 5 | 0.0012 | 0.0012 | | <0.0050 | 0.0076 | <0.0005 | <0.005 | 0.0016 | 0.0012 | 0.0087 | 0.0022 | 0.0082 | 0.0027 | 0.0007 |
| **Zinc** | mg/L | 3 | 0.318 | 0.045 | | 0.262 | 0.135 | 0.089 | 0.064 | 0.094 | 0.023 | 17.100 | 0.032 | 0.030 | 0.013 | 0.01 |
| **Phenolics** | µg/L | 1000 | 6 | 8 | 8 | 17 | 8 | 30 | 30 | 1 | <1 | 74 | 2 | 1 | 2 | <1 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Jun-03 | Aug-03 | Nov-03 | Apr-04 | Jun-04 | Sep-04 | Dec-04 | Apr-05 | Jul-05 | Sep-05 | Dec-05 | Mar-06 | Jun-06 | Sep-06 | Nov-06 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.41 | 7.29 | 7.51 | 7.54 | 7.51 | 7.95 | 7.79 | 7.86 | 7.7 | 7.7 | 8 | 7.9 | 7.9 | 7.5 | 7.7 |
| **Specific Conductance** | µS/cm | | 4986 | 4209 | 2165 | 2920 | 4370 | 3090 | 2820 | 3190 | 5800 | 4320 | 2260 | 4040 | 6810 | 6470 | 3070 |
| **Chloride** | mg/L | 1500 | 414 | 381 | 197 | 218 | 331 | 214 | 293 | 274 | 860 | 461 | 163 | 377 | 703 | 743 | 250 |
| **Sulphate** | mg/L | 1500 | 448 | 373 | 496 | 49.1 | | | 102 | | 30 | | | 33 | 23 | 31 | 30 |
| **Alkalinity** | mg/L | | 1950 | 1770 | 858 | 1230 | 2800 | 1500 | 1140 | 1270 | 2500 | 968 | 974 | 1720 | 2360 | 2750 | 1370 |
| **Nitrate** | mg/L | | <0.2 | <2.0 | 0.8 | <0.1 | <1 | <0.1 | 3.7 | 0.9 | <0.2 | <0.2 | 1 | 0.7 | <0.1 | <0.1 | 0.3 |
| **Nitrite** | mg/L | | <0.2 | <2.0 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.3 | <0.3 | 0.04 | 0.01 | <0.01 | <0.01 | 0.01 |
| **Ammonia** | mg/L | | 98 | 82.7 | 36.1 | 78.1 | 105 | 85.6 | 68.4 | 91.6 | 243 | 125 | 54 | 139 | 233 | 239 | 127 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 107 | 88 | 37 | 181 | 113 | 104 | 67.4 | 97.1 | 240 | 128 | 47 | 130 | 200 | 220 | 130 |
| **Organic Nitrogen** | mg/L | | 9 | 5 | 1 | 103 | 8 | 18 | <0.05 | 6 | <0.05 | 3 | <0.05 | <0.05 | <0.05 | <0.05 | 3 |
| **Calcium** | mg/L | | 218 | 270 | 382 | 170 | | | 170 | 200 | 210 | 190 | 200 | 210 | 220 | 190 | |
| **Magnesium** | mg/L | | 268 | 242 | 183 | 92 | | | 100 | 120 | 280 | 180 | 94 | 150 | 250 | 210 | |
| **Hardness** | mg/L | | 1498 | 1429 | 935.5 | 834 | 1670 | 1280 | 847 | | 1360 | | 710 | 910 | 1300 | 1300 | 870 |
| **Sodium** | mg/L | | 350 | 322 | 149 | 150 | 300 | 240 | 190 | 210 | 600 | 390 | 160 | 290 | 590 | 490 | |
| **Potassium** | mg/L | | 150 | 131 | 52.9 | 86 | | 97 | 91 | 120 | 360 | 220 | 74 | 180 | 350 | 320 | |
| **Phosphorus - total** | mg/L | 10 | 1.4 | 1.28 | 1.39 | 0.37 | 11.4 | 2.6 | 0.23 | 0.2 | 0.4 | 0.22 | 0.13 | 0.4 | 0.59 | 0.7 | 0.3 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 41 | 22 | 6.3 | 124 | 80 | 294 | 20 | 27 | 110 | 30 | 7 | 20 | 42 | 37 | 7 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 580 | 974 | 3660 | 219 | 34200 | 6930 | 29 | 100 | 30 | 26 | 17 | 38 | 56 | 32 | 7 |
| **Aluminum** | mg/L | 50 | 5.8 | 13 | 57.1 | 1.3 | | | 0.042 | 0.069 | 0.084 | 0.02 | 0.015 | 0.016 | 0.19 | 0.028 | 0.013 |
| **Barium** | mg/L | | 0.23 | 0.43 | 0.59 | 0.73 | | | 0.47 | 0.51 | 0.67 | 0.54 | 0.52 | 0.41 | 0.75 | 0.57 | 0.63 |
| **Beryllium** | mg/L | | <0.001 | <0.001 | 0.003 | <0.0035 | | | <0.000014 | <0.0014 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.003 | <0.0005 | <0.0005 |
| **Boron** | mg/L | | 2.64 | 2.33 | 0.85 | 1.9 | | | 1.90 | 2.2 | 5.6 | 3.5 | 1.4 | 3 | 5.6 | 4.8 | 1.9 |
| **Cadmium** | mg/L | 1 | 0.0005 | 0.0003 | 0.0008 | <0.0025 | | | <0.01 | <0.001 | 0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0005 | 0.0001 | <0.0001 |
| **Chromium** | mg/L | 3 | 0.02 | 0.041 | 0.105 | 0.019 | | | <0.016 | 0.012 | 0.027 | 0.022 | <0.005 | 0.017 | 0.032 | 0.022 | <0.005 |
| **Cobalt** | mg/L | 5 | 0.0094 | 0.0139 | 0.0437 | 0.0029 | | | <0.01 | 0.003 | 0.0074 | 0.0053 | 0.0027 | 0.0041 | 0.009 | 0.0067 | 0.0037 |
| **Copper** | mg/L | 3 | 0.0236 | 0.038 | 0.159 | <0.0075 | | | 0.21 | 0.005 | 0.002 | 0.004 | 0.004 | 0.006 | <0.005 | 0.002 | 0.003 |
| **Iron** | mg/L | 50 | 20.5 | 45.9 | 134 | 43 | 260 | 31 | 2.4 | 8.8 | 13 | 6.4 | 3.9 | 4.1 | 20 | 6.5 | 0.73 |
| **Lead** | mg/L | 3 | 0.03 | 0.047 | 0.0873 | 0.0078 | | | <0.022 | <0.0022 | 0.0025 | <0.0005 | <0.0005 | <0.0005 | 0.004 | <0.0005 | <0.0005 |
| **Manganese** | mg/L | 5 | 1.11 | 1.58 | 3.07 | 0.73 | | | 0.46 | 0.81 | 0.56 | 0.42 | 0.63 | 0.69 | 0.7 | 0.5 | 0.71 |
| **Molybdenum** | mg/L | 5 | 0.007 | 0.003 | 0.008 | <0.0035 | | | <0.014 | <0.0014 | 0.001 | 0.001 | 0.001 | <0.001 | <0.005 | 0.001 | <0.001 |
| **Nickel** | mg/L | 3 | 0.03 | 0.04 | 0.11 | 0.02 | | | 0.04 | 0.019 | 0.048 | 0.032 | 0.01 | 0.025 | 0.049 | 0.04 | 0.012 |
| **Silicon** | mg/L | | | | | 8.4 | | | 8.2 | 8.7 | 16 | 12 | 9.3 | 11 | 14 | 12 | 9.6 |
| **Silver** | mg/L | 5 | 0.0002 | <0.0001 | 0.0003 | <0.0015 | | | <0.006 | <0.0006 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0001 | <0.0001 |
| **Strontium** | mg/L | | 1.77 | 2.42 | 1.64 | 2.1 | | | 2 | 2.1 | 3.2 | 2.4 | 2.1 | 2.2 | 2.9 | 2.5 | 2.4 |
| **Thallium** | mg/L | | 0.00019 | 0.00019 | 0.00063 | <0.0025 | | | <0.01 | <0.001 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.0003 | <0.00005 | <0.00005 |
| **Tin** | mg/L | 5 | 0.003 | 0.003 | 0.003 | 0.003 | | | <0.008 | 0.0026 | 0.008 | <0.004 | 0.001 | 0.003 | 0.008 | 0.004 | 0.001 |
| **Titanium** | mg/L | 5 | 0.116 | 0.261 | 0.74 | 0.037 | | | <0.02 | 0.005 | 0.01 | <0.005 | <0.005 | <0.005 | <0.030 | 0.006 | <0.005 |
| **Vanadium** | mg/L | 5 | 0.0202 | 0.0462 | 0.125 | <0.0025 | | | <0.01 | 0.001 | 0.001 | <0.005 | <0.001 | <0.001 | <0.005 | 0.002 | <0.001 |
| **Zinc** | mg/L | 3 | 0.243 | 0.171 | 0.454 | 0.34 | | | <0.05 | 0.21 | 0.056 | 0.052 | 0.014 | 0.15 | 0.14 | 0.032 | 0.032 |
| **Phenolics** | µg/L | 1000 | 1 | 4 | 2 | 10 | 1 | 1 | 4 | 16 | 45 | 27 | 1 | 14 | 40 | 37 | 15 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Apr-07 | Jul-07 | Sep-07 | Apr-08 | Jul-08 | Oct-08 | Dec-08 | Apr-09 | Jun-09 | Oct-09 | Dec-09 | Apr-10 | Jun-10 | Sep-10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.9 | 7.6 | 7.6 | 7.5 | 7.6 | 7.5 | 7.8 | 7.3 | 7.4 | 7.6 | 7.4 | 7.8 | 7.5 | 7.6 |
| **Specific Conductance** | µS/cm | | 2680 | 6420 | 8040 | 3650 | 4560 | 5750 | 3050 | 2730 | 5980 | 4850 | 1790 | 5020 | 5240 | 7440 |
| **Chloride** | mg/L | 1500 | 210 | 800 | 960 | 290 | 384 | 600 | 230 | 200 | 550 | 440 | 120 | 470 | 510 | 360 |
| **Sulphate** | mg/L | 1500 | 30 | 41 | * <1 | 32 | 32 | 24 | 37 | 38 | 29 | 43 | 74 | 29 | 39 | <10 |
| **Alkalinity** | mg/L | | 1140 | 2750 | 3240 | 1520 | 1810 | 2330 | 1270 | 1130 | 2350 | 1900 | 691 | 2030 | 2070 | 2830 |
| **Nitrate** | mg/L | | 0.5 | <1 | <1 | <0.1 | <0.1 | <0.1 | 0.4 | 1.4 | <0.1 | 0.3 | 1.5 | <0.1 | <0.1 | 0.1 |
| **Nitrite** | mg/L | | <0.01 | <0.1 | <0.1 | <0.01 | <0.01 | <0.01 | 0.02 | 0.02 | <0.01 | 0.02 | 0.15 | <0.01 | <0.01 | 0.02 |
| **Ammonia** | mg/L | | 72 | 263 | 297 | 110 | 140 | 210 | 86 | 75 | 230 | 160 | 46 | 160 | 170 | 290 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 63 | 250 | 280 | 110 | 140 | 200 | 82 | 69 | 230 | 160 | 49 | 180 | 180 | 290 |
| **Organic Nitrogen** | mg/L | | <0.05 | <0.05 | <0.05 | <0.1 | <0.1 | <0.05 | <0.05 | <0.05 | <0.05 | <0.05 | 3 | 20 | 10 | <0.05 |
| **Calcium** | mg/L | | 190 | 210 | 200 | 200 | 180 | 210 | 170 | 170 | 200 | 190 | 160 | 200 | 230 | 210 |
| **Magnesium** | mg/L | | 100 | 260 | 270 | 140 | 150 | 210 | 110 | 98 | 200 | 160 | 67 | 190 | 210 | 260 |
| **Hardness** | mg/L | | 770 | 1400 | 1400 | 870 | 1100 | 1200 | 740 | 740 | 1000 | 960 | 560 | 1200 | 1100 | 1300 |
| **Sodium** | mg/L | | 180 | 640 | 680 | 260 | 300 | 520 | 190 | 170 | 420 | 360 | 110 | 390 | 430 | 660 |
| **Potassium** | mg/L | | 74 | 380 | 410 | 150 | 190 | 320 | 100 | 92 | 270 | 200 | 57 | 210 | 270 | 430 |
| **Phosphorus - total** | mg/L | 10 | 0.18 | 0.8 | 0.6 | 0.3 | 0.3 | 0.7 | 0.4 | 0.28 | 0.3 | 0.4 | 0.27 | 0.33 | 0.54 | 0.7 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 7 | 85 | 240 | 13 | 19 | 25 | 10 | 7 | 52 | 21 | 6 | 22 | 19 | 28 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 28 | 30 | 52 | 37 | 22 | 56 | 22 | 30 | 70 | 30 | 38 | 32 | 52 | 42 |
| **Aluminum** | mg/L | 50 | 0.012 | 0.036 | 0.2 | 0.042 | 0.047 | 0.18 | 0.038 | 0.14 | 0.11 | 0.34 | 0.21 | 0.048 | 0.068 | 0.087 |
| **Barium** | mg/L | | 0.51 | 0.57 | 0.78 | 0.48 | 0.52 | 0.69 | 0.48 | 0.44 | 0.7 | 0.67 | 0.48 | 0.57 | 0.74 | 0.80 |
| **Beryllium** | mg/L | | <0.0005 | <0.0005 | <0.003 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| **Boron** | mg/L | | 1.5 | 5.5 | 6.2 | 2.9 | 3.2 | 4.8 | 1.8 | 1.7 | 4.9 | 3.2 | 1.1 | 3.8 | 4.6 | 8.0 |
| **Cadmium** | mg/L | 1 | <0.0001 | <0.0001 | <0.0005 | 0.0004 | 0.0002 | 0.0004 | 0.0004 | <0.0001 | <0.0001 | <0.0001 | 0.0001 | 0.0001 | <0.0001 | 0.0003 |
| **Chromium** | mg/L | 3 | <0.005 | 0.028 | 0.043 | 0.014 | 0.015 | 0.025 | 0.008 | 0.006 | 0.023 | 0.013 | <0.005 | 0.014 | 0.018 | 0.035 |
| **Cobalt** | mg/L | 5 | 0.0031 | 0.0091 | 0.011 | 0.0038 | 0.0049 | 0.0078 | 0.0033 | 0.003 | 0.007 | 0.0058 | 0.0022 | 0.006 | 0.0069 | 0.0097 |
| **Copper** | mg/L | 3 | 0.002 | 0.002 | 0.006 | 0.003 | 0.002 | 0.002 | 0.002 | 0.003 | 0.002 | 0.003 | 0.005 | 0.003 | 0.001 | 0.002 |
| **Iron** | mg/L | 50 | 3.3 | 4.4 | 32 | 16 | 12 | 18 | 7.8 | 11 | 18 | 14 | 13 | 13 | 25 | 18 |
| **Lead** | mg/L | 3 | <0.0005 | <0.0005 | 0.009 | 0.0016 | 0.0022 | 0.0028 | 0.001 | 0.0011 | 0.0024 | 0.0018 | 0.0013 | 0.0016 | 0.0019 | 0.0030 |
| **Manganese** | mg/L | 5 | 0.71 | 0.6 | 0.59 | 0.77 | 0.7 | 0.67 | 0.68 | 0.69 | 0.61 | 0.56 | 0.51 | 0.77 | 0.84 | 0.57 |
| **Molybdenum** | mg/L | 5 | <0.001 | 0.001 | <0.005 | <0.001 | <0.001 | 0.002 | <0.001 | <0.001 | 0.001 | 0.001 | 0.002 | 0.001 | 0.001 | 0.002 |
| **Nickel** | mg/L | 3 | 0.009 | 0.053 | 0.06 | 0.021 | 0.025 | 0.04 | 0.015 | 0.013 | 0.036 | 0.026 | 0.01 | 0.029 | 0.036 | 0.060 |
| **Silicon** | mg/L | | 9.1 | 14 | 13 | 11 | 11 | 14 | 8.9 | 9.1 | 13 | 12 | 7.1 | 13 | 15 | 16 |
| **Silver** | mg/L | 5 | <0.0001 | <0.0001 | <0.0005 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 |
| **Strontium** | mg/L | | 2.1 | 2.8 | 2.8 | 2.1 | 2.3 | 2.6 | 2 | 1.8 | 2.6 | 2.4 | 1.6 | 2.7 | 2.9 | 3.0 |
| **Thallium** | mg/L | | <0.00005 | <0.00005 | <0.0003 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 |
| **Tin** | mg/L | 5 | <0.001 | 0.006 | 0.01 | 0.004 | 0.004 | 0.007 | 0.002 | 0.002 | 0.008 | 0.005 | 0.001 | 0.005 | 0.006 | 0.010 |
| **Titanium** | mg/L | 5 | <0.005 | 0.008 | <0.030 | 0.006 | 0.005 | 0.01 | <0.005 | <0.005 | 0.01 | 0.006 | 0.007 | 0.006 | 0.008 | 0.014 |
| **Vanadium** | mg/L | 5 | <0.001 | <0.005 | 0.006 | 0.001 | 0.002 | 0.003 | 0.002 | <0.001 | 0.003 | 0.002 | <0.001 | 0.002 | 0.003 | 0.003 |
| **Zinc** | mg/L | 3 | 0.034 | 0.033 | 0.18 | 0.091 | 0.047 | 0.074 | 0.048 | 0.054 | 0.068 | 0.062 | 0.099 | 0.056 | 0.046 | 0.035 |
| **Phenolics** | µg/L | 1000 | 21 | 70 | 70 | 29 | 22 | 17 | 7 | 6 | 23 | 13 | 3 | 9 | 41 | 17 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Nov-10 | Mar-11 | Jun-11 | Sep-11 | Nov-11 | Apr-12 | Jun-12 | Sep-12 | Nov-12 | Apr-13 | Jun-13 | Sep-13 | Dec-13 | Apr-14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.54 | 7.48 | 7.5 | 7.71 | 7.14 | 7.72 | 7.5 | 7.62 | 7.91 | 7.51 | 7.64 | 7.37 | 7.89 | 7.66 |
| **Specific Conductance** | µS/cm | | 2180 | 2570 | 4180 | 7110 | 1240 | 5600 | 7100 | 5800 | 6100 | 2900 | 5700 | 7300 | 6400 | 3400 |
| **Chloride** | mg/L | 1500 | 180 | 180 | 340 | 760 | 66 | 540 | 790 | 630 | 610 | 210 | 630 | 810 | 740 | 250 |
| **Sulphate** | mg/L | 1500 | 68 | 44 | 28 | 8 | 45 | 17 | 1 | 100 | 38 | 39 | 2 | 34 | 32 | 37 |
| **Alkalinity** | mg/L | | 821 | 1060 | 1700 | 2630 | 485 | 2200 | 2800 | 2200 | 2300 | 1200 | 2300 | 2700 | 2200 | 1400 |
| **Nitrate** | mg/L | | 1.6 | 0.7 | <0.1 | 0.1 | 1.8 | 0.11 | 0.16 | 0.36 | 0.77 | 0.57 | 0.21 | <0.1 | 0.2 | 0.79 |
| **Nitrite** | mg/L | | 0.22 | 0.02 | <0.01 | 0.01 | 0.11 | <0.010 | 0.028 | 0.044 | 0.038 | <0.01 | 0.014 | <0.01 | 0.022 | <0.01 |
| **Ammonia** | mg/L | | 47 | 72 | 130 | 250 | 17 | 170 | 260 | 170 | 210 | 96 | 220 | 250 | 240 | 85 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 51 | 73 | 120 | 260 | 19 | 180 | 230 | 170 | 220 | 90 | 1000 | 240 | 240 | 90 |
| **Organic Nitrogen** | mg/L | | 4 | 1 | <0.05 | 10 | 2 | 10 | <0.05 | <0.05 | 10 | <0.05 | 780 | <0.05 | <0.05 | 5 |
| **Calcium** | mg/L | | 150 | 180 | 200 | 200 | 120 | 210 | 180 | 160 | 180 | 190 | 220 | 180 | 210 | 180 |
| **Magnesium** | mg/L | | 73 | 87 | 140 | 230 | 38 | 200 | 230 | 150 | 210 | 110 | 190 | 220 | 210 | 110 |
| **Hardness** | mg/L | | 590 | 730 | 950 | 1300 | 430 | 1200 | 1300 | 1100 | 1300 | 830 | 1200 | 1400 | 1200 | 860 |
| **Sodium** | mg/L | | 130 | 130 | 300 | 580 | 44 | 460 | 560 | 370 | 500 | 210 | 430 | 560 | 540 | 190 |
| **Potassium** | mg/L | | 64 | 77 | 180 | 350 | 25 | 260 | 360 | 190 | 310 | 110 | 250 | 340 | 330 | 94 |
| **Phosphorus - total** | mg/L | 10 | 0.29 | 0.14 | 0.37 | 0.13 | 0.93 | 0.5 | 0.47 | 2.80 | 0.35 | 0.21 | 0.29 | 0.37 | 0.58 | 0.19 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 14 | 10 | 18 | 49 | 13 | 30 | 21 | 43 | 23 | 9 | 25 | 29 | 24 | 12 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 42 | 20 | 51 | 280 | 110 | 88 | 34 | 240 | 34 | 16 | 33 | 49 | 47 | 23 |
| **Aluminum** | mg/L | 50 | 0.085 | 0.042 | 0.059 | 0.46 | 0.4 | 0.11 | 0.22 | 0.93 | 0.077 | 0.035 | 0.085 | 0.06 | 0.17 | 0.053 |
| **Barium** | mg/L | | 0.54 | 0.41 | 0.60 | 1.00 | 0.62 | 1.1 | 0.72 | 1.1 | 0.58 | 0.48 | 0.69 | 0.63 | 0.71 | 0.49 |
| **Beryllium** | mg/L | | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 |
| **Boron** | mg/L | | 1.2 | 1.4 | 3.4 | 6.2 | 0.46 | 4.7 | 5.3 | 3.3 | 4.8 | 2.2 | 4.4 | 5.4 | 5.1 | 2 |
| **Cadmium** | mg/L | 1 | 0.0002 | <0.0001 | <0.0001 | 0.0002 | 0.0004 | 0.00017 | 0.00019 | 0.00043 | 0.0002 | 0.00018 | 0.00016 | 0.00026 | 0.0005 | <0.0001 |
| **Chromium** | mg/L | 3 | <0.005 | <0.005 | 0.017 | 0.036 | <0.005 | 0.025 | 0.031 | 0.028 | 0.024 | 0.0098 | 0.019 | 0.028 | 0.03 | 0.0071 |
| **Cobalt** | mg/L | 5 | 0.0021 | 0.0024 | 0.0054 | 0.0095 | 0.0018 | 0.0074 | 0.009 | 0.0073 | 0.008 | 0.0033 | 0.0079 | 0.0084 | 0.0086 | 0.0033 |
| **Copper** | mg/L | 3 | 0.004 | 0.003 | 0.001 | 0.002 | 0.007 | 0.0031 | 0.0019 | 0.0079 | 0.0015 | 0.0025 | 0.0017 | 0.0013 | 0.0053 | 0.0031 |
| **Iron** | mg/L | 50 | 13 | 7.3 | 20 | 35 | 39 | 54 | 15 | 67 | 9.5 | 8.1 | 13 | 10 | 22 | 7.5 |
| **Lead** | mg/L | 3 | 0.0012 | 0.0009 | 0.0016 | 0.0034 | 0.0036 | 0.003 | 0.0025 | 0.012 | 0.0018 | 0.00096 | 0.0014 | 0.002 | 0.003 | 0.001 |
| **Manganese** | mg/L | 5 | 0.43 | 0.61 | 0.85 | 0.5 | 0.62 | 0.65 | 0.54 | 0.37 | 0.51 | 0.63 | 0.65 | 0.48 | 0.57 | |
| **Molybdenum** | mg/L | 5 | 0.002 | <0.001 | <0.001 | 0.0019 | 0.0015 | 0.0013 | 0.0015 | 0.0028 | 0.0013 | 0.00081 | 0.0011 | 0.0012 | 0.0014 | 0.00061 |
| **Nickel** | mg/L | 3 | 0.010 | 0.011 | 0.025 | 0.049 | 0.004 | 0.037 | 0.047 | 0.031 | 0.042 | 0.016 | 0.036 | 0.047 | 0.046 | 0.014 |
| **Silicon** | mg/L | | 7.1 | 8.1 | 12 | 14 | 6.1 | 14 | 12 | 10 | 12 | 9.3 | 13 | 13 | 14 | 9.2 |
| **Silver** | mg/L | 5 | <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 |
| **Strontium** | mg/L | | 1.7 | 1.8 | 2.5 | 3.0 | 1.1 | 2.9 | 2.9 | 2.3 | 2.8 | 2 | 2.7 | 2.6 | 2.5 | 1.9 |
| **Thallium** | mg/L | | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 |
| **Tin** | mg/L | 5 | 0.002 | 0.002 | 0.004 | 0.010 | 0.002 | 0.008 | 0.0076 | 0.012 | 0.0061 | 0.0022 | 0.0052 | 0.007 | 0.007 | 0.002 |
| **Titanium** | mg/L | 5 | 0.005 | <0.005 | 0.006 | 0.016 | 0.02 | 0.014 | 0.0065 | 0.036 | 0.0088 | <0.005 | 0.0065 | 0.0076 | 0.015 | <0.005 |
| **Vanadium** | mg/L | 5 | 0.001 | 0.002 | 0.003 | 0.0036 | 0.0028 | 0.0038 | 0.0025 | 0.0058 | 0.0031 | 0.0013 | 0.0021 | 0.0026 | 0.0035 | 0.0011 |
| **Zinc** | mg/L | 3 | 0.05 | 0.088 | 0.07 | 0.05 | 0.077 | 0.1 | 0.033 | 0.21 | 0.027 | 0.074 | 0.02 | 0.019 | 0.029 | 0.044 |
| **Phenolics** | µg/L | 1000 | 13 | 3 | 12 | 59 | 8 | 37 | 13 | 32 | 37 | 15 | 9.6 | 7.8 | 79 | 1.4 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Jun-14 | Sep-14 | Dec-14 | Apr-15 | Jun-15 | Sep-15 | Nov-15 | Apr-16 | Jun-16 | Sep-16 | Nov-16 | Apr-17 | Jun-17 | Sep-17 | Nov-17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.65 | 7.73 | 7.85 | 7.37 | 7.66 | 7.84 | 7.90 | 7.69 | 7.77 | 7.56 | 8.05 | 7.59 | 7.67 | 7.59 | 7.87 |
| **Specific Conductance** | µS/cm | | 5200 | 6500 | 6200 | 3400 | 4000 | 7300 | 5800 | 4400 | 6700 | 7200 | 6700 | 2700 | 5500 | 8000 | 7200 |
| **Chloride** | mg/L | 1500 | 510 | 720 | 720 | 250 | 380 | 850 | 620 | 390 | 730 | 800 | 840 | 180 | 530 | 840 | 850 |
| **Sulphate** | mg/L | 1500 | <1 | 2 | 38 | 21 | 40 | 1.5 | 66 | <1 | <1 | 2.5 | 69 | 36 | 1.3 | <20 | 1.3 |
| **Alkalinity** | mg/L | | 2000 | 2600 | 2300 | 1400 | 1600 | 2800 | 2000 | 1800 | 2500 | 2700 | 2700 | 1100 | 2200 | 3100 | 2800 |
| **Nitrate** | mg/L | | 0.14 | <0.1 | <0.5 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.5 | <0.2 | 1.78 | 0.29 | <0.10 | <1.0 | <0.10 |
| **Nitrite** | mg/L | | 0.011 | <0.01 | <0.05 | <0.010 | <0.010 | <0.050 | <0.050 | <0.01 | <0.05 | <0.02 | 0.439 | 0.017 | <0.010 | <0.10 | 0.08 |
| **Ammonia** | mg/L | | 190 | 230 | 220 | 82 | 130 | 270 | 200 | 130 | 220 | 270 | 260 | 86 | 190 | 300 | 290 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 190 | 250 | 240 | 87 | 130 | 270 | 200 | 130 | 270 | 290 | 270 | 73 | 220 | 310 | 330 |
| **Organic Nitrogen** | mg/L | | <0.05 | 20 | 20 | 5 | <0.05 | <0.05 | <0.05 | <0.05 | 50 | 20 | 10 | <0.05 | 30 | 10 | 40 |
| **Calcium** | mg/L | | 210 | 200 | 200 | 180 | 180 | 210 | 160 | 200 | 200 | 180 | 160 | 170 | 280 | 300 | 430 |
| **Magnesium** | mg/L | | 180 | 220 | 220 | 99 | 130 | 240 | 180 | 150 | 210 | 220 | 210 | 89 | 190 | 270 | 240 |
| **Hardness** | mg/L | | 1200 | 1300 | 1200 | 880 | 960 | 1300 | 1200 | 1000 | 1300 | 1300 | 1200 | 770 | 1100 | 1400 | 1200 |
| **Sodium** | mg/L | | 410 | 520 | 570 | 180 | 280 | 610 | 440 | 320 | 530 | 580 | 540 | 150 | 420 | 670 | 550 |
| **Potassium** | mg/L | | 200 | 360 | 340 | 110 | 170 | 360 | 260 | 190 | 330 | 360 | 320 | 81 | 260 | 440 | 350 |
| **Phosphorus - total** | mg/L | 10 | 0.32 | 0.35 | 0.41 | 0.18 | 0.17 | 0.62 | 0.4 | 0.39 | 0.35 | 0.29 | 0.31 | 0.46 | 46.00 | 12.00 | 75 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 15 | 9 | 15 | 7 | 11 | 23 | 14 | 38 | 15 | 620 | 21 | 8 | 20 | 930 | 39 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 30 | 26 | 15 | 13 | 26 | 62 | 26 | 30 | 40 | 24 | 21 | 130 | 14000 | 17000 | 2200 |
| **Aluminum** | mg/L | 50 | 0.16 | 0.071 | 0.13 | 0.066 | 0.063 | 0.097 | 0.18 | 0.13 | 0.086 | 0.054 | 0.071 | 0.16 | 1.2 | 14 | 8.7 |
| **Barium** | mg/L | | 0.61 | 0.64 | 0.81 | 0.43 | 0.5 | 0.85 | 0.52 | 0.54 | 0.65 | 0.67 | 0.57 | 0.53 | 7.4 | 8.7 | 14 |
| **Beryllium** | mg/L | | <0.0005 | <0.0005 | <0.0025 | <0.0005 | <0.0005 | <0.0005 | <0.0025 | <0.0005 | <0.0025 | <0.0025 | <0.0005 | <0.0005 | <0.005 | <0.005 | <0.005 |
| **Boron** | mg/L | | 4.5 | 6 | 5.8 | 2.1 | 3.2 | 7.3 | 5.6 | 3.5 | 5.9 | 6.7 | 6.2 | 1.7 | 5 | 7.7 | 7 |
| **Cadmium** | mg/L | 1 | 0.00016 | 0.00011 | <0.0005 | <0.0001 | <0.0001 | 0.00012 | <0.0005 | <0.0001 | <0.0005 | <0.0005 | <0.0001 | 0.00015 | <0.001 | 0.0044 | 0.0027 |
| **Chromium** | mg/L | 3 | 0.021 | 0.029 | 0.027 | 0.0074 | 0.012 | 0.033 | <0.025 | 0.014 | <0.025 | 0.025 | 0.02 | 0.0081 | 0.1 | 0.35 | 0.23 |
| **Cobalt** | mg/L | 5 | 0.0064 | 0.007 | 0.009 | 0.0026 | 0.0038 | 0.0082 | 0.006 | 0.0049 | 0.0061 | 0.0074 | 0.0067 | 0.0029 | 0.016 | 0.033 | 0.030 |
| **Copper** | mg/L | 3 | 0.0011 | <0.002 | <0.005 | 0.0029 | 0.0015 | 0.0014 | <0.005 | 0.0011 | <0.005 | <0.005 | 0.0014 | 0.0037 | 0.011 | 0.089 | 0.09 |
| **Iron** | mg/L | 50 | 13 | 11 | 9 | 9.4 | 11 | 25 | 10 | 15 | 12 | 8.3 | 4.2 | 30 | 650 | 980 | 1400 |
| **Lead** | mg/L | 3 | 0.001 | 0.002 | <0.0025 | 0.001 | 0.001 | 0.003 | <0.0025 | 0.001 | <0.0025 | <0.0025 | 0.001 | 0.002 | 0.016 | 0.130 | 0.086 |
| **Manganese** | mg/L | 5 | | | 0.47 | 0.62 | 0.56 | 0.48 | 0.39 | | | 0.39 | 0.29 | 0.6 | 1 | 1.3 | 2.2 |
| **Molybdenum** | mg/L | 5 | 0.001 | 0.0012 | <0.0025 | 0.00078 | 0.00096 | 0.0015 | <0.0025 | 0.00079 | <0.0025 | <0.0025 | 0.0014 | 0.00073 | <0.005 | 0.03 | 0.0098 |
| **Nickel** | mg/L | 3 | 0.03 | 0.043 | 0.046 | 0.016 | 0.025 | 0.058 | 0.043 | 0.027 | 0.044 | 0.047 | 0.046 | 0.015 | 0.048 | 0.2 | 0.096 |
| **Silicon** | mg/L | | 13 | 14 | 13 | 8.9 | 11 | 14 | 11 | 11 | 13 | 13 | 12 | 8.5 | 29 | 37 | 50 |
| **Silver** | mg/L | 5 | <0.0001 | <0.0001 | <0.0005 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0001 | <0.0005 | <0.0005 | <0.0001 | <0.0001 | <0.001 | <0.001 | <0.001 |
| **Strontium** | mg/L | | 2.4 | 2.7 | 3 | 1.8 | 2.2 | 2.8 | 2.3 | 2.3 | 2.5 | 2.6 | 2.5 | 1.6 | 4.5 | 5.4 | 7.2 |
| **Thallium** | mg/L | | <0.00005 | <0.00005 | <0.00025 | <0.00005 | <0.00005 | <0.00005 | <0.00025 | <0.00005 | <0.00025 | <0.00025 | <0.00005 | <0.00005 | <0.0005 | <0.0005 | <0.0005 |
| **Tin** | mg/L | 5 | 0.005 | 0.007 | 0.0065 | 0.002 | 0.003 | 0.008 | 0.0061 | 0.004 | 0.006 | 0.007 | 0.005 | 0.003 | 0.044 | 0.130 | 0.099 |
| **Titanium** | mg/L | 5 | 0.0059 | 0.011 | <0.025 | 0.0059 | 0.0089 | 0.014 | <0.025 | 0.0061 | <0.025 | <0.025 | 0.01 | 0.009 | 0.13 | 0.41 | 0.35 |
| **Vanadium** | mg/L | 5 | 0.0014 | 0.0025 | <0.0025 | 0.00097 | 0.0014 | 0.0034 | 0.0027 | 0.0018 | 0.0029 | <0.0025 | 0.0024 | 0.0017 | 0.029 | 0.058 | 0.075 |
| **Zinc** | mg/L | 3 | 0.039 | 0.023 | 0.027 | 0.068 | 0.032 | 0.066 | 0.053 | 0.057 | <0.025 | <0.025 | 0.019 | 0.13 | 0.69 | 2.3 | 3.0 |
| **Phenolics** | µg/L | 1000 | 8.3 | 5.7 | 5.1 | 9.6 | 4.5 | 11 | 11 | 23 | <10 | 10 | 9.7 | 10 | <50 | 230 | 32 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Apr-18 | Jun-18 | Sep-18 | Dec-18 | Apr-19 | May-19 | Sep-19 | Nov-19 | Apr-20 | Jun-20 | Sep-20 | Dec-20 | Mar-21 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.73 | 7.54 | 7.53 | 7.52 | 7.82 | 7.75 | 7.45 | 7.81 | 7.84 | 7.72 | 7.53 | 7.8 | 7.57 |
| **Specific Conductance** | µS/cm | | 2300 | 3700 | 6900 | 2800 | 2800 | 3200 | 5900 | 3400 | 4000 | 5300 | 7500 | 3400 | 1900 |
| **Chloride** | mg/L | 1500 | 150 | 330 | 620 | 210 | 190 | 260 | 740 | 300 | 380 | 540 | 850 | 330 | 140 |
| **Sulphate** | mg/L | 1500 | 35 | 4.1 | <20 | 38 | 29 | 28 | <20 | 43 | 34 | <1.0 | <20 | 73 | 91 |
| **Alkalinity** | mg/L | | 1000 | 1500 | 3000 | 1100 | 1000 | 1300 | 2600 | 1300 | 1700 | 2300 | 3000 | 1300 | 730 |
| **Nitrate** | mg/L | | 0.76 | <0.10 | <0.10 | 0.38 | 0.22 | <0.10 | <0.10 | 0.41 | <0.10 | <0.10 | <0.10 | <0.50 | 1.33 |
| **Nitrite** | mg/L | | 0.013 | <0.010 | 0.014 | 0.033 | <0.010 | <0.010 | 0.062 | 0.045 | 0.012 | <0.010 | 0.013 | 0.124 | 0.201 |
| **Ammonia** | mg/L | | 56 | 130 | 260 | 75 | 73 | 88 | 240 | 100 | 130 | 180 | 300 | 71 | 33 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 59 | 110 | 320 | 73 | 74 | 95 | 280 | 93 | 130 | 200 | 350 | 140 | 34 |
| **Organic Nitrogen** | mg/L | | 3 | <0.05 | 60 | <0.05 | 1 | 7 | 40 | <0.05 | <0.05 | 20 | 50 | 69 | 1 |
| **Calcium** | mg/L | | 160 | 190 | 530 | 180 | 190 | 200 | 280 | 190 | 27 | 320 | 400 | 330 | 170 |
| **Magnesium** | mg/L | | 77 | 130 | 220 | 89 | 96 | 110 | 210 | 100 | 14 | 180 | 250 | 100 | 57 |
| **Hardness** | mg/L | | 700 | 870 | 1300 | 790 | 820 | 830 | 1300 | 890 | 900 | 1000 | 1300 | 790 | 590 |
| **Sodium** | mg/L | | 120 | 260 | 520 | 150 | 160 | 190 | 500 | 200 | 26 | 370 | 600 | 170 | 85 |
| **Potassium** | mg/L | | 65 | 160 | 330 | 90 | 89 | 110 | 310 | 120 | 15 | 210 | 360 | 89 | 38 |
| **Phosphorus - total** | mg/L | 10 | 1.20 | 0.40 | 85 | 3 | 1 | 1 | 11 | 2 | 2 | 6 | 130 | 8 | 1.3 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 6 | 10 | 150 | 8 | 6 | 12 | 670 | 37 | 27 | 94 | 1600 | 44 | 27 |
| **Chemical Oxygen Demand** | mg/L | | | | | | | | | | | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | | | | | | | | | | | |
| **Suspended Solids** | mg/L | 350 | 24 | 88 | 2500 | 380 | 160 | 140 | 8000 | 5900 | 840 | 2600 | 9500 | 770 | 340 |
| **Aluminum** | mg/L | 50 | 0.07 | 0.13 | 13 | 0.33 | 0.24 | 0.51 | 3.6 | 0.32 | 0.16 | 2.1 | 8.1 | 3.5 | 0.6 |
| **Barium** | mg/L | | 0.35 | 0.73 | 18 | 0.98 | 0.71 | 0.56 | 6.6 | 1.7 | 0.72 | 9.7 | 9.6 | 9 | 1.1 |
| **Beryllium** | mg/L | | <0.0005 | <0.0005 | <0.005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.0005 | <0.004 | <0.004 | <0.004 | <0.002 |
| **Boron** | mg/L | | 1.4 | 3.2 | 6.6 | 1.6 | 1.7 | 2.1 | 5.2 | 2 | 0.33 | 4.3 | 7.1 | 2 | 0.75 |
| **Cadmium** | mg/L | 1 | <0.0001 | <0.0001 | 0.0021 | 0.00015 | 0.00014 | <0.0001 | 0.0024 | 0.00026 | <0.0001 | 0.0012 | 0.0014 | 0.0016 | <0.00045 |
| **Chromium** | mg/L | 3 | <0.005 | 0.013 | 0.34 | 0.012 | 0.0093 | 0.0096 | 0.19 | 0.023 | 0.01 | 0.14 | 0.21 | 0.11 | <0.025 |
| **Cobalt** | mg/L | 5 | 0.0021 | 0.0045 | 0.055 | 0.0035 | 0.0032 | 0.0035 | 0.018 | 0.0058 | 0.0016 | 0.017 | 0.04 | 0.017 | 0.0036 |
| **Copper** | mg/L | 3 | 0.0031 | 0.0027 | 0.21 | 0.0044 | 0.0035 | 0.0029 | 0.041 | 0.0066 | 0.0021 | 0.021 | 0.09 | 0.074 | 0.011 |
| **Iron** | mg/L | 50 | 8.5 | 34 | 2100 | 63 | 46 | 20 | 450 | 140 | 72 | 960 | 1100 | 850 | 110 |
| **Lead** | mg/L | 3 | 0.001 | 0.002 | 0.076 | 0.003 | 0.002 | 0.002 | 0.039 | 0.004 | 0.001 | 0.021 | 0.084 | 0.040 | 0.0044 |
| **Manganese** | mg/L | 5 | 0.54 | 0.59 | 3.5 | 0.58 | 0.67 | 0.78 | 1.3 | 0.53 | 0.12 | 1.4 | 2.8 | 1.7 | 0.48 |
| **Molybdenum** | mg/L | 5 | 0.00065 | 0.00076 | 0.013 | 0.00094 | 0.00079 | 0.00062 | 0.0051 | 0.0013 | <0.0005 | <0.005 | 0.009 | 0.0089 | <0.0025 |
| **Nickel** | mg/L | 3 | 0.012 | 0.022 | 0.14 | 0.014 | 0.015 | 0.018 | 0.066 | 0.02 | 0.004 | 0.045 | 0.12 | 0.043 | 0.012 |
| **Silicon** | mg/L | | 7.3 | 11 | 73 | 10 | 9.9 | 10 | 22 | 12 | 3 | 43 | 42 | 35 | 7.8 |
| **Silver** | mg/L | 5 | <0.0001 | <0.0001 | <0.001 | <0.0001 | <0.0001 | <0.0001 | <0.001 | <0.0001 | <0.0001 | <0.0009 | <0.0009 | <0.0009 | <0.00045 |
| **Strontium** | mg/L | | 1.5 | 2.1 | 7.6 | 1.9 | 1.8 | 1.9 | 3.8 | 2.3 | 0.39 | 4.7 | 5.5 | 4 | 1.6 |
| **Thallium** | mg/L | | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.00005 | <0.0005 | <0.00005 | <0.00005 | <0.0005 | <0.0005 | <0.0005 | <0.00025 |
| **Tin** | mg/L | 5 | 0.001 | 0.004 | 0.130 | 0.008 | 0.004 | 0.003 | 0.094 | 0.008 | 0.004 | 0.056 | 0.075 | 0.047 | <0.005 |
| **Titanium** | mg/L | 5 | 0.0061 | 0.0077 | 0.58 | 0.017 | 0.013 | 0.018 | 0.29 | 0.023 | 0.014 | 0.18 | 0.32 | 0.21 | <0.025 |
| **Vanadium** | mg/L | 5 | 0.00081 | 0.0022 | 0.12 | 0.0034 | 0.0028 | 0.0031 | 0.041 | 0.0068 | 0.003 | 0.043 | 0.06 | 0.04 | 0.0036 |
| **Zinc** | mg/L | 3 | 0.17 | 0.13 | 2.8 | 0.18 | 0.16 | 0.13 | 2.3 | 0.48 | 0.18 | 2.3 | 3.7 | 4.1 | 0.45 |
| **Phenolics** | µg/L | 1000 | 2.4 | <10 | 62 | <5 | 4.8 | 5.6 | 44 | 8.7 | 7.1 | 14 | 26 | 7.7 | 2.2 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

**TABLE B-1**
**LEACHATE GENERAL CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | SEWER USE BY-LAW | Jun-21 | Sep-21 | Dec-21 |
|---|---|---|---|---|---|
| **pH** | units | 6.0-10.0 | 7.73 | 7.66 | 7.51 |
| **Specific Conductance** | µS/cm | | 5300 | 3300 | 2400 |
| **Chloride** | mg/L | 1500 | 550 | 340 | 180 |
| **Sulphate** | mg/L | 1500 | 33 | 45 | 70 |
| **Alkalinity** | mg/L | | 2100 | 1400 | 1000 |
| **Nitrate** | mg/L | | <0.50 | <0.10 | 0.22 |
| **Nitrite** | mg/L | | <0.050 | <0.010 | 0.025 |
| **Ammonia** | mg/L | | 210 | 110 | 66 |
| **Total Kjeldahl Nitrogen** | mg/L | 100 | 240 | 120 | 72 |
| **Organic Nitrogen** | mg/L | | 30 | 10 | 6 |
| **Calcium** | mg/L | | 450 | 200 | 210 |
| **Magnesium** | mg/L | | 190 | 110 | 91 |
| **Hardness** | mg/L | | 1000 | 890 | 780 |
| **Sodium** | mg/L | | 390 | 220 | 140 |
| **Potassium** | mg/L | | 210 | 130 | 83 |
| **Phosphorus - total** | mg/L | 10 | 42 | 2 | 1.7 |
| **Biochemical Oxygen Demand** | mg/L | 300 | 760 | 41 | 11 |
| **Chemical Oxygen Demand** | mg/L | | | | |
| **Dissolved Organic Carbon** | mg/L | | | | |
| **Suspended Solids** | mg/L | 350 | 1.4 | 570 | 310 |
| **Aluminum** | mg/L | 50 | 10 | 0.81 | 0.31 |
| **Barium** | mg/L | | 22 | 1.2 | 1.4 |
| **Beryllium** | mg/L | | <0.0004 | <0.0004 | <0.0004 |
| **Boron** | mg/L | | 4.9 | 2.4 | 1.8 |
| **Cadmium** | mg/L | 1 | 0.0019 | 0.00015 | 0.00023 |
| **Chromium** | mg/L | 3 | 0.51 | 0.021 | 0.016 |
| **Cobalt** | mg/L | 5 | 0.065 | 0.0071 | 0.004 |
| **Copper** | mg/L | 3 | 0.064 | 0.011 | 0.0048 |
| **Iron** | mg/L | 50 | 2300 | 110 | 130 |
| **Lead** | mg/L | 3 | 0.089 | 0.004 | 0.0026 |
| **Manganese** | mg/L | 5 | 2.5 | 0.85 | 0.74 |
| **Molybdenum** | mg/L | 5 | 0.013 | 0.0012 | 0.0011 |
| **Nickel** | mg/L | 3 | 0.11 | 0.027 | 0.014 |
| **Silicon** | mg/L | | 71 | 13 | 12 |
| **Silver** | mg/L | 5 | <0.0009 | <0.00009 | <0.00009 |
| **Strontium** | mg/L | | 9.1 | 2.3 | 2.1 |
| **Thallium** | mg/L | | <0.0005 | <0.00005 | <0.00005 |
| **Tin** | mg/L | 5 | 0.190 | 0.010 | 0.0063 |
| **Titanium** | mg/L | 5 | 0.52 | 0.026 | 0.021 |
| **Vanadium** | mg/L | 5 | 0.12 | 0.0051 | 0.0054 |
| **Zinc** | mg/L | 3 | 7 | 0.37 | 0.3 |
| **Phenolics** | µg/L | 1000 | 170 | 8.3 | 4.6 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
** - Indicates the associated values is an estimated quantity.
2) Blank indicates the parameter was not analysed.

## TABLE B-2
## LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23
## BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM

| PARAMETER | Apr-84 | Aug-84 | May-85 | Jul-85 | Sep-85 | Nov-85 | Nov-85 | Dec-85 | Dec-85 | May-86 | Sep-86 | Dec-86 | May-87 | Aug-87 | Oct-87 | Dec-87 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | | 62 | | 160 | 236 | 4 | 28 | | | <100 | | <2 | <100 | <10 | <1 |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | | <100 | | <2 | <100 | <10 | <1 |
| 1,1,2-Trichloroethane | | | | | | | | | | | <1 | | <2 | <100 | <10 | <1 |
| 1,1-Dichloroethane | | | 330 | 220 | 230 | 175 | 61 | 61 | 11 | 53 | <100 | 62 | <2 | 245 | 122 | 49 |
| 1,1-Dichloroethylene | | | | | | | | | | | <100 | | | <100 | <10 | |
| 1,2-Dichlorobenzene | | 20 | | 5 | | | | | | | <100 | | <2 | <1 | <10 | |
| 1,2-Dichloroethane | | | | | 40 | 15 | | | | | <100 | | <2 | <100 | <10 | 2 |
| 1,2-Dichloropropane | | | | | | | | | | | | | | | | <1 |
| 1,3-Dichlorobenzene | | | | | | | | | | | <100 | | <2 | <100 | <10 | <1 |
| 1,4-Dichlorobenzene | | | | | | | | | | | <100 | | <2 | <100 | <10 | 4 |
| 2-Chloroethyl vinyl ether | | | | | | | | | | | | | | | | |
| Acetone | | | | | | | | | | | | | | | | |
| Benzene | | 20 | 15 | 14 | 19 | 29 | 7 | | 3 | | <100 | | 3 | <100 | 58 | 7 |
| Bromodichloromethane | | | | | | | | | | | <100 | | <2 | <100 | <10 | <1 |
| Bromoform | | | | | | | | | | | <100 | | <2 | <100 | <10 | <1 |
| Bromomethane | | | | | | | | | | | | | | | | |
| Carbon tetrachloride | | | | | | | | | | | <100 | | <2 | <100 | <10 | <1 |
| Chlorobenzene | | | 7 | | | 50 | 14 | | 4 | | <100 | | 2 | <100 | 188 | 8 |
| Chlorodibromomethane | | | | | | | | | | | <100 | | <2 | <100 | <10 | <1 |
| Chloroethane | | | | | | | | | | | | | | | | |
| Chloroform | | | | | | | | | | | <100 | | <2 | <100 | <10 | <1 |
| Chloromethane | | | | | | | | | | | | | | | | |
| Cis-1,2-Dichloroethylene | | | | | | | | | | | | | | | | 283 |
| Cis-1,3-Dichloropropylene | | | | | | | | | | | | | | | | |
| Dichloromethane | | | 1800 | 2300 | 1870 | 914 | 300 | 328 | | 1010 | 280 | 495 | 26 | <100 | 337 | 169 |
| Ethylbenzene | | 80 | 50 | 83 | 50 | 125 | 42 | 26 | 9 | 36 | <100 | 40 | 3 | 129 | 22 | 36 |
| Isopropyl Acetate | | | | | | | | | | | | | | | | |
| m/p-Xylenes | | 250 | 197 | 250 | 200 | 360 | 151 | 116 | 25 | 220 | 205 | 158 | <1 | 377 | 61 | 101 |
| Methyl Ethyl Ketone | | | | | | | | | | | | | | | | |
| o-Xylene | | 80 | 168 | 120 | 180 | 155 | 159 | 55 | 10 | 52 | <100 | 50 | 7 | 148 | 19 | 57 |
| Styrene | | | | | | | | | | | | | | | | |
| Tetrachloroethylene | | | 11 | 20 | | 13 | 23 | | | | <100 | | <2 | <100 | <10 | 1 |
| Toluene | 100 | 900 | 490 | 500 | 570 | 1060 | 276 | 310 | 43 | 630 | 7513 | 390 | 20 | 467 | 296 | 173 |
| trans-1,2-Dichloroethylene | | | 3 | | | | | | 1 | | <100 | | <2 | <100 | <10 | <1 |
| trans-1,3-Dichloropropylene | | | | | | | | | | | | | | | | |
| Trichloroethylene | | | 11 | | 40 | | | | 13 | | <100 | 71 | 11 | 137 | <10 | 6 |
| Trichlorofluoromethane | | | | | | | | | | | | | | | | |
| Vinyl Chloride | | | | | | | | | | | | | | | | 71 |
| Xylenes: total | | | | | | | | | | | | | | | | |

NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

**TABLE B-2**
**LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | Apr-88 | Jun-88 | Sep-88 | Nov-88 | Mar-89 | May-89 | Sep-89 | Apr-90 | May-90 | Jul-90 | Sep-90 | Apr-91 | Jun-91 | Aug-91 | Nov-91 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | | | | | | | | | | | | <24 | <24 | <24 | <24 |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | | | | | | | | | | | | <12 | <16 | <16 | <16 |
| 1,1,2-Trichloroethane | | | | | | | | | | | | <24 | <24 | <24 | <24 |
| 1,1-Dichloroethane | 1.8 | 1.7 | 28.1 | 2.6 | 2.2 | * 1.7 | 8.5 | 48.6 | | 39.0 | 66.0 | 34.0 | 33.0 | <23 | <20 |
| 1,1-Dichloroethylene | | | | | | | | | | | | <16 | <16 | <16 | <16 |
| 1,2-Dichlorobenzene | | | | | | | | | | | | <16 | <8 | <16 | <16 |
| 1,2-Dichloroethane | | | | | | | | | | | | <16 | <16 | <16 | <16 |
| 1,2-Dichloropropane | | | | | | | | | | | | <20 | <20 | <20 | <20 |
| 1,3-Dichlorobenzene | | | | | | | | 7.4 | | | * 4.4 | <12 | <16 | <12 | <12 |
| 1,4-Dichlorobenzene | 1.6 | | | 1.1 | 0.6 | | 1.3 | | | tr | | <16 | <12 | <12 | <12 |
| 2-Chloroethyl vinyl ether | | | | | | | | | | | | <108 | <108 | <108 | <108 |
| Acetone | | | | | | | | | | | | | | | |
| Benzene | 1.5 | 1.6 | | tr | 0.7 | * 1.56 | 0.9 | 15.0 | | | 8.7 | <8 | 26.0 | 23.0 | <8 |
| Bromodichloromethane | | | | | | | | | | | | <16 | <16 | <30 | <16 |
| Bromoform | | | | | | | | | | | | <12 | <12 | <12 | <12 |
| Bromomethane | | | | | | | | | | | | <96 | <96 | <96 | <96 |
| Carbon tetrachloride | | | | | | | | | | | | <12 | <12 | <12 | <12 |
| Chlorobenzene | 2.3 | 5.5 | | | | 5.5 | | 12.5 | 29.4 | | | 37.0 | <24 | <24 | <24 |
| Chlorodibromomethane | | | | | | | | | | | | <16 | <16 | <16 | <16 |
| Chloroethane | | | | | | | | | | | | <92 | <92 | <92 | <92 |
| Chloroform | | | 11.8 | | | | | | | | | <24 | 11.0 | <140 | <40 |
| Chloromethane | | | | | | | | | | | | <92 | <92 | <92 | <92 |
| Cis-1,2-Dichloroethylene | 13.4 | 20.2 | 385.1 | 13.2 | 11.1 | 20.2 | 80.1 | 326.0 | | 291.0 | 168.0 | | | | |
| Cis-1,3-Dichloropropylene | | | | | | | | | | | | <28 | <28 | <28 | <28 |
| Dichloromethane | 6.1 | 16.9 | 234.0 | 7.7 | 16.3 | 16.9 | 19.3 | 101.0 | | 66.0 | 418.0 | <125 | 18.0 | 370.0 | <148 |
| Ethylbenzene | 4.2 | 9.1 | 35.0 | | 1.8 | 9.1 | 2.0 | 42.6 | 37.8 | 21.0 | 42.0 | 110.0 | 110.0 | 72.0 | 53.0 |
| Isopropyl Acetate | | | | | | | | | | | | | | | |
| m/p-Xylenes | 12.0 | 28.5 | 103.2 | 1.4 | 4.6 | 28.5 | 9.8 | 190.0 | | 81.0 | | | | | |
| Methyl Ethyl Ketone | | | | 35.5 | | | | 153.0 | | 21.0 | 118.0 | | | | |
| o-Xylene | 9.2 | 14.9 | 45.6 | 0.9 | 4.3 | 14.9 | 4.1 | 73.2 | | 51.0 | | | | | |
| Styrene | | | | | | | | | | | | | | | |
| Tetrachloroethylene | | | | 0.8 | 6.6 | | * 0.83 | tr | | | | <8 | <8 | <8 | <8 |
| Toluene | 15.1 | 41.9 | 187.1 | 2.2 | 6.3 | 41.9 | 22.8 | 305.0 | 228.0 | 108.0 | 225.0 | 350.0 | 540.0 | 370.0 | 370.0 |
| trans-1,2-Dichloroethylene | | | | | | | | | | | | 32.0 | 23.0 | <16 | <16 |
| trans-1,3-Dichloropropylene | | | | | | | | | | | | <44 | <44 | <44 | <44 |
| Trichloroethylene | 1.4 | | | | 10.1 | | 1.8 | 30.0 | | | * 7.6 | 21.0 | <12 | <12 | <12 |
| Trichlorofluoromethane | | | | | | | | | | | | <12 | <12 | <12 | <12 |
| Vinyl Chloride | 2.4 | | 53.6 | | | | 5.3 | 212.0 | | | 153.0 | <116 | <116 | <116 | <116 |
| Xylenes: total | | | | | | | | | | | | | | | |

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** - Indicates the associated value is an estimated quantity.
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**TABLE B-2**
**LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | May-92 | Jun-92 | Aug-92 | Oct-92 | Apr-93 | Jun-93 | Aug-93 | Oct-93 | Apr-94 | Jul-94 | Aug-94 | Oct-94 | May-95 | May-96 | Jul-96 | Sep-96 | Nov-96 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <12 | <6.0 | 1.9 | <3.0 | <3.0 | <6.0 | <0.6 | <3.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.6 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | <8.0 | <4.0 | | <2.0 | <2.0 | <4.0 | <0.4 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,1,2-Trichloroethane | <12 | <6.0 | | <3.0 | <3.0 | <6.0 | <0.6 | <3.0 | <0.6 | <0.6 | <0.6 | <0.6 | 0.6 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,1-Dichloroethane | <10 | <8.9 | 6.8 | 18.0 | 3.5 | <5.0 | 7.2 | 6.7 | 4.9 | 3.9 | 3.7 | <0.5 | 2.4 | 5.4 | <4.0 | 2.6 | <2.0 |
| 1,1-Dichloroethylene | <8.0 | <5.9 | | <2.0 | <2.0 | <4.0 | <0.4 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,2-Dichlorobenzene | <8.0 | <4.0 | | <2.0 | <2.0 | <4.0 | 0.6 | <2.0 | 1.3 | <0.4 | <0.4 | <0.4 | 0.7 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,2-Dichloroethane | <8.0 | <4.0 | 1.2 | <2.0 | <2.0 | <4.0 | 1.1 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | 0.5 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,2-Dichloropropane | <10 | <5.0 | | <2.5 | <2.5 | <5.0 | <0.5 | <2.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,3-Dichlorobenzene | <6.0 | <3.6 | | <1.5 | <1.5 | <3.0 | <0.3 | <1.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <5.0 | <4.0 | <2.0 | <2.0 |
| 1,4-Dichlorobenzene | <4.0 | <6.3 | 7.7 | 8.9 | 8.2 | 5.2 | 5.5 | 3.8 | 6.5 | 6.1 | 5.0 | ** 2.0 | 5.3 | 7.4 | ** 3.5 | 5.0 | 4.1 |
| 2-Chloroethyl vinyl ether | | <27 | | <14 | <14 | <27 | <2.7 | <14 | <2.7 | <2.7 | <2.7 | <2.7 | <2.7 | | | | |
| Acetone | | | | | | | | | | | | | | | | | |
| Benzene | <4.0 | <10 | 5.2 | 3.1 | 6.9 | 5.2 | 4.6 | 2.8 | 5.4 | 3.6 | 4.2 | 1.8 | 2.1 | 5.6 | 6.0 | 3.6 | 1.6 |
| Bromodichloromethane | <8.0 | <4.0 | | <2.0 | <2.0 | <4.0 | <0.4 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <5.0 | <4.0 | <2.0 | <2.0 |
| Bromoform | <6.0 | <3.0 | | <1.5 | <1.5 | <3.0 | <0.3 | <1.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <12.5 | <10.0 | <5.0 | <5.0 |
| Bromomethane | <48 | <41 | | <12 | <12 | <24 | <2.4 | <12 | <2.4 | <2.4 | <2.4 | <2.4 | <2.4 | <25.0 | <20.0 | <10.0 | <10.0 |
| Carbon tetrachloride | <6.0 | <3.0 | | <1.5 | <1.5 | <3.0 | <0.3 | <1.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <5.0 | <4.0 | <2.0 | <2.0 |
| Chlorobenzene | 31.0 | <8.6 | 16.0 | 5.0 | 28.0 | 6.6 | 6.5 | 4.1 | 11.0 | 5.5 | 4.6 | 2.1 | 6.0 | 14.9 | 6.5 | 5.5 | 4.7 |
| Chlorodibromomethane | <8.0 | <4.0 | | <2.0 | <2.0 | <4.0 | <0.4 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <5.0 | <4.0 | <2.0 | <2.0 |
| Chloroethane | <46 | <23 | | <12 | <12 | <23 | 5.5 | <12 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <25.0 | <20.0 | <10.0 | <10.0 |
| Chloroform | <8.0 | <4.0 | 1.5 | <2.0 | <2.0 | <4.0 | 0.9 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <5.0 | <4.0 | <2.0 | <2.0 |
| Chloromethane | <46 | <30 | | <12 | <12 | <23 | <2.3 | <12 | <2.3 | <2.3 | <2.3 | <2.3 | <2.3 | <25.0 | <20.0 | <10.0 | <10.0 |
| Cis-1,2-Dichloroethylene | | | | | | | | | | | | | 10.0 | 19.2 | 11.3 | 25.7 | 7.5 |
| Cis-1,3-Dichloropropylene | <14 | <7.0 | | <3.5 | <3.5 | <7.0 | <0.7 | <3.5 | <0.7 | <0.7 | <0.7 | <0.7 | <0.7 | <5.0 | <4.0 | <2.0 | <2.0 |
| Dichloromethane | <55 | <35 | 3.3 | 45.0 | <13 | <27 | <24 | <22 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <25.0 | <20.0 | <10.0 | <10.0 |
| Ethylbenzene | 70.0 | 40.0 | 5.7 | 30.0 | 42.0 | <4.0 | 21.0 | 19.0 | 27.0 | 23.0 | 20.0 | ** 8.8 | 9.4 | 25.8 | 41.7 | 20.1 | 8.1 |
| Isopropyl Acetate | | | | | | | | | | | | | | | | | |
| m/p-Xylenes | | | | | | | | | | | | | 42.0 | 81.5 | 71.6 | 58.2 | 29.3 |
| Methyl Ethyl Ketone | | | | | | | | | | | | | | <375 | 976.0 | 469.0 | 361.0 |
| o-Xylene | | | | | | | | | | | | | 24.0 | 40.0 | 33.5 | 28.8 | 17.0 |
| Styrene | | | | | | | | | | | | | <0.8 | <5.0 | <4.0 | <2.0 | <2.0 |
| Tetrachloroethylene | <4.0 | <2.0 | | <1.0 | <1.0 | <2.0 | 0.5 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <4.0 | <2.0 | <2.0 |
| Toluene | 160.0 | 150.0 | | 61.0 | 98.0 | 93.0 | 50.0 | 25.0 | 63.0 | 31.0 | 33.0 | 38.0 | 21.0 | 51.4 | 23.0 | 29.6 | 11.0 |
| trans-1,2-Dichloroethylene | <8.0 | <5.2 | 1.7 | 2.7 | <2.0 | <4.0 | 0.9 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <5.0 | <4.0 | <2.0 | <2.0 |
| trans-1,3-Dichloropropylene | <22 | <11 | | <5.5 | <5.5 | <11 | <1.1 | <5.5 | <1.1 | <1.1 | <1.1 | <1.1 | <1.1 | <5.0 | <4.0 | <2.0 | <2.0 |
| Trichloroethylene | <6.0 | <6.5 | 1.3 | 7.4 | 2.1 | <3.0 | 4.1 | 1.9 | <0.3 | 3.8 | 0.6 | 0.8 | 1.9 | <5.0 | <4.0 | 2.1 | <2.0 |
| Trichlorofluoromethane | <6.0 | <6.6 | | <1.5 | <1.5 | <3.0 | <0.3 | <1.5 | <0.3 | <0.3 | <0.3 | <0.3 | <0.3 | <12.5 | <10.0 | <5.0 | <5.0 |
| Vinyl Chloride | <58 | <29 | | <15 | <15 | <29 | 7.2 | <15 | ** 15 | 5.3 | <2.9 | <2.9 | 5.5 | <12.5 | <10.0 | <5.0 | <5.0 |
| Xylenes: total | | | | | | | | | | | | | | | | | |

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** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

**TABLE B-2**
**LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | May-97 | Jul-97 | Sep-97 | Dec-97 | May-98 | Jul-98 | Sep-98 | Nov-98 | Apr-99 | Jul-99 | Sep-99 | Nov-99 | Apr-00 | Jun-00 | Sep-00 | Nov-00 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | | | | | |
| 1,1,2,2-Tetrachloroethane | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| 1,1,2-Trichloroethane | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| 1,1-Dichloroethane | <10.0 | 6.1 | 2.7 | 2.2 | <2.0 | <1.0 | <1.0 | <1.0 | * 0.9 | <2.0 | <2.0 | 0.4 | 0.5 | *3.1 | *0.7 | 0.5 |
| 1,1-Dichloroethylene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| 1,2-Dichlorobenzene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | * 0.1 | 0.6 | <4.0 | <0.8 | <0.2 |
| 1,2-Dichloroethane | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| 1,2-Dichloropropane | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| 1,3-Dichlorobenzene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| 1,4-Dichlorobenzene | * 7.6 | 7.3 | 2.3 | 5.8 | 7.0 | 5.1 | 3.0 | * 0.8 | <1.0 | 4.0 | 6.0 | 2.3 | 4.3 | 8.7 | 5.0 | 2.2 |
| 2-Chloroethyl vinyl ether | | | | | | | | | | | | | | | | |
| Acetone | 730.0 | 257.0 | 164.0 | 76.4 | 194.0 | <50.0 | 627.0 | 372.0 | 89.7 | 761.0 | 298.0 | 11.4 | <25.0 | <200 | 103.0 | 25.9 |
| Benzene | 7.4 | 8.6 | 1.9 | 3.8 | 3.6 | 8.0 | 1.6 | 0.6 | 1.3 | 3.1 | 2.5 | 0.7 | 2.7 | 5.0 | 1.2 | 0.7 |
| Bromodichloromethane | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Bromoform | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Bromomethane | <25.0 | <6.3 | <5.0 | <2.5 | <5.0 | <2.5 | <2.5 | <2.5 | <2.5 | <5.0 | <5.0 | <0.5 | <1.3 | <10.0 | <2.0 | <0.5 |
| Carbon tetrachloride | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Chlorobenzene | 13.0 | 14.2 | 3.4 | 13.6 | 12.8 | 4.9 | 3.8 | 1.4 | 6.2 | 5.4 | 4.3 | 1.9 | 1.6 | 15.0 | 3.9 | 1.4 |
| Chlorodibromomethane | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Chloroethane | <25.0 | <6.3 | <5.0 | <2.5 | <5.0 | <2.5 | <2.5 | <2.5 | <2.5 | <5.0 | <5.0 | <0.5 | 1.9 | <10.0 | <2.0 | <0.5 |
| Chloroform | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | 2.2 | <0.2 |
| Chloromethane | <50.0 | <12.5 | <10.0 | <5.0 | <10.0 | <5.0 | <5.0 | <5.0 | <5.0 | <10.0 | <10.0 | <1.0 | <2.5 | <20.0 | <4.0 | <1.0 |
| Cis-1,2-Dichloroethylene | 68.9 | 44.3 | 3.0 | 9.2 | 9.8 | <1.0 | 5.0 | <1.0 | 1.4 | 13.7 | 5.8 | 0.6 | *0.3 | 12.4 | 4.9 | 0.6 |
| Cis-1,3-Dichloropropylene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Dichloromethane | <50.0 | <12.5 | <10.0 | <5.0 | <10.0 | <5.0 | <5.0 | <5.0 | <5.0 | <10.0 | <10.0 | <1.0 | <5.0 | <20.0 | <4.0 | <1.0 |
| Ethylbenzene | 25.9 | 41.1 | 17.5 | 19.6 | 13.5 | 20.9 | 6.9 | 2.3 | 8.6 | 16.7 | 13.9 | <0.2 | <0.5 | 30.6 | 1.4 | <0.2 |
| Isopropyl Acetate | | | | | | | | | | | | | | | | |
| m/p-Xylenes | 69.0 | 92.7 | 48.1 | 48.3 | 39.6 | 67.2 | 31.9 | 14.1 | 24.8 | 85.3 | 41.8 | 0.2 | 6.6 | 108.0 | 24.0 | 8.3 |
| Methyl Ethyl Ketone | 585.0 | 255.0 | 204.0 | 66.9 | 160.0 | <25.0 | 761.0 | 435.0 | 59.4 | 901.0 | 272.0 | <5.0 | <12.5 | <100 | 145.0 | 29.2 |
| o-Xylene | 38.2 | 50.0 | 16.4 | 20.6 | 19.8 | 17.4 | 10.7 | 2.1 | 7.7 | 23.8 | <2.0 | 0.4 | 11.9 | 39.4 | 9.7 | 3.5 |
| Styrene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Tetrachloroethylene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | 0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Toluene | 51.5 | 69.3 | 5.9 | 14.0 | 14.1 | 15.8 | 31.7 | 27.1 | 6.0 | 37.3 | 16.6 | 0.5 | 1.0 | 60.6 | 5.5 | 0.4 |
| trans-1,2-Dichloroethylene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | 0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| trans-1,3-Dichloropropylene | <10.0 | <2.5 | <2.0 | <1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Trichloroethylene | 11.8 | 4.4 | <2.0 | 1.0 | <2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.2 | <0.5 | <4.0 | <0.8 | <0.2 |
| Trichlorofluoromethane | <25.0 | <6.3 | <5.0 | <2.5 | <5.0 | <2.5 | <2.5 | <2.5 | <2.5 | <5.0 | <5.0 | <0.5 | <1.3 | <10.0 | <2.0 | <0.5 |
| Vinyl Chloride | <25.0 | 6.5 | <5.0 | <2.5 | <5.0 | <2.5 | <2.5 | <2.5 | <2.5 | 6.8 | <5.0 | <0.5 | <1.3 | <10.0 | *1.4 | <0.2 |
| Xylenes: total | | | | | | | | | | | | | | | | |

NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

**TABLE B-2**
**LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | Apr-01 | Jul-01 | Sep-01 | Dec-01 | Apr-02 | Jun-02 | Sep-02 | Nov-02 | May-03 | Jul-03 | Sep-03 | Dec-03 | Apr-04 | Jun-04 | Sep-04 | Dec-04 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | *0.3 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1,2,2-Tetrachloroethane | <1.6 | <2.0 | <0.8 | <0.2 | <4.0 | <0.8 | <0.8 | <0.4 | <0.4 | <0.8 | <0.4 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| 1,1,2-Trichloroethane | <2.0 | <2.0 | <0.8 | 0.7 | <4.0 | <0.8 | <0.8 | <0.4 | <0.4 | <0.8 | <0.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,1-Dichloroethane | 1.1 | 1.2 | <0.8 | 0.2 | <2.0 | <0.4 | <0.4 | * 0.1 | <0.2 | 0.7 | 0.8 | <0.5 | 1.2 | <0.4 | <0.4 | <0.4 |
| 1,1-Dichloroethylene | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-Dichlorobenzene | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | 1.0 | <0.5 | <0.5 | <0.5 |
| 1,2-Dichloroethane | 1.1 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,2-Dichloropropane | <1.6 | <2.0 | <0.8 | 2.8 | <2.0 | 6.1 | 25.6 | 12.9 | 3.1 | 0.6 | 7.4 | 2.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,3-Dichlorobenzene | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| 1,4-Dichlorobenzene | 6.9 | 5.8 | 0.4 | <0.2 | <2.0 | 0.8 | 0.8 | 1.1 | <0.2 | 0.5 | 0.7 | <0.5 | 8.0 | 0.7 | <0.5 | 3.6 |
| 2-Chloroethyl vinyl ether | | | | | | | | | | | | | <10 | <10 | <10 | <10 |
| Acetone | <80 | <200 | <40 | <10.0 | 247.0 | <40.0 | <40.0 | <20.0 | <20.0 | 92.0 | <20.0 | <50.0 | 87.0 | <15 | <15 | <15 |
| Benzene | 2.8 | 3.0 | <0.4 | <0.1 | <2.0 | 0.6 | 0.5 | 1.1 | *0.1 | 1.0 | 1.0 | <0.5 | 4.6 | 1.7 | <0.5 | <0.5 |
| Bromodichloromethane | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| Bromoform | <1.6 | <2.0 | <0.8 | <0.2 | <4.0 | <0.8 | <0.8 | <0.4 | <0.4 | <0.8 | <0.4 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 |
| Bromomethane | <4.0 | <5.0 | <2.0 | <0.5 | <10.0 | <2.0 | <2.0 | <1.0 | <1.0 | <2.0 | <1.0 | <2.5 | <3.0 | <3.0 | <3.0 | <3.0 |
| Carbon tetrachloride | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Chlorobenzene | 10.7 | 6.3 | <0.8 | <0.2 | <2.0 | 2.6 | 0.6 | 5.1 | 0.6 | 0.9 | 1.5 | <0.5 | 17.0 | 2.1 | <0.5 | <0.5 |
| Chlorodibromomethane | <1.6 | <2.0 | <0.8 | <0.2 | <4.0 | <0.8 | <0.8 | <0.4 | | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| Chloroethane | <4.0 | <5.0 | <2.0 | <0.5 | <4.0 | * 0.6 | <0.8 | 0.7 | <0.4 | 3.5 | 1.7 | 1.7 | <1.0 | <1.0 | <1.0 | <1.0 |
| Chloroform | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| Chloromethane | <8.0 | <10.0 | <4.0 | <1.0 | <10.0 | <2.0 | <2.0 | <1.0 | <1.0 | <2.0 | <1.0 | <2.5 | <2.0 | <2.0 | <2.0 | <2.0 |
| Cis-1,2-Dichloroethylene | 10.5 | 4.7 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | 0.2 | <0.5 | 5.3 | <1.0 | <1.0 | <1.0 |
| Cis-1,3-Dichloropropylene | <1.6 | <2.0 | <0.8 | <0.2 | <4.0 | <0.8 | <0.8 | <0.4 | <0.4 | <0.8 | <0.4 | <1.0 | <0.14 | <0.14 | <0.14 | <0.14 |
| Dichloromethane | <8.0 | <10.0 | <4.0 | <1.0 | <20.0 | <4.0 | <4.0 | <2.0 | <1.0 | 2.0 | <1.0 | <2.5 | 21.0 | <1.0 | <1.0 | <1.0 |
| Ethylbenzene | 6.0 | 9.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | * 0.1 | <0.2 | 1.7 | <0.2 | <0.5 | 16.0 | 1.4 | <0.5 | <0.5 |
| Isopropyl Acetate | | | | | | | | | | | | | | | | |
| m/p-Xylenes | 33.0 | 48.0 | <0.8 | <0.2 | <2.0 | <0.4 | * 0.3 | 0.7 | <0.2 | 6.5 | 3.2 | 0.6 | 61.0 | 12.0 | 0.6 | <0.5 |
| Methyl Ethyl Ketone | 101.0 | 165.0 | <20.0 | <5.0 | 720.0 | <20.0 | <20.0 | <10.0 | <10.0 | 60.0 | <10.0 | <25.0 | 130.0 | <15 | <15 | <15 |
| o-Xylene | 12.6 | 16.1 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | 0.3 | <0.2 | 8.0 | 3.0 | 1.1 | 19.0 | 7.1 | <0.5 | <0.5 |
| Styrene | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| Tetrachloroethylene | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | 0.9 |
| Toluene | 12.3 | 11.3 | <0.8 | <0.2 | <2.0 | <0.8 | * 0.5 | <0.4 | <0.4 | 3.5 | 1.0 | <1.0 | 36.0 | 1.5 | <0.5 | <0.5 |
| trans-1,2-Dichloroethylene | <1.6 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <1.0 | <1.0 | <1.0 | <1.0 |
| trans-1,3-Dichloropropylene | <1.6 | <2.0 | <0.8 | <0.2 | <4.0 | <0.8 | <0.8 | <0.4 | <0.4 | <0.8 | <0.4 | <1.0 | <0.14 | <0.14 | <0.14 | <0.14 |
| Trichloroethylene | 1.5 | <2.0 | <0.8 | <0.2 | <2.0 | <0.4 | <0.4 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.5 | <0.5 | <0.5 | 0.6 |
| Trichlorofluoromethane | <4.0 | <5.0 | <2.0 | <0.5 | <4.0 | <0.8 | <0.8 | <0.4 | <0.4 | <0.8 | <0.4 | <1.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| Vinyl Chloride | 1.7 | 1.7 | <0.8 | <0.2 | <4.0 | <0.8 | <0.8 | <0.4 | <0.4 | <0.8 | <0.4 | <1.0 | 1.0 | <0.2 | <0.2 | <0.2 |
| Xylenes: total | | | | | | | | | | | | | | | | |

NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

**TABLE B-2**
**LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | Apr-05 | Jul-05 | Sep-05 | Dec-05 | Mar-06 | Jun-06 | Sep-06 | Nov-06 | Apr-07 | Jul-07 | Sep-07 | Apr-08 | Jul-08 | Oct-08 | Dec-08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| 1,1,1,2-Tetrachloroethane | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| 1,1,2,2-Tetrachloroethane | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| 1,1,2-Trichloroethane | <2 | <5 | <1 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| 1,1-Dichloroethane | <1 | <3 | <0.5 | <1 | 1 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | 0.8 | 1 | 1 | 0.7 | <0.5 |
| 1,1-Dichloroethylene | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| 1,2-Dichlorobenzene | <1 | <3 | 0.6 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| 1,2-Dichloroethane | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <2 | <2 | <1 | <1 |
| 1,2-Dichloropropane | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| 1,3-Dichlorobenzene | <1 | <3 | <0.5 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| 1,4-Dichlorobenzene | 7 | 8 | 7.4 | 7 | 6 | 5 | 10 | 9 | 6 | 5 | 8 | 9 | 9 | 8 | 8 |
| 2-Chloroethyl vinyl ether | | | | | | | <20.0 | <20 | <10.0 | <10.0 | <2.0 | <20 | | <10 | |
| Acetone | <300 | <300 | 67 | <100 | <100 | 250 | 310 | <100 | <50.0 | 300 | 260 | <100 | <100 | 110 | <50 |
| Benzene | 1 | <3 | 3.6 | 4 | 4 | <0.5 | 5 | 4 | 4.3 | 1.4 | 3.4 | 5 | 4 | 1.8 | 3.1 |
| Bromodichloromethane | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| Bromoform | <2 | <5 | <1 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| Bromomethane | <5 | <10 | <3 | <5 | <5.0 | <3.0 | <5.0 | <5.0 | <3.0 | <3.0 | <3.0 | <5 | <5 | <3 | <3 |
| Carbon tetrachloride | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| Chlorobenzene | 8 | 7 | 8.1 | 24 | 15 | <0.5 | 8 | 13 | 21 | 4.1 | 7.6 | 17 | 12 | 6 | 15 |
| Chlorodibromomethane | <2 | <5 | <1 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| Chloroethane | <2 | <5 | | | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| Chloroform | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | 0.7 | 1 | <1 | <1 | <0.5 | <0.5 |
| Chloromethane | <5 | <10 | | | <5.0 | <3.0 | <5.0 | <5.0 | <3.0 | <3.0 | <3.0 | <5 | <5 | <3 | <3 |
| Cis-1,2-Dichloroethylene | 4 | 4 | 1.7 | <1 | 5 | 2.1 | 4 | 5 | <0.5 | 2.5 | 2.5 | 6 | 3 | 1.5 | 1.1 |
| Cis-1,3-Dichloropropylene | <2 | <5 | <1 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| Dichloromethane | <5 | <10 | <3 | <5 | 6 | <3.0 | <5.0 | <5.0 | <3.0 | <3.0 | <3.0 | 5 | <5 | <3 | <3 |
| Ethylbenzene | 7 | 6 | 9.3 | 22 | 10 | <0.5 | 10 | <1.0 | 25 | <0.5 | 7.7 | 12 | 5 | 1.7 | 12 |
| Isopropyl Acetate | | | | | | | | | | | | | | | |
| m/p-Xylenes | 83 | 55 | 60.6 | 101 | 62 | 20 | 80 | 46 | 81 | 21 | 44 | 83 | 62 | 22 | 64 |
| Methyl Ethyl Ketone | <50 | 339 | 103 | <50 | 79 | 290 | 350 | 100 | <30.0 | 360 | 340 | 66 | 110 | 110 | <30 |
| o-Xylene | 28 | 20 | 13.6 | 15 | 20 | 2.3 | 23 | 25 | 21 | 7.8 | 13 | 29 | 21 | 7.1 | 12 |
| Styrene | <1 | <3 | <0.5 | <1 | <2.0 | <0.5 | <1.0 | <1.0 | <0.9 | <0.5 | <0.5 | <2 | <2 | <1 | <1 |
| Tetrachloroethylene | <1 | <3 | 0.5 | 2 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | 0.7 |
| Toluene | 7 | 11 | 8 | 4 | 30 | <1.0 | 16 | 17 | 7 | 6 | 8 | 50 | 18 | 3 | 6 |
| trans-1,2-Dichloroethylene | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| trans-1,3-Dichloropropylene | <2 | <5 | <1 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| Trichloroethylene | <1 | <3 | <0.5 | <1 | <1.0 | <0.5 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <1 | <0.5 | <0.5 |
| Trichlorofluoromethane | <2 | <5 | | | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| Vinyl Chloride | <5 | <5 | <1 | <2 | <2.0 | <1.0 | <2.0 | <2.0 | <1.0 | <1.0 | <1.0 | <2 | <2 | <1 | <1 |
| Xylenes: total | | | | | | | | | | | | | | | |

NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

**TABLE B-2**
**LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | Apr-09 | Jun-09 | Oct-09 | Dec-09 | Apr-10 | Jun-10 | Sep-10 | Nov-10 | Mar-11 | Jun-11 | Sep-11 | Nov-11 | Apr-12 | Jun-12 | Sep-12 | Nov-12 | Apr-13 | Jun-13 | Sep-13 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| 1,1,1,2-Tetrachloroethane | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| 1,1,2,2-Tetrachloroethane | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| 1,1,2-Trichloroethane | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| 1,1-Dichloroethane | <1 | 0.5 | 0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| 1,1-Dichloroethylene | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| 1,2-Dichlorobenzene | <2 | 1 | 0.4 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| 1,2-Dichloroethane | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| 1,2-Dichloropropane | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| 1,3-Dichlorobenzene | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| 1,4-Dichlorobenzene | 7 | 12 | 4.3 | 4 | 8 | 8 | 6 | 4 | 7 | 9 | 7 | 5 | <5 | 5.3 | <2.0 | 2.6 | 6.1 | <10 | 7 |
| 2-Chloroethyl vinyl ether | <20 | <10 | <2 | <10 | <10 | <10 | <20 |  | <10 | <20 | <10 |  | <50 | <20 | <20 | <4.0 | <50 | <100 | <50 |
| Acetone | <100 | 63 | 66 | <50 | 58 | 77 | <100 | <50 | <50 | <100 | <50 | <50 | <250 | <100 | <100 | <20 | <250 | <500 | <250 |
| Benzene | 4 | 2.7 | 0.1 | 2 | 1.5 | 0.7 | <1 |  | 4.8 | 3 | <0.5 | 2.2 | <2.5 | <1 | <1.0 | 0.51 | 2.8 | <5 | <2.5 |
| Bromodichloromethane | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| Bromoform | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Bromomethane | <5 | <3 | <0.5 | <3 | <3 | <3 | <5 | <3 | <3 | <5 | <3 | <3 | <13 | <5 | <5.0 | <1.0 | <13 | <25 | <13 |
| Carbon tetrachloride | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| Chlorobenzene | 17 | 10 | 1.1 | 13 | 5.5 | 3 | <1 | 7.8 | 16 | 12 | <0.5 | 9.1 | 3.8 | <1 | 1.6 | 1.3 | 16 | 7.1 | 4.8 |
| Chlorodibromomethane | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Chloroethane | <2 | <1 | 0.4 | <1 | <1 | 1 | <2 | <1 | 1 | <2 | <1 | 1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Chloroform | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| Chloromethane | <5 | <3 | <0.5 | <3 | <3 | <3 | <5 | <3 | <3 | <5 | <3 | <3 | <13 | <5 | <5.0 | <1.0 | <13 | <25 | <13 |
| Cis-1,2-Dichloroethylene | 1 | 1.6 | 0.3 | <0.5 | 0.8 | 2.8 | 3 | <0.5 | 1.4 | 2 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| Cis-1,3-Dichloropropylene | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Dichloromethane | <5 | <3 | <0.5 | <3 | <3 | 3 | <5 | <3 | <3 | <5 | <3 | <3 | <13 | <5 | <5.0 | <1.0 | <13 | <25 | <13 |
| Ethylbenzene | 15 | 3.9 | <0.1 | 6.4 | <0.5 | <0.5 | <1 | 0.7 | 14 | 7 | <0.5 | 7.9 | <2.5 | <1 | <1.0 | <0.2 | 5.1 | <5 | <2.5 |
| Isopropyl Acetate |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| m/p-Xylenes | 61 | 34 | 2.1 | 37 | 16 | 3.5 | 3 | 14 | 62 | 53 | 2.1 | 37 | 7.9 | <1 | 3.6 | 4.1 | 23 | 11 | 11 |
| Methyl Ethyl Ketone | <50 | 68 | 71 | <30 | 42 | 43 | <50 | <30 | <30 | <50 | <30 | <30 | <130 | <50 | <50 | <10 | <130 | <250 | <130 |
| o-Xylene | 16 | 13 | 1 | 3.7 | 7.7 | 8.2 | 2 | 1.6 | 14 | 22 | 1.6 | 7.5 | 2.6 | <1 | <1.0 | 0.55 | 7.4 | <5 | 3.5 |
| Styrene | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Tetrachloroethylene | <1 | <0.5 | 0.1 | 0.7 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | 1.6 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| Toluene | 19 | 12 | <0.2 | 3 | 2 | 1 | <2 | <1 | 11 | 14 | <1 | 5 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| trans-1,2-Dichloroethylene | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| trans-1,3-Dichloropropylene | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Trichloroethylene | <1 | <0.5 | <0.1 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <2.5 | <1 | <1.0 | <0.2 | <2.5 | <5 | <2.5 |
| Trichlorofluoromethane | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Vinyl Chloride | <2 | <1 | <0.2 | <1 | <1 | <1 | <2 | <1 | <1 | <2 | <1 | <1 | <5 | <2 | <2.0 | <0.4 | <5 | <10 | <5 |
| Xylenes: total |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

## TABLE B-2
## LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23
## BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM

| PARAMETER | Dec-13 | Apr-14 | Jun-14 | Sep-14 | Dec-14 | Apr-15 | Jun-15 | Sep-15 | Nov-15 | Apr-16 | Jun-16 | Sep-16 | Nov-16 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.25 | <0.5 | <0.5 | <2.0 | <0.50 | <2.0 | <0.50 |
| 1,1,1,2-Tetrachloroethane | <0.5 | <1 | <1 | <2 | <1 | <1 | <0.5 | <1 | <1 | <4.0 | <1.0 | <4.0 | <1.0 |
| 1,1,2,2-Tetrachloroethane | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| 1,1,2-Trichloroethane | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| 1,1-Dichloroethane | <0.25 | <0.5 | 0.53 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| 1,1-Dichloroethylene | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| 1,2-Dichlorobenzene | <0.5 | <1 | <1 | <2 | <1 | <1.0 | 0.7 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| 1,2-Dichloroethane | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| 1,2-Dichloropropane | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| 1,3-Dichlorobenzene | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| 1,4-Dichlorobenzene | 4.1 | 7.6 | 7.8 | 5.7 | 2.3 | 6.1 | 5.8 | 6.4 | 3.6 | 6.8 | 5.2 | 5.6 | 1.3 |
| 2-Chloroethyl vinyl ether | <5 | <50 | <10 | <20 | <10 | <25 | <13 |  | <25 | <100 | <25 | <100 | <25 |
| Acetone | 39 | <50 | <50 | <100 | <50 | <50 | <25 | <50 | <50 | <200 | <50 | <200 | <50 |
| Benzene | 0.43 | 3.5 | 2.4 | <1 | <0.5 | 3.2 | 1.8 | <0.5 | 0.7 | <2.0 | 0.74 | <2.0 | <0.50 |
| Bromodichloromethane | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| Bromoform | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Bromomethane | <1.3 | <2.5 | <2.5 | <5 | <2.5 | <2.5 | <1.3 | <2.5 | <2.5 | <10 | <2.5 | <10 | <2.5 |
| Carbon tetrachloride | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| Chlorobenzene | 1.5 | 23 | 11 | 1.6 | 1 | 14 | 8.7 | 1.3 | 3.6 | 10 | 3.5 | 4.5 | 1 |
| Chlorodibromomethane | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Chloroethane | <0.5 | <1 | <1 | <2 | <1 | <5.0 | 0.61 | 1.2 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Chloroform | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| Chloromethane | <1.3 | <2.5 | <2.5 | <5 | <2.5 | <2.5 | <1.3 | <2.5 | <2.5 | <10 | <2.5 | <10 | <2.5 |
| Cis-1,2-Dichloroethylene | <0.25 | 1.1 | 0.7 | <1 | <0.5 | 0.52 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| Cis-1,3-Dichloropropylene | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Dichloromethane | <1.3 | <2.5 | <2.5 | <5 | <2.5 | <2.5 | <1.3 | <2.5 | <2.5 | <10 | <2.5 | <10 | <2.5 |
| Ethylbenzene | <0.25 | 9.7 | 3.5 | <1 | <0.5 | 5.1 | 1.1 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| Isopropyl Acetate |  |  |  |  |  |  |  |  |  |  |  |  |  |
| m/p-Xylenes | 2.8 | 41 | 36 | 1.3 | <0.5 | 31 | 13 | <0.50 | 2.8 | 10 | 4 | 7.2 | 0.67 |
| Methyl Ethyl Ketone | 15 | <25 | <25 | <50 | <25 | <25 | <13 | <25 | <25 | <100 | <25 | <100 | <25 |
| o-Xylene | 0.73 | 9.2 | 17 | 1.2 | <0.5 | 6 | 4.1 | 0.5 | <0.50 | 4.2 | 2.3 | <2.0 | <0.50 |
| Styrene | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Tetrachloroethylene | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| Toluene | <0.5 | 4.1 | 8.5 | <2 | <1 | 1.9 | 1.1 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| trans-1,2-Dichloroethylene | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| trans-1,3-Dichloropropylene | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Trichloroethylene | <0.25 | <0.5 | <0.5 | <1 | <0.5 | <0.50 | <0.25 | <0.50 | <0.50 | <2.0 | <0.50 | <2.0 | <0.50 |
| Trichlorofluoromethane | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Vinyl Chloride | <0.5 | <1 | <1 | <2 | <1 | <1.0 | <0.50 | <1.0 | <1.0 | <4.0 | <1.0 | <4.0 | <1.0 |
| Xylenes: total |  |  |  |  |  |  |  |  |  |  |  |  |  |

NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

**TABLE B-2**
**LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | Apr-17 | Jun-17 | Sep-17 | Nov-17 | Apr-18 | Jun-18 | Sep-18 | Dec-18 | Apr-19 | May-19 | Sep-19 | Nov-19 | Apr-20 | Jun-20 | Sep-20 | Dec-20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1,1,1-Trichloroethane | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| 1,1,1,2-Tetrachloroethane | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| 1,1,2,2-Tetrachloroethane | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| 1,1,2-Trichloroethane | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| 1,1-Dichloroethane | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | 0.33 | <5.0 | <2.5 | <1.0 |
| 1,1-Dichloroethylene | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| 1,2-Dichlorobenzene | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | 0.57 | <10 | <5.0 | <2.0 |
| 1,2-Dichloroethane | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| 1,2-Dichloropropane | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| 1,3-Dichlorobenzene | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| 1,4-Dichlorobenzene | 6.9 | 8.3 | 6.1 | <4.0 | 4.8 | 5.4 | <10 | 6.5 | <10 | 7.8 | <10 | 3.8 | 6.7 | <10 | <5.0 | 3.4 |
| 2-Chloroethyl vinyl ether | <25 | <25 | <50 | <100 | <50 | <50 | <250 | <50 | <250 | <100 | <250 | <25 | <5.0 | <250 | | <50 |
| Acetone | <50 | <50 | <100 | <200 | <100 | <100 | <500 | <100 | <500 | <200 | <500 | <50 | 37 | <500 | <250 | <100 |
| Benzene | 3.3 | 1.3 | <1.0 | <2.0 | 2.4 | 2.1 | <5.0 | 2.8 | <5.0 | 3.5 | <5.0 | 0.85 | 2 | <5.0 | <2.5 | 1.1 |
| Bromodichloromethane | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| Bromoform | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| Bromomethane | <2.5 | <2.5 | <5.0 | <10 | <5.0 | <5.0 | <25 | <5.0 | <25 | <10 | <25 | <2.5 | <0.50 | <25 | <13 | <5.0 |
| Carbon tetrachloride | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| Chlorobenzene | 18 | 6.9 | 5 | 2.3 | 13 | 11 | 5.5 | 13 | 19 | 17 | <5.0 | 6.1 | 11 | 9 | 5.3 | 6.4 |
| Chlorodibromomethane | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| Chloroethane | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | 0.4 | <10 | <5.0 | <2.0 |
| Chloroform | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| Chloromethane | <2.5 | <2.5 | <5.0 | <10 | <5.0 | <5.0 | <25 | <5.0 | <25 | <10 | <25 | <2.5 | <0.50 | <25 | <13 | <5.0 |
| Cis-1,2-Dichloroethylene | 0.88 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | 0.32 | <5.0 | <2.5 | <1.0 |
| Cis-1,3-Dichloropropylene | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| Dichloromethane | <2.5 | <2.5 | <5.0 | <10 | <5.0 | <5.0 | <25 | <5.0 | <25 | <10 | <25 | <2.5 | <0.50 | <25 | <13 | <5.0 |
| Ethylbenzene | 8.3 | 0.85 | <1.0 | <2.0 | 4 | 1.1 | <5.0 | 2.6 | 5.8 | 8.2 | <5.0 | <0.50 | 2.1 | <5.0 | <2.5 | <1.0 |
| Isopropyl Acetate | | | | | | | | | <50 | <20 | <50 | <5.0 | <1.0 | <50 | | <10 |
| m/p-Xylenes | 34 | 8.2 | 5.4 | 2.6 | 20 | 10 | 6.3 | 23 | 29 | 36 | 5 | 2.1 | 14 | 5.1 | <2.5 | 2.4 |
| Methyl Ethyl Ketone | <25 | <25 | <50 | <100 | <50 | <50 | <250 | <50 | <250 | <100 | <250 | <25 | 18 | <250 | <130 | <50 |
| o-Xylene | 9.5 | 3.5 | 2 | <2.0 | 4.5 | 3.6 | <5.0 | 3.8 | 7.1 | 8.8 | <5.0 | 1.4 | 6.1 | <5.0 | <2.5 | <1.0 |
| Styrene | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| Tetrachloroethylene | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| Toluene | 4.1 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | 1 | <10 | <5.0 | <2.0 |
| trans-1,2-Dichloroethylene | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| trans-1,3-Dichloropropylene | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| Trichloroethylene | <0.50 | <0.50 | <1.0 | <2.0 | <1.0 | <1.0 | <5.0 | <1.0 | <5.0 | <2.0 | <5.0 | <0.50 | <0.10 | <5.0 | <2.5 | <1.0 |
| Trichlorofluoromethane | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| Vinyl Chloride | <1.0 | <1.0 | <2.0 | <4.0 | <2.0 | <2.0 | <10 | <2.0 | <10 | <4.0 | <10 | <1.0 | <0.20 | <10 | <5.0 | <2.0 |
| Xylenes: total | | | | | | | | | 36 | 44 | 5 | 3.5 | 20 | 5.1 | <2.5 | 2.4 |

NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

## TABLE B-2
## LEACHATE ORGANIC CHEMICAL RESULTS - Maintenance Hole 23
## BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM

| PARAMETER | Mar-21 | Jun-21 | Sep-21 | Dec-21 |
|---|---|---|---|---|
| 1,1,1-Trichloroethane | <5.0 | <2.5 | <2.0 | <1.0 |
| 1,1,1,2-Tetrachloroethane | <10 | <5.0 | <4.0 | <2.0 |
| 1,1,2,2-Tetrachloroethane | <10 | <5.0 | <4.0 | <2.0 |
| 1,1,2-Trichloroethane | <10 | <5.0 | <4.0 | <2.0 |
| 1,1-Dichloroethane | <5.0 | <2.5 | <2.0 | <1.0 |
| 1,1-Dichloroethylene | <5.0 | <2.5 | <2.0 | <1.0 |
| 1,2-Dichlorobenzene | <10 | <5.0 | <4.0 | <2.0 |
| 1,2-Dichloroethane | <10 | <5.0 | <4.0 | <2.0 |
| 1,2-Dichloropropane | <5.0 | <2.5 | <2.0 | <1.0 |
| 1,3-Dichlorobenzene | <10 | <5.0 | 5.1 | <2.0 |
| 1,4-Dichlorobenzene | <10 | 5.3 | 7.2 | 5.7 |
| 2-Chloroethyl vinyl ether | <250 | | <100 | |
| Acetone | <500 | <250 | <200 | <100 |
| Benzene | <5.0 | <2.5 | 3.1 | 2.1 |
| Bromodichloromethane | <5.0 | <2.5 | <2.0 | <1.0 |
| Bromoform | <10 | <5.0 | <4.0 | <2.0 |
| Bromomethane | <25 | <13 | <10 | <5.0 |
| Carbon tetrachloride | <5.0 | <2.5 | <2.0 | <1.0 |
| Chlorobenzene | 8.8 | 8.2 | 16 | 14 |
| Chlorodibromomethane | <10 | <5.0 | <4.0 | <2.0 |
| Chloroethane | <10 | <5.0 | <4.0 | <2.0 |
| Chloroform | <5.0 | <2.5 | <2.0 | <1.0 |
| Chloromethane | <25 | <13 | <10 | <5.0 |
| Cis-1,2-Dichloroethylene | <5.0 | <2.5 | <2.0 | <1.0 |
| Cis-1,3-Dichloropropylene | <10 | <5.0 | <4.0 | <2.0 |
| Dichloromethane | <25 | <13 | <10 | <5.0 |
| Ethylbenzene | <5.0 | <2.5 | 2.1 | <1.0 |
| Isopropyl Acetate | <50 | | <20 | |
| m/p-Xylenes | 6.5 | 5.3 | 17 | 6.8 |
| Methyl Ethyl Ketone | <250 | <130 | <100 | <50 |
| o-Xylene | <5.0 | 2.8 | 3.8 | 1.8 |
| Styrene | <10 | <5.0 | <4.0 | <2.0 |
| Tetrachloroethylene | <5.0 | <2.5 | <2.0 | <1.0 |
| Toluene | <10 | <5.0 | <4.0 | <2.0 |
| trans-1,2-Dichloroethylene | <5.0 | <2.5 | <2.0 | <1.0 |
| trans-1,3-Dichloropropylene | <10 | <5.0 | <4.0 | <2.0 |
| Trichloroethylene | <5.0 | <2.5 | <2.0 | <1.0 |
| Trichlorofluoromethane | <10 | <5.0 | <4.0 | <2.0 |
| Vinyl Chloride | <10 | <5.0 | <4.0 | <2.0 |
| Xylenes: total | 6.5 | 8.1 | 21 | 8.6 |

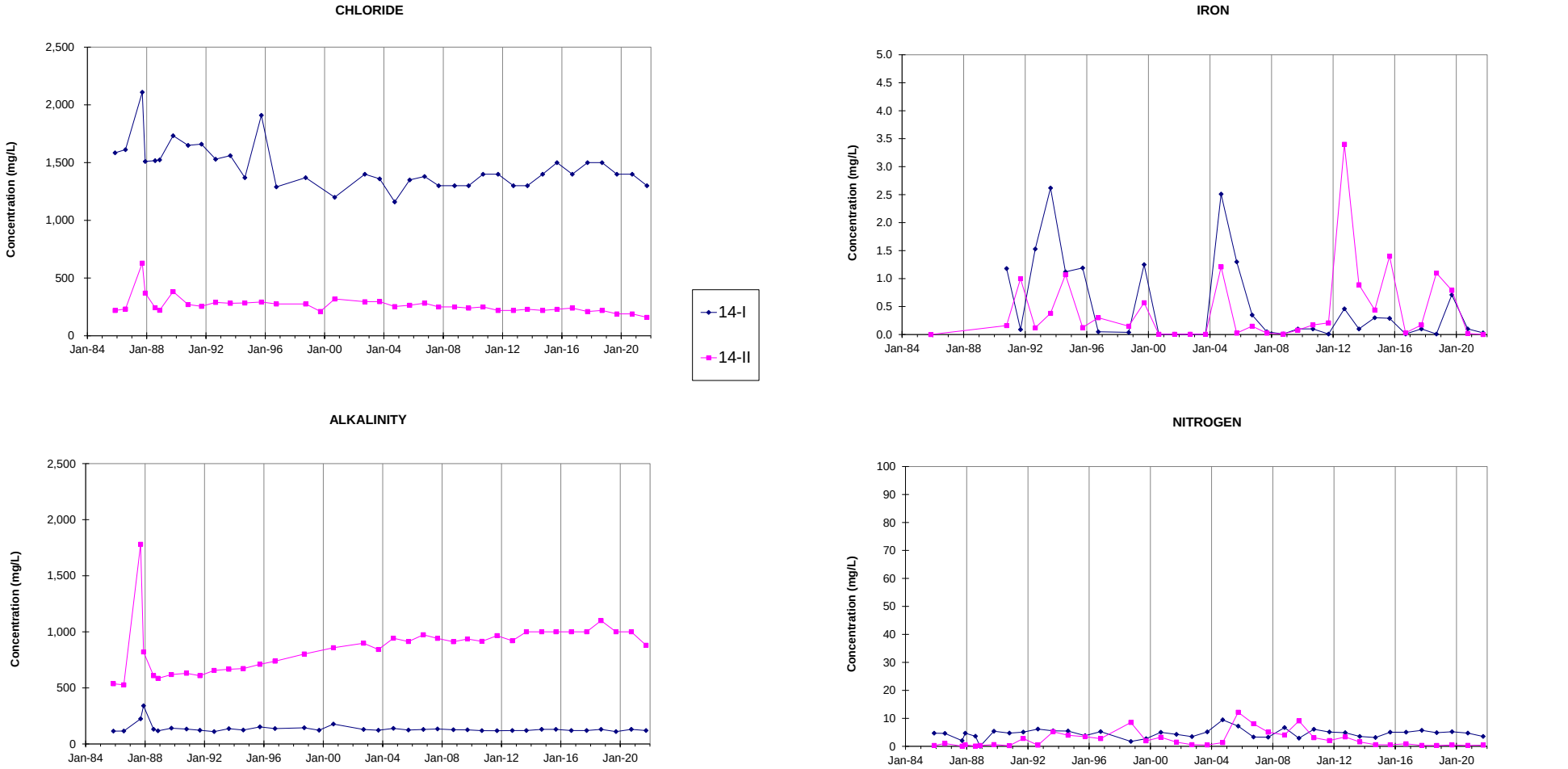
NOTES: 1) * - Indicates a detected parameter concentration below the Reportable Detection Limit (RDL).
** - Indicates the associated value is an estimated quantity.
2) tr - Indicates a detected parameter concentration below an unspecified RDL.
Blank indicates parameter not analysed.
3) All units are µg/L.
4) Organic detections above the Reportable Detection Limit are in black.

# APPENDIX

# C GROUNDWATER CHEMISTRY

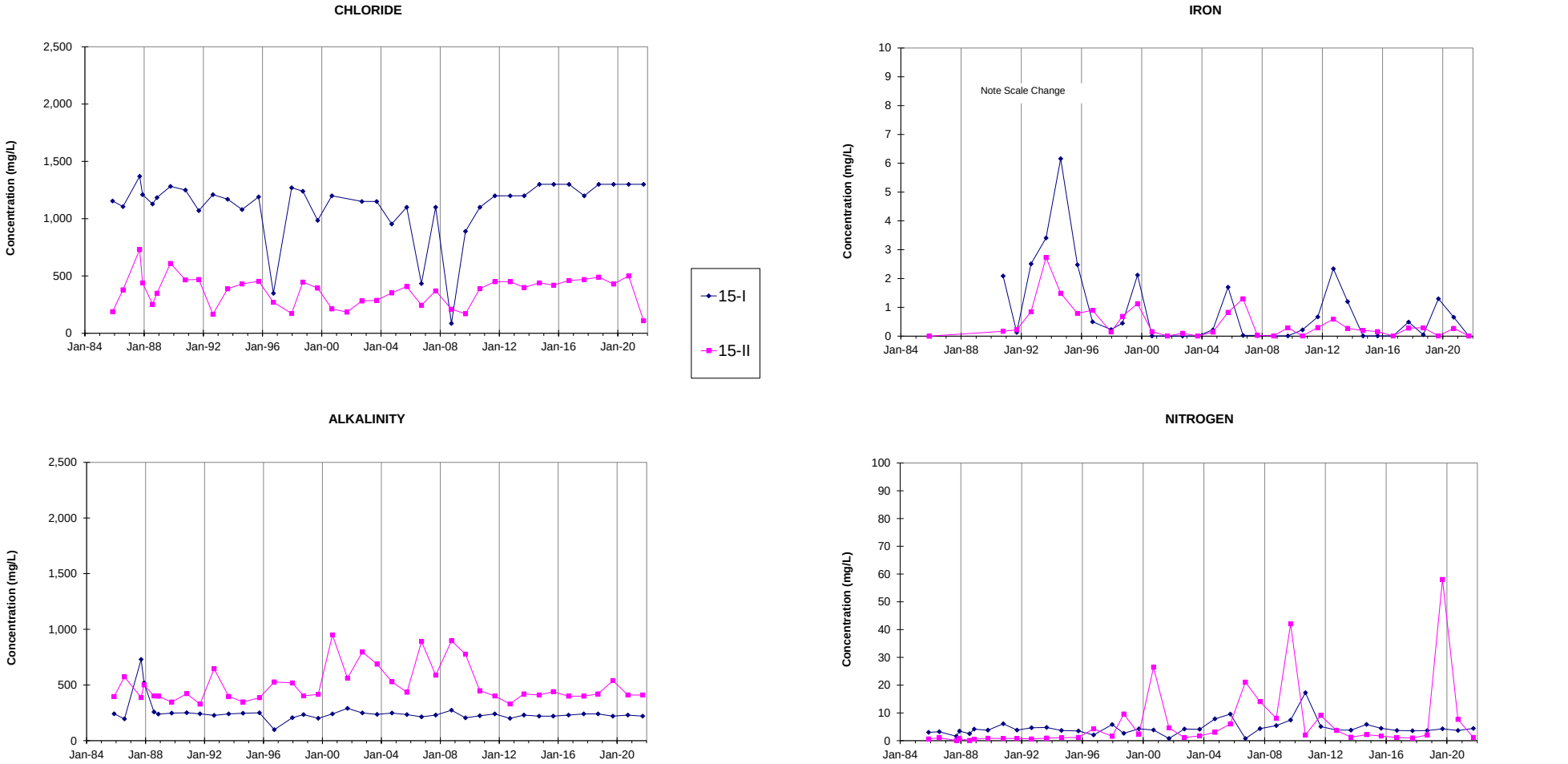
# FIGURE C-1

## TIME CONCENTRATION GRAPHS - Borehole 14



# FIGURE C-2

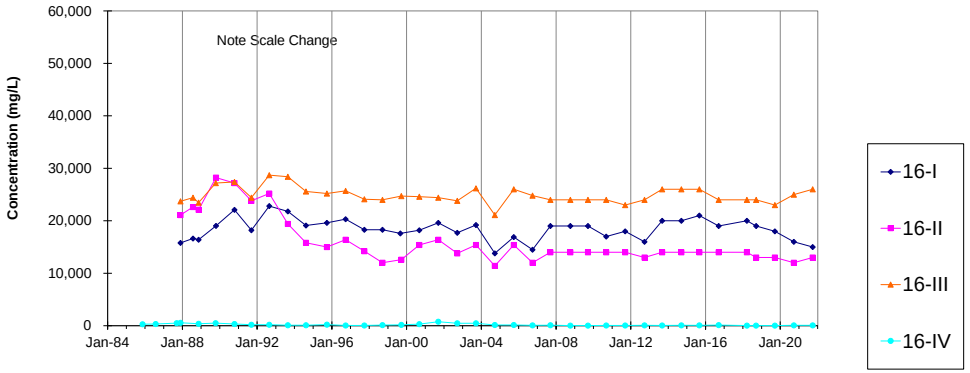
## TIME CONCENTRATION GRAPHS - Borehole 15



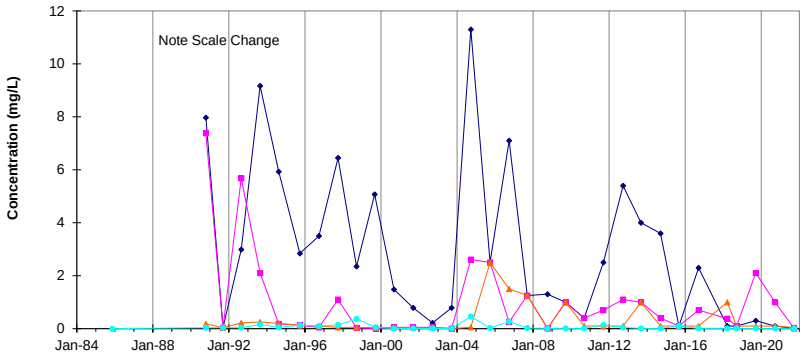
# FIGURE C-3

## TIME CONCENTRATION GRAPHS - Borehole 16

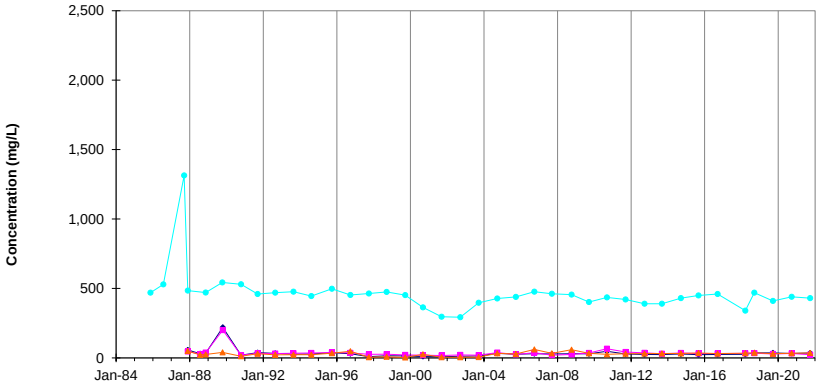
### CHLORIDE



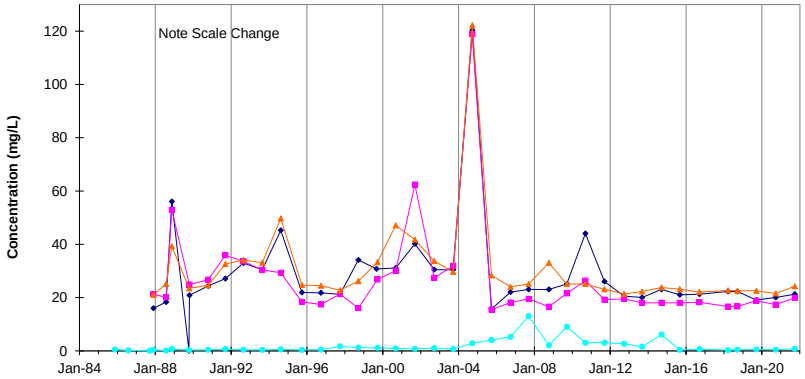

### IRON




### ALKALINITY

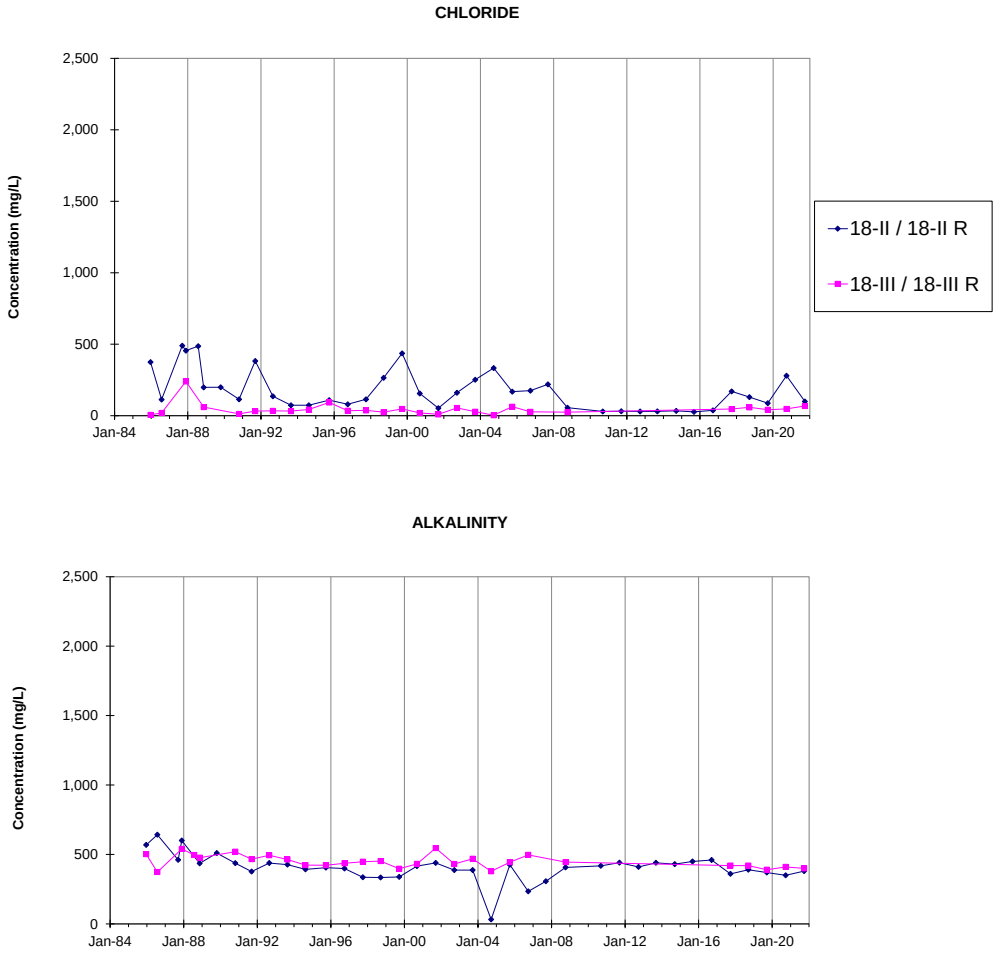


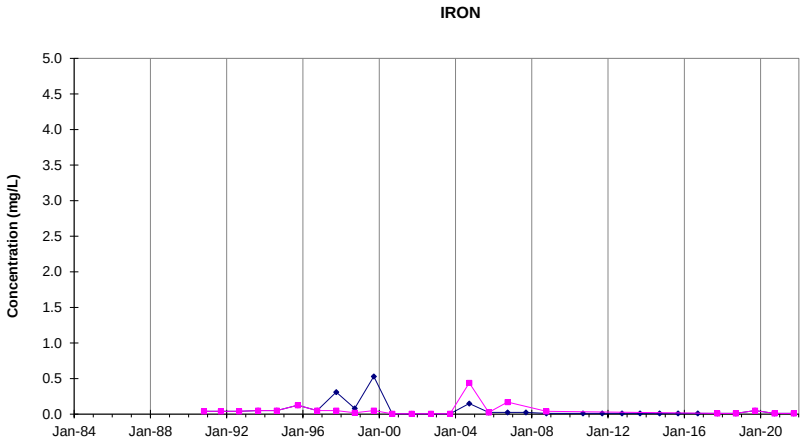

### NITROGEN



# FIGURE C-4

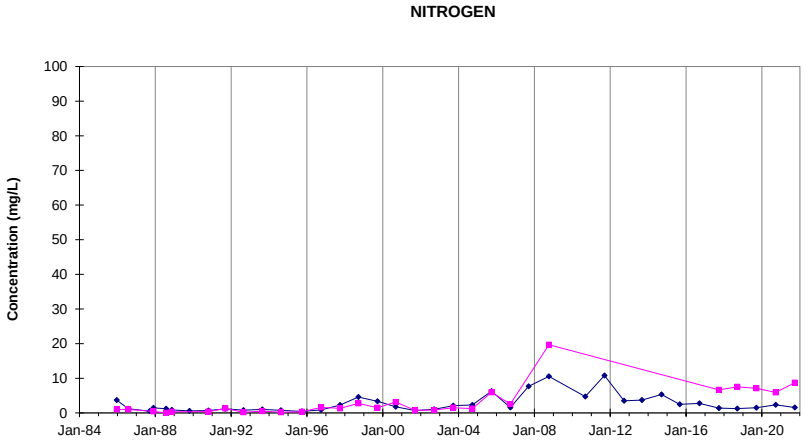
## TIME CONCENTRATION GRAPHS - Borehole 18



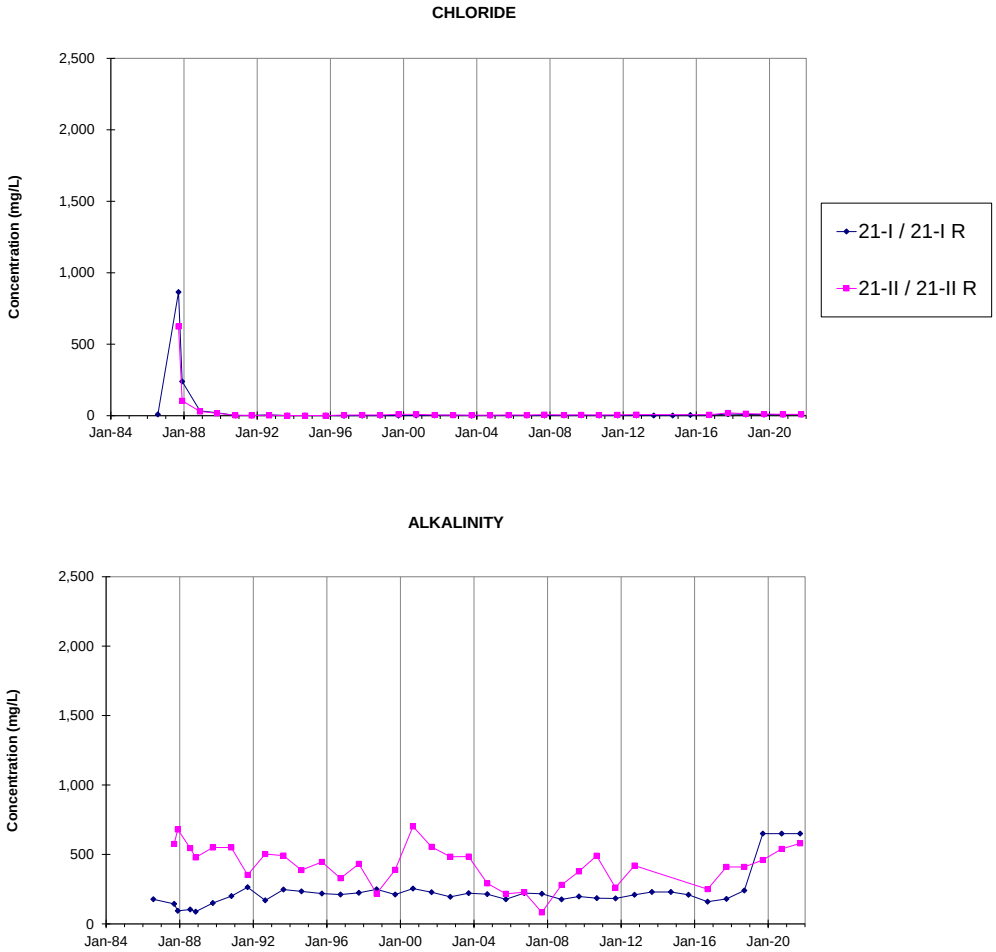


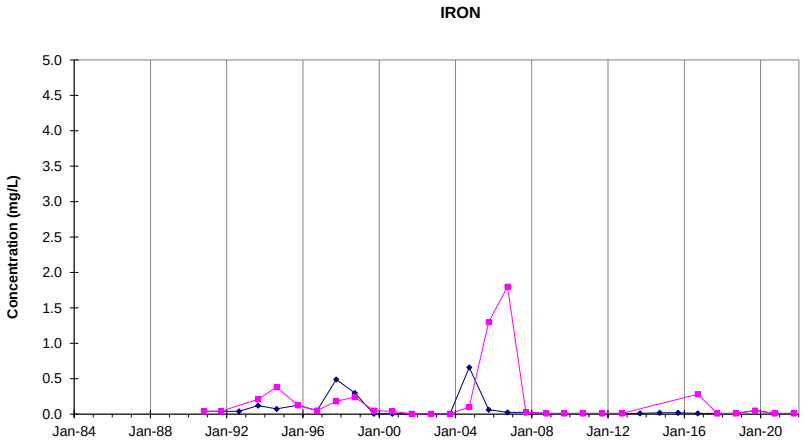




# FIGURE C-5

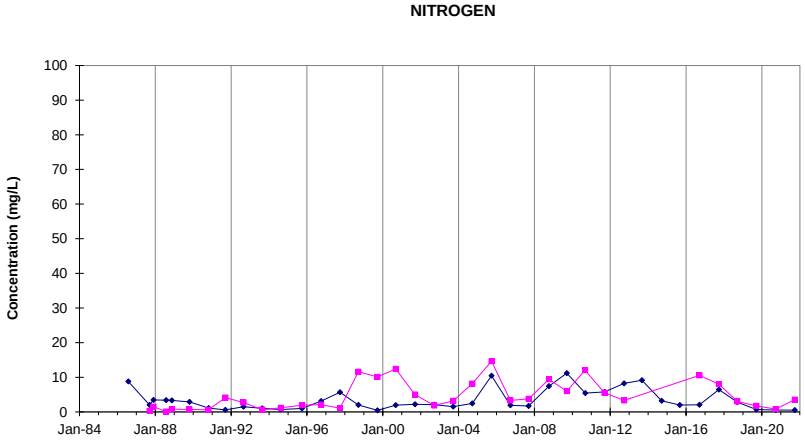
## TIME CONCENTRATION GRAPHS - Borehole 21



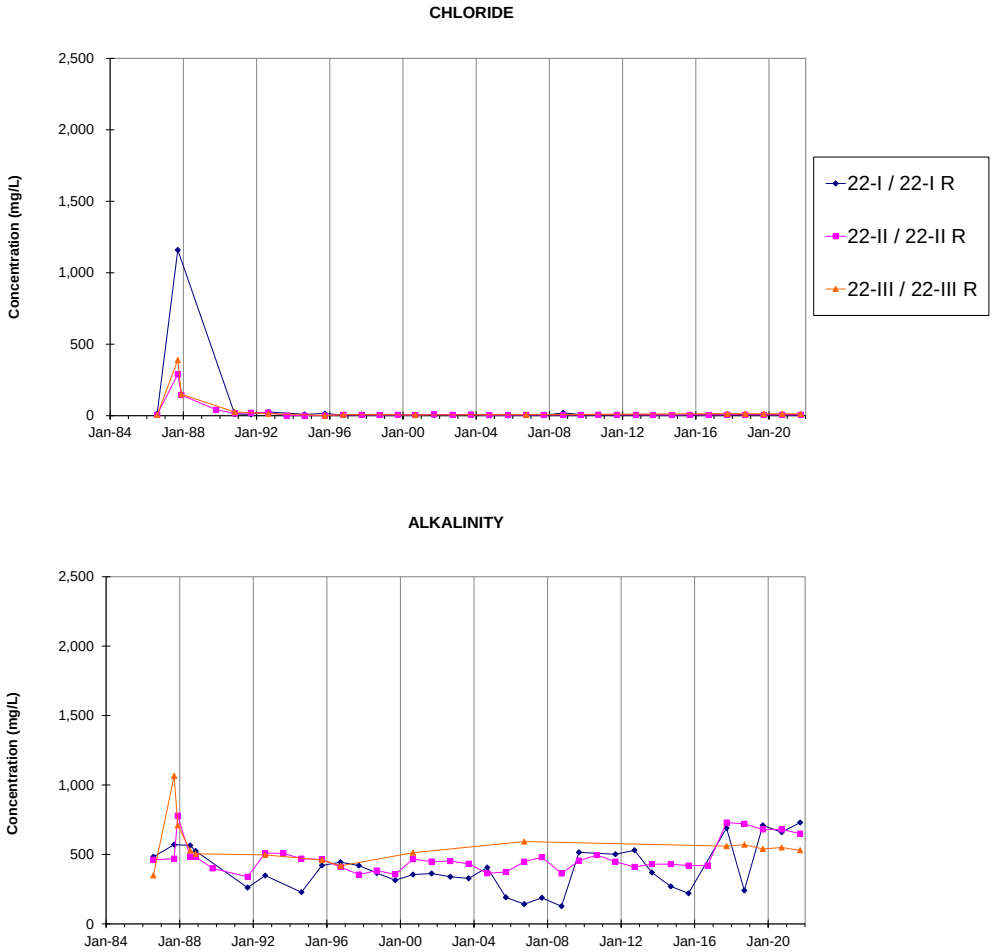


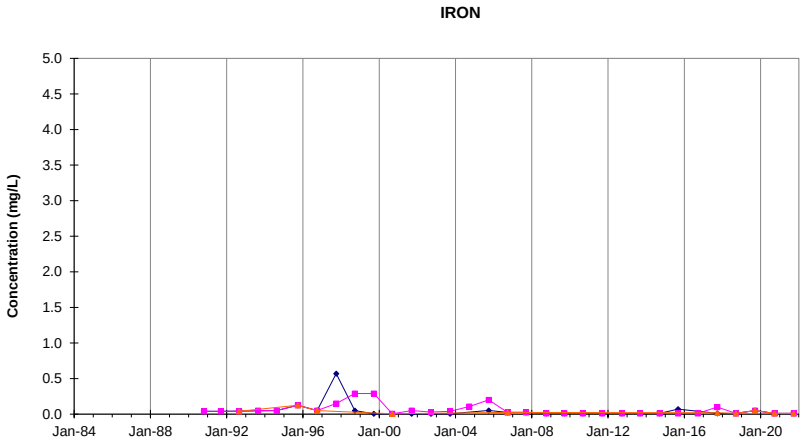




# FIGURE C-6

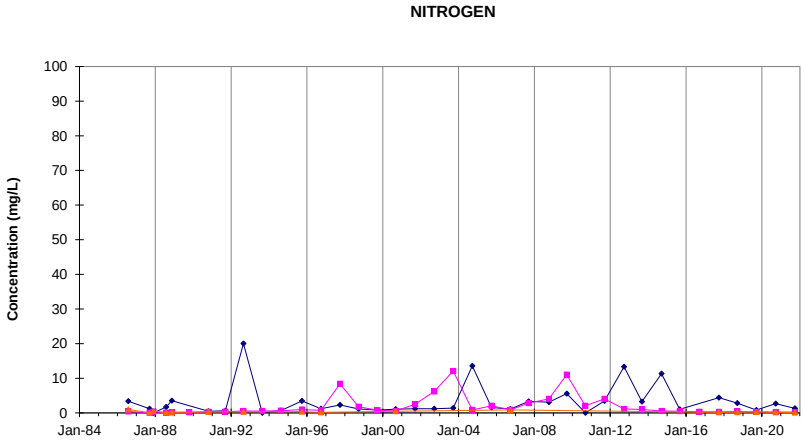
## TIME CONCENTRATION GRAPHS - Borehole 22



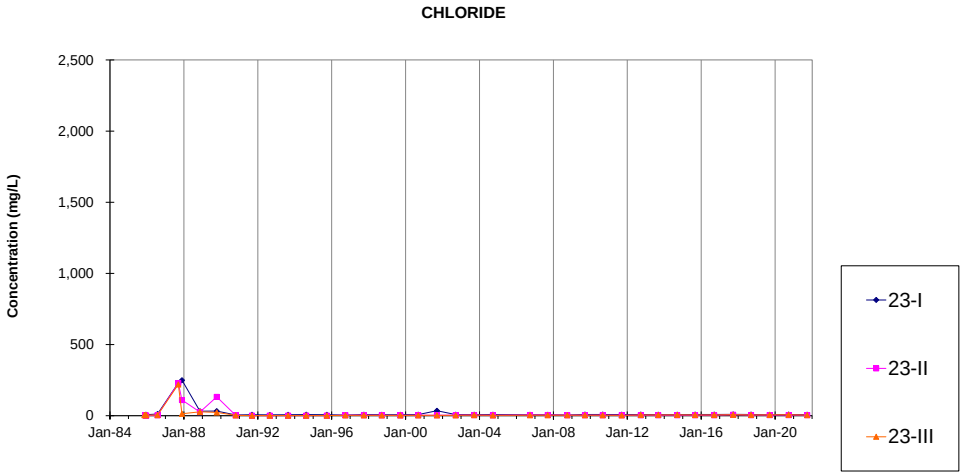


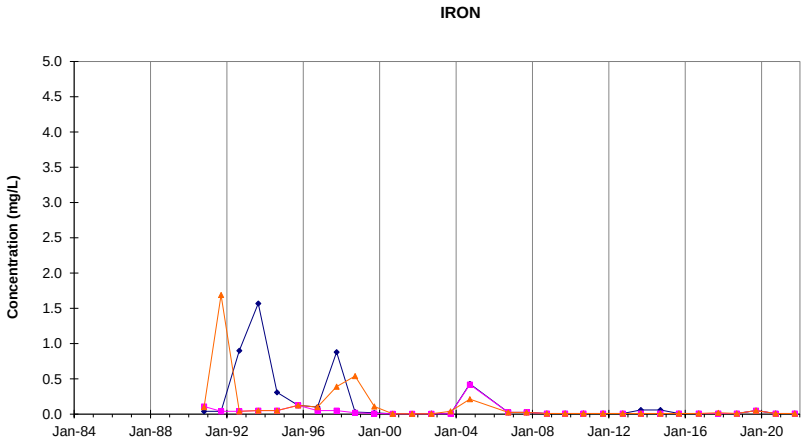


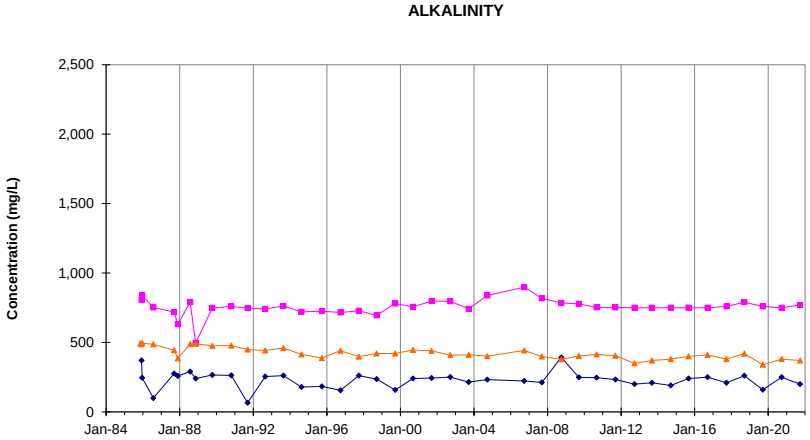


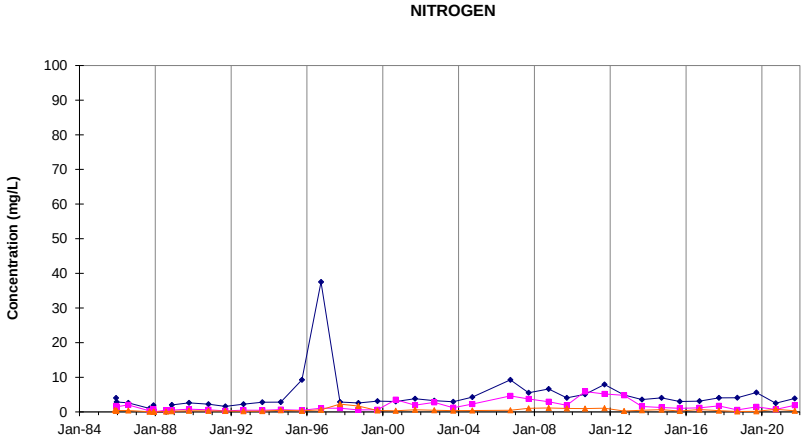
# FIGURE C-7

## TIME CONCENTRATION GRAPHS - Borehole 23



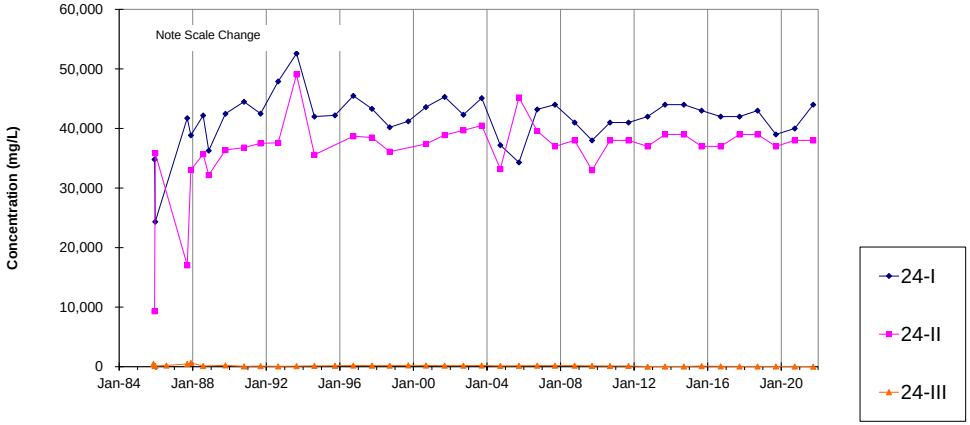



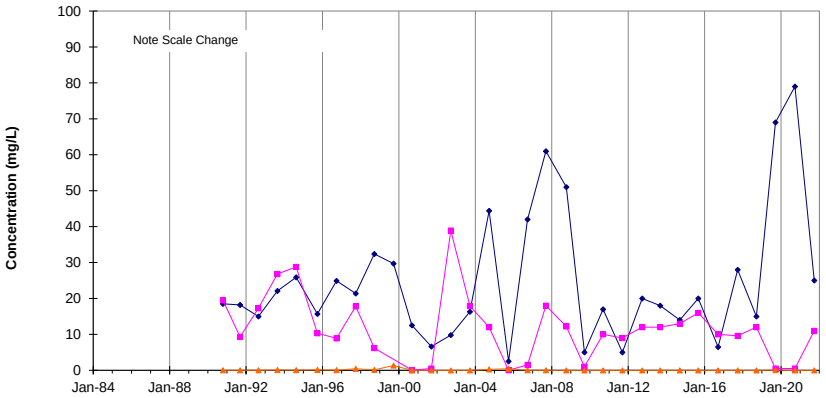
# FIGURE C-8

## TIME CONCENTRATION GRAPHS - Borehole 24

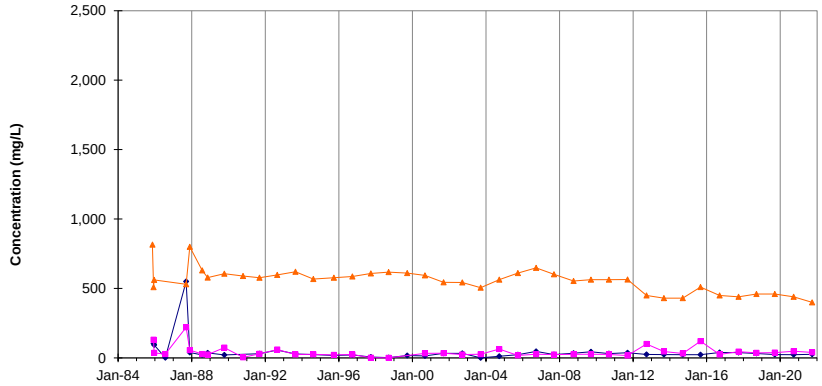
### CHLORIDE



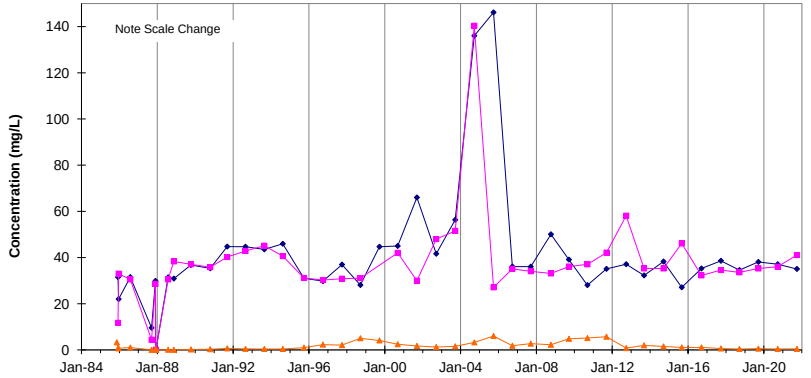

### IRON




### ALKALINITY



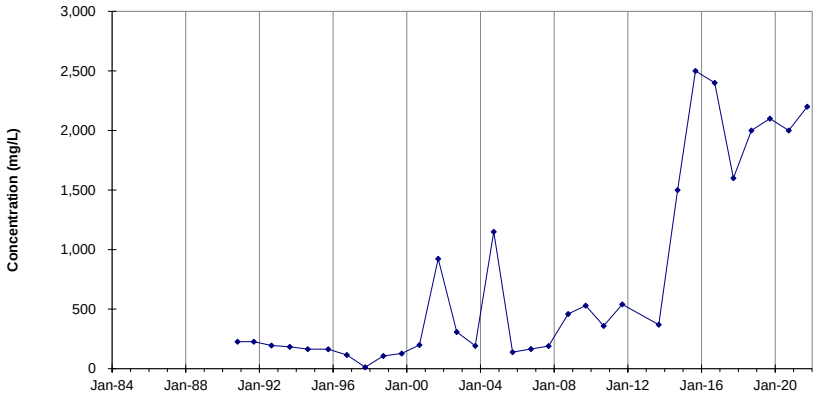

### NITROGEN



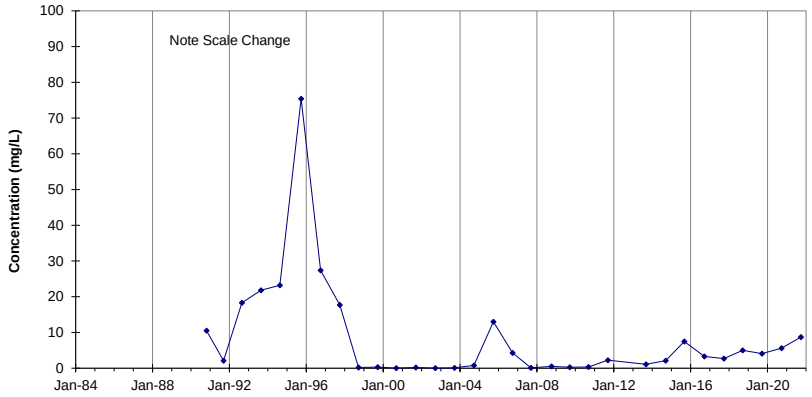
# FIGURE C-9

## TIME CONCENTRATION GRAPHS - Monitor 25-I

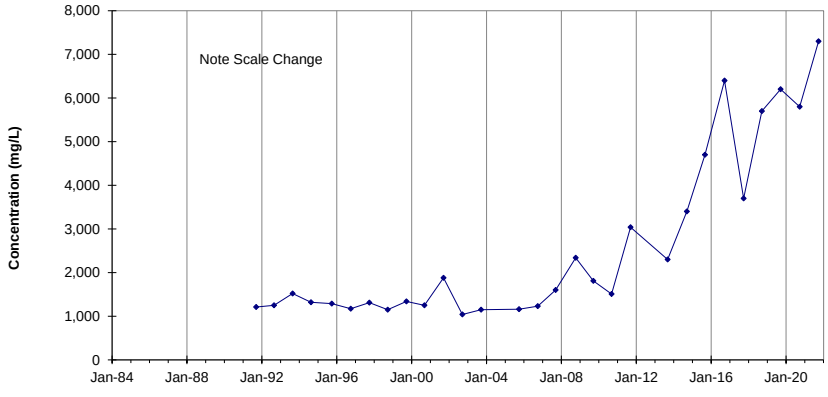
### CHLORIDE



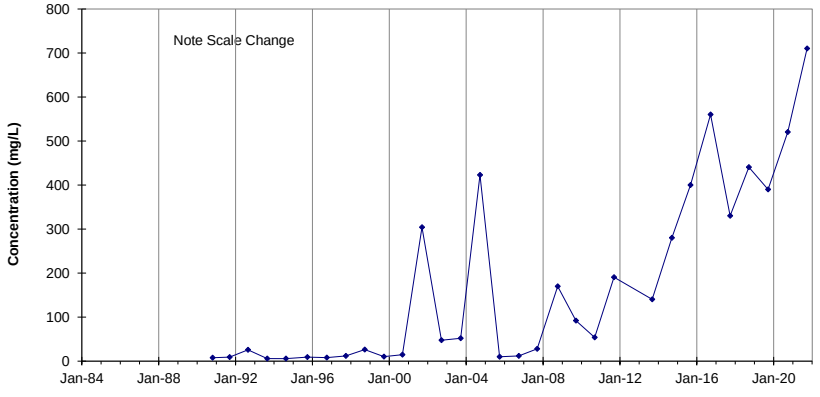

### IRON




### ALKALINITY

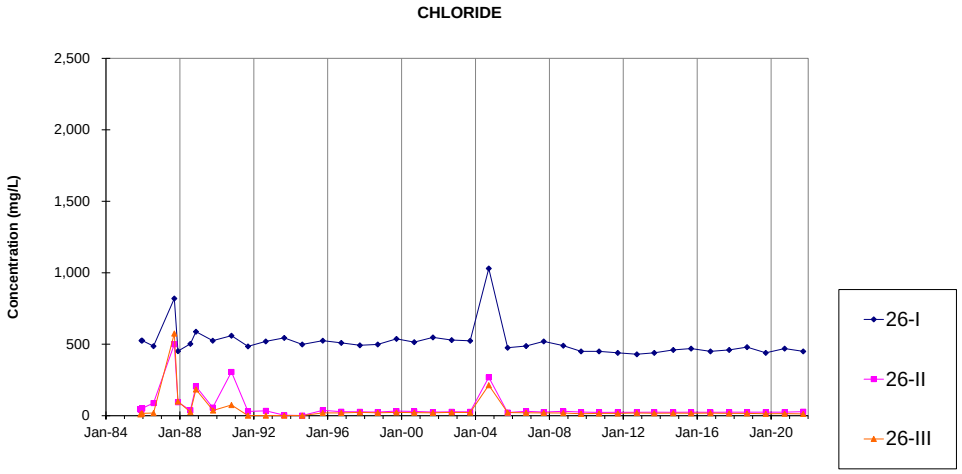


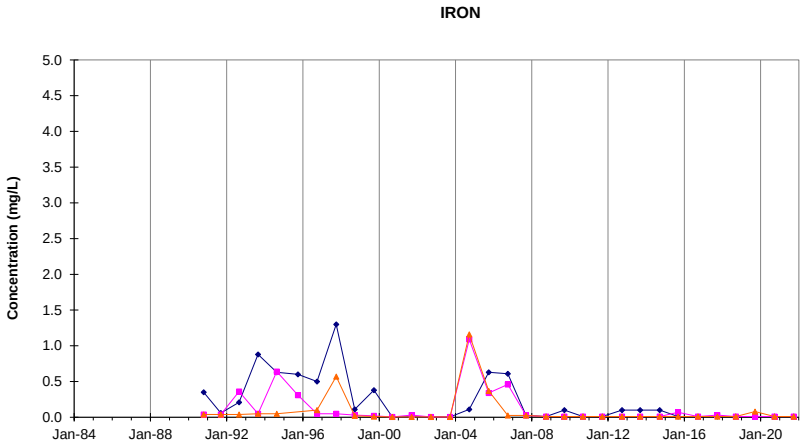

### NITROGEN

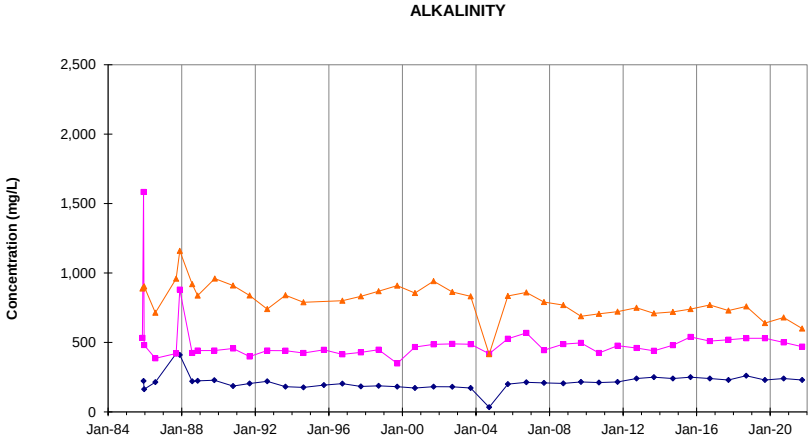


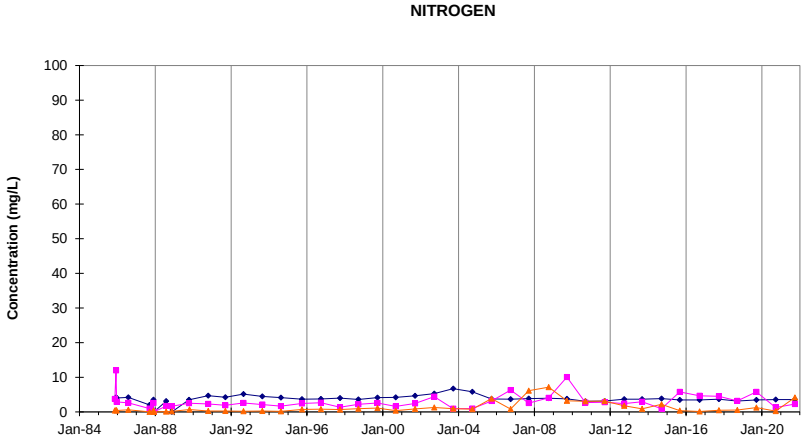
# FIGURE C-10

## TIME CONCENTRATION GRAPHS - Borehole 26



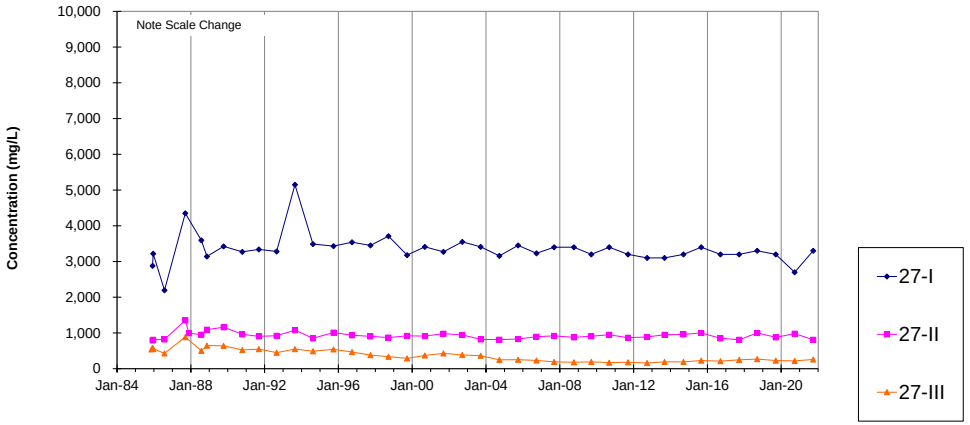



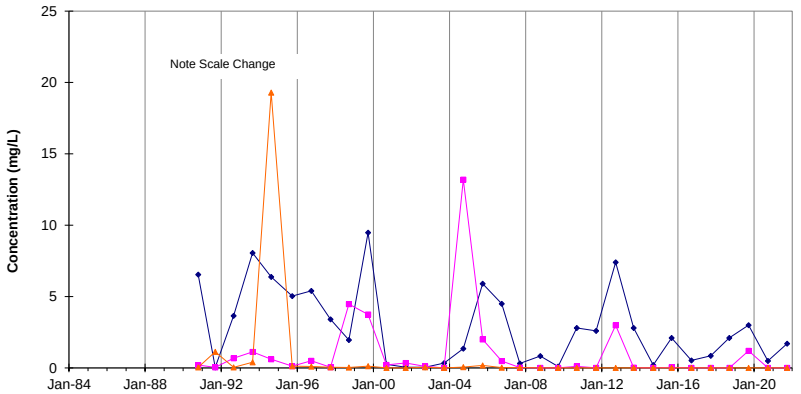
# FIGURE C-11

## TIME CONCENTRATION GRAPHS - Borehole 27

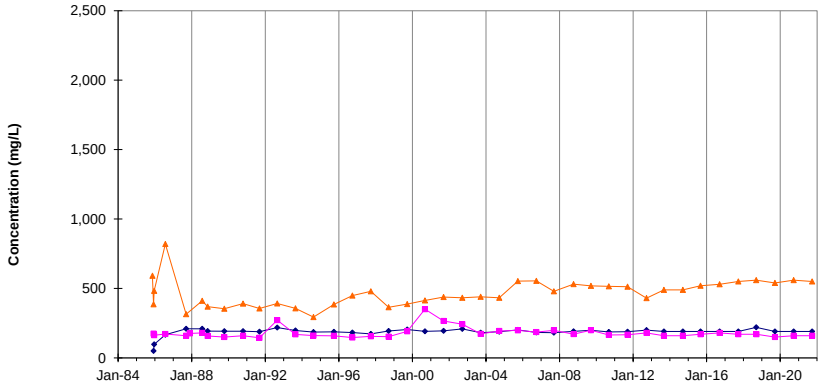
### CHLORIDE



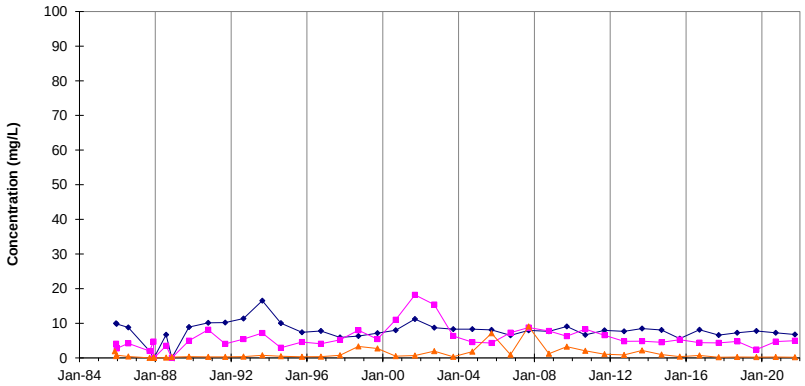

### IRON




### ALKALINITY

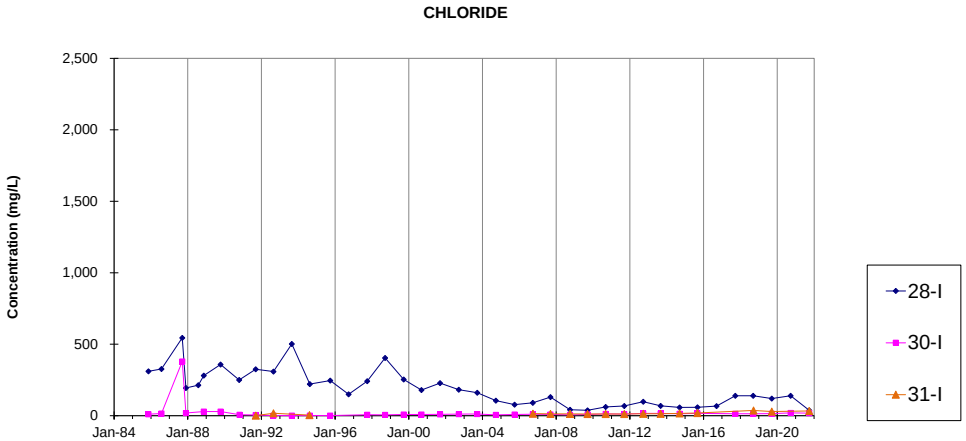


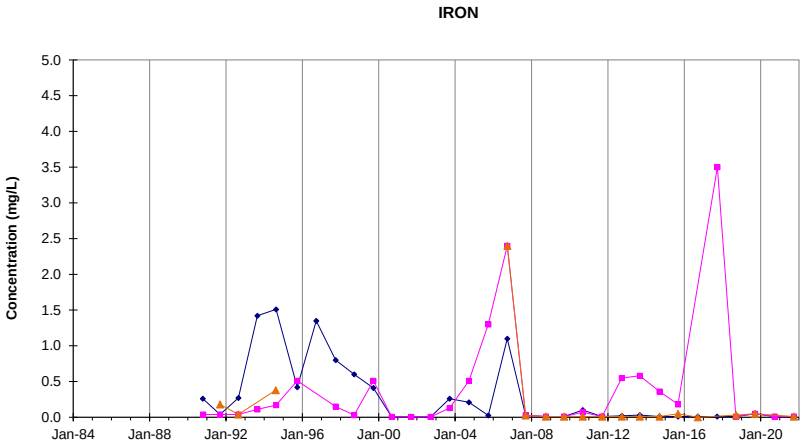

### NITROGEN

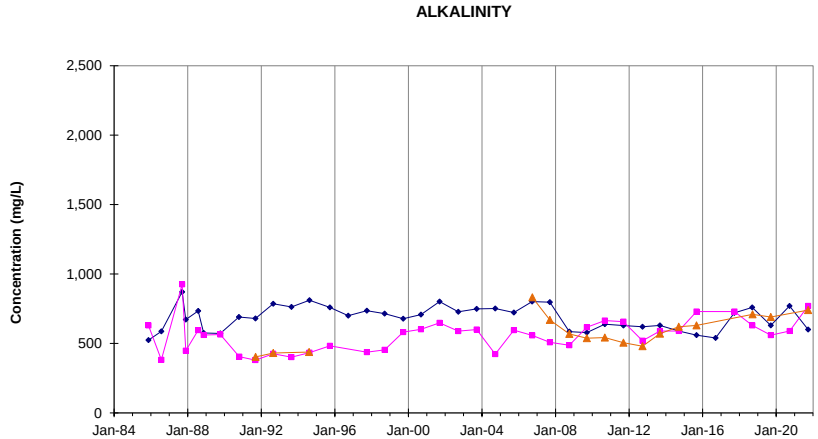


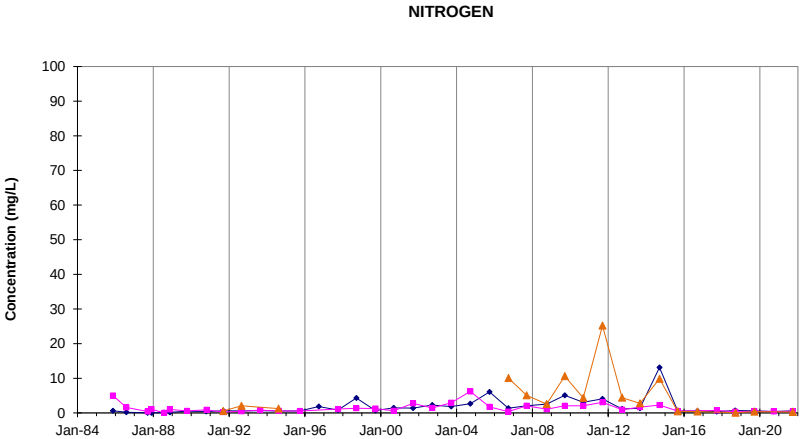
# FIGURE C-12

## TIME CONCENTRATION GRAPHS - Boreholes 28, 30, & 31



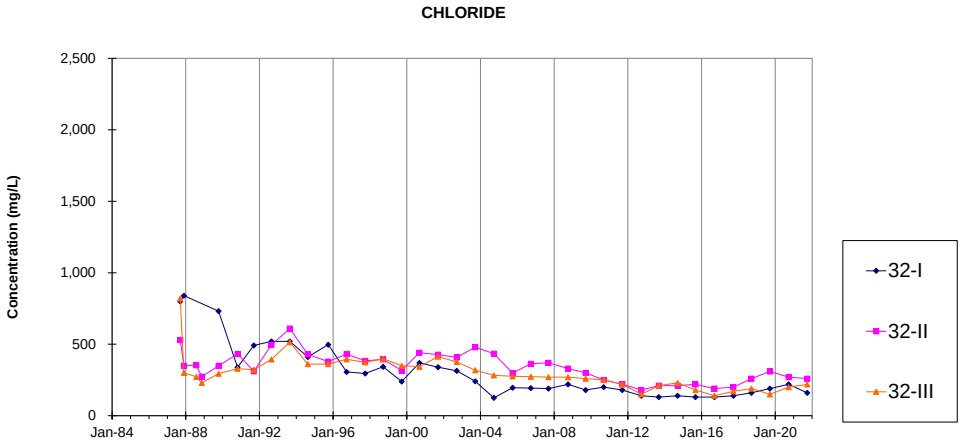



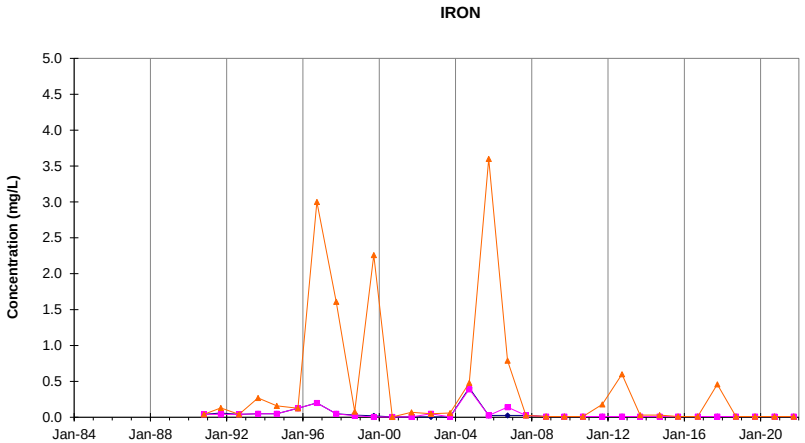



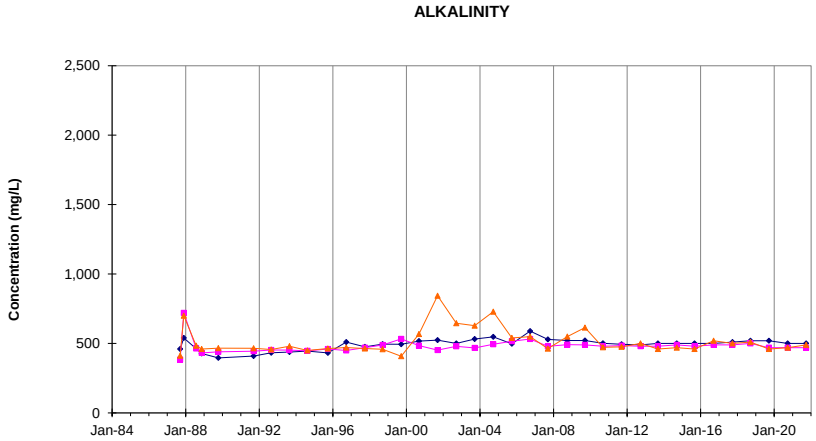



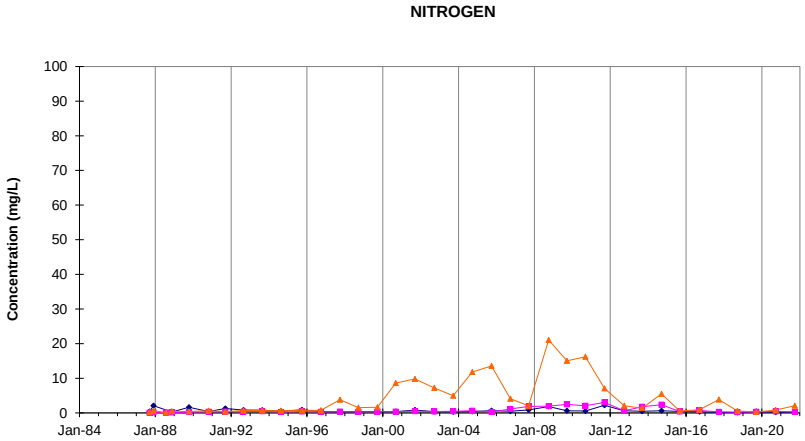
# FIGURE C-13

## TIME CONCENTRATION GRAPHS - Borehole 32



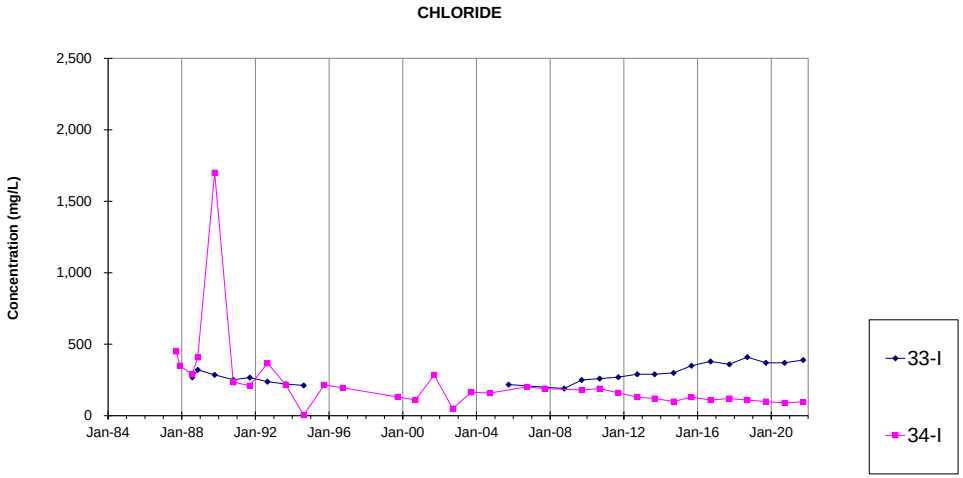



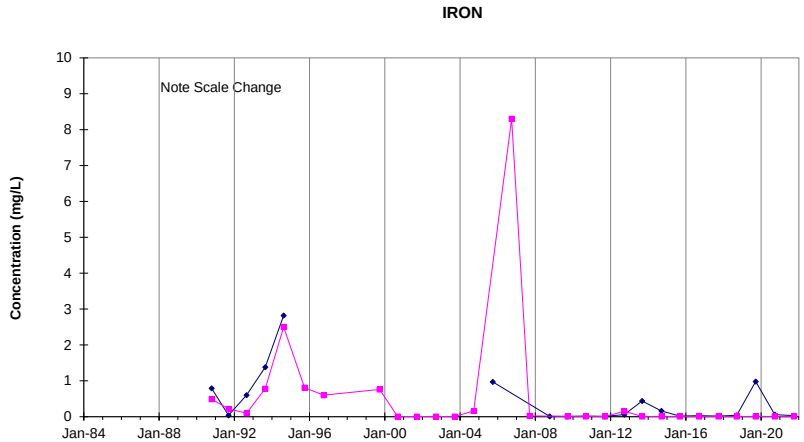



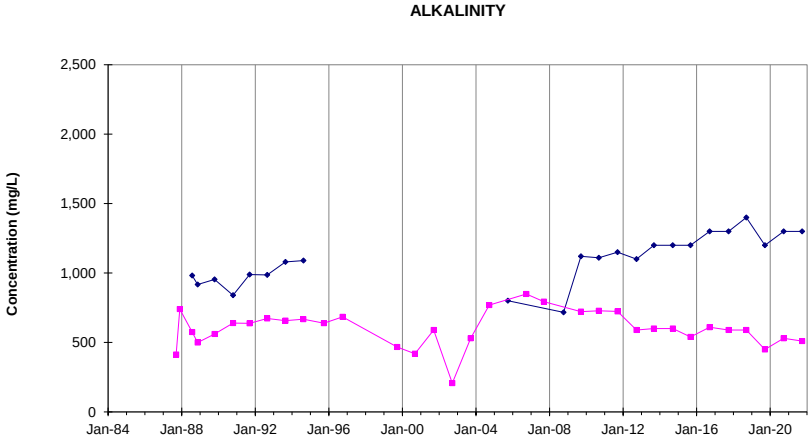



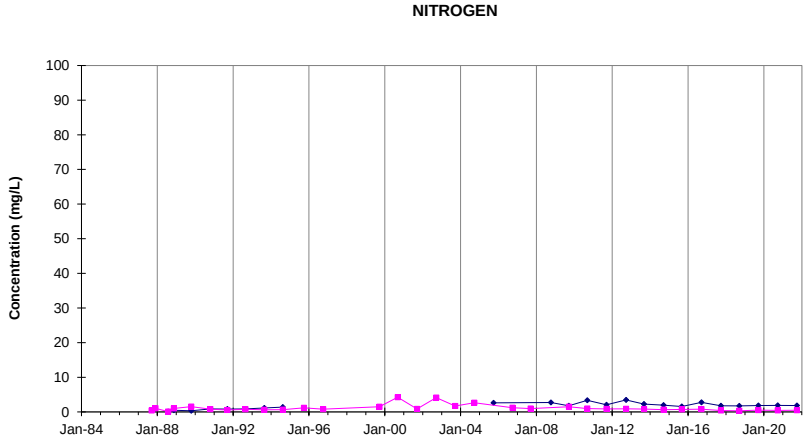
# FIGURE C-14

## TIME CONCENTRATION GRAPHS - Boreholes 33 & 34



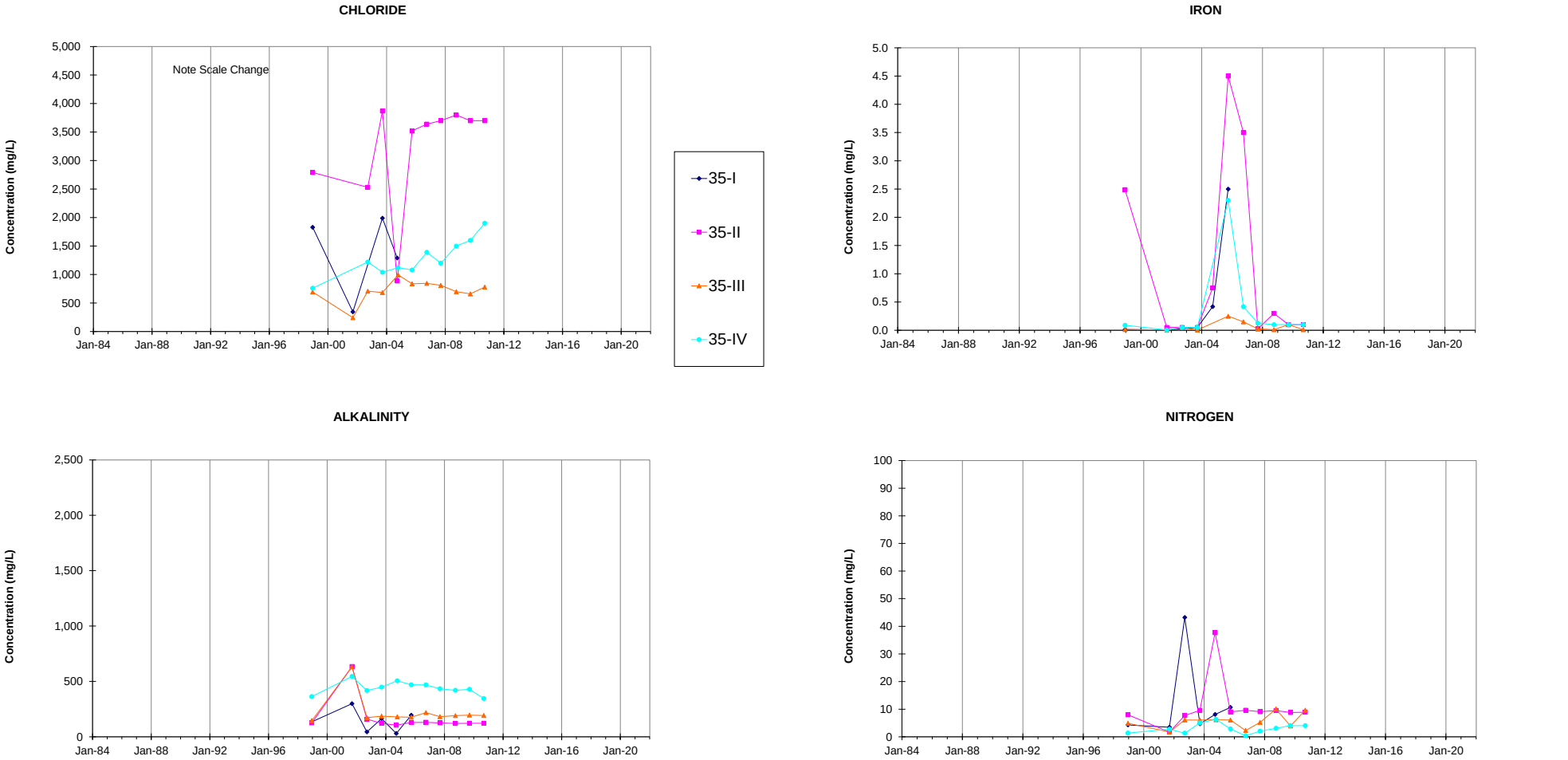



# FIGURE C-15

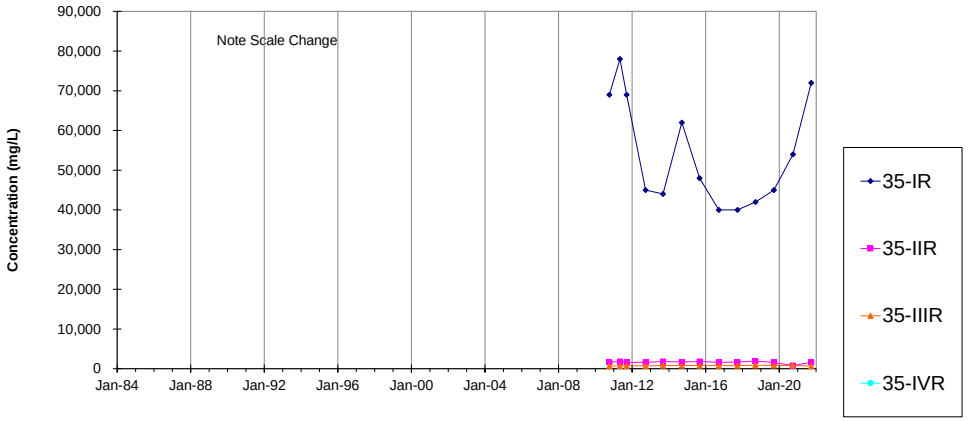
## TIME CONCENTRATION GRAPHS - Borehole 35



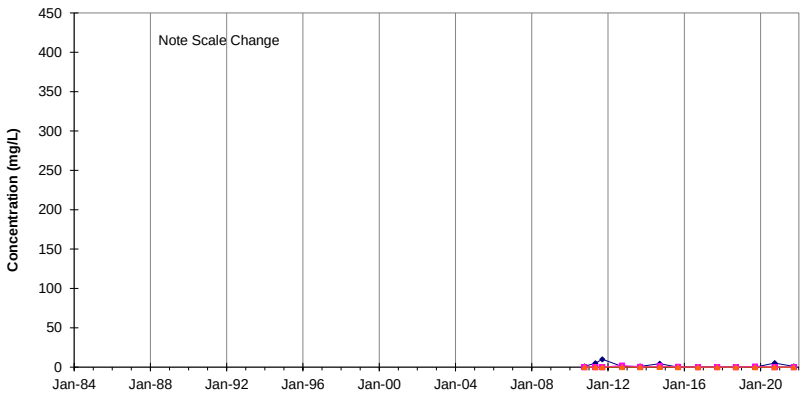
# FIGURE C-16

## TIME CONCENTRATION GRAPHS - Borehole 35R

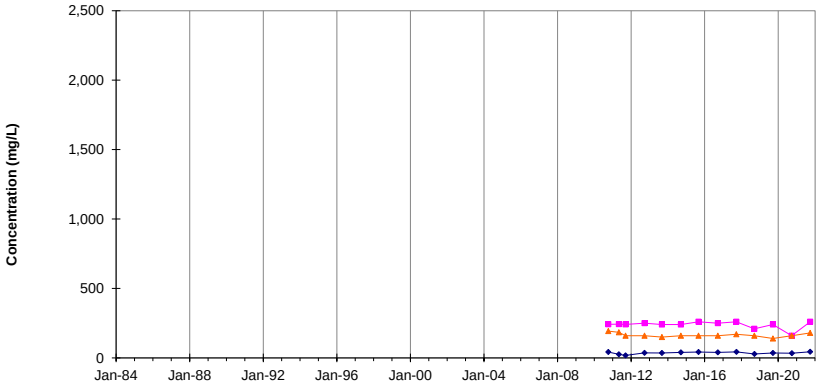
### CHLORIDE



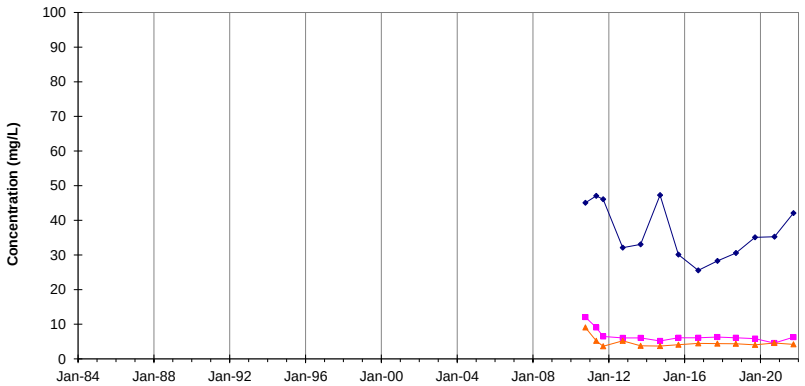

### IRON




### ALKALINITY

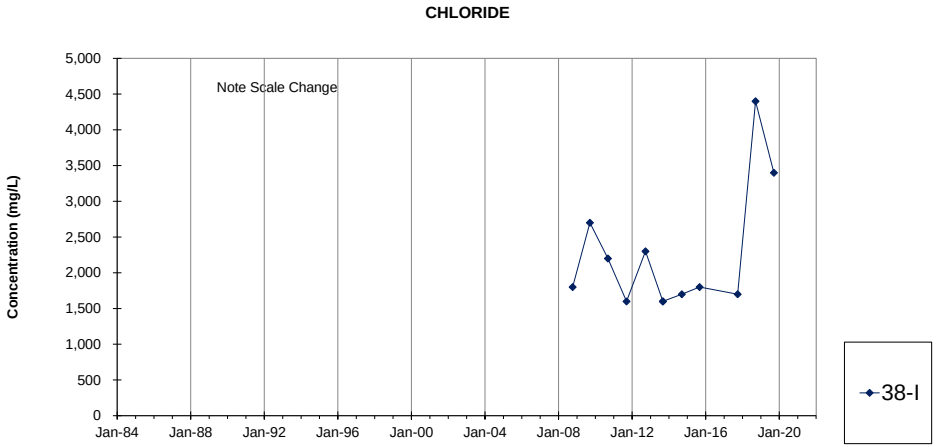


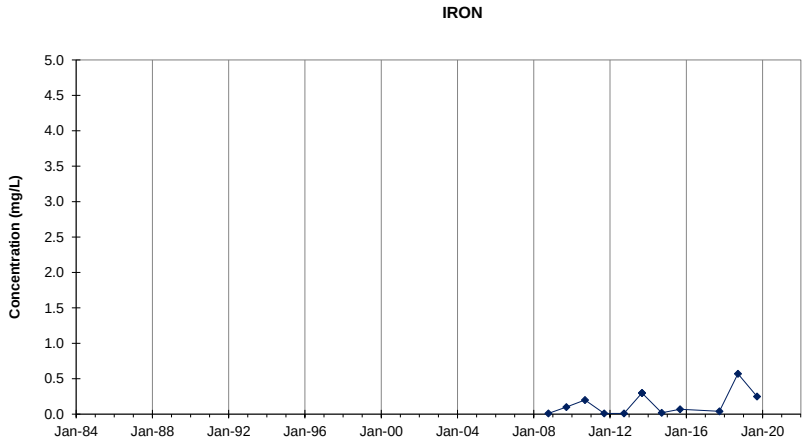

### NITROGEN

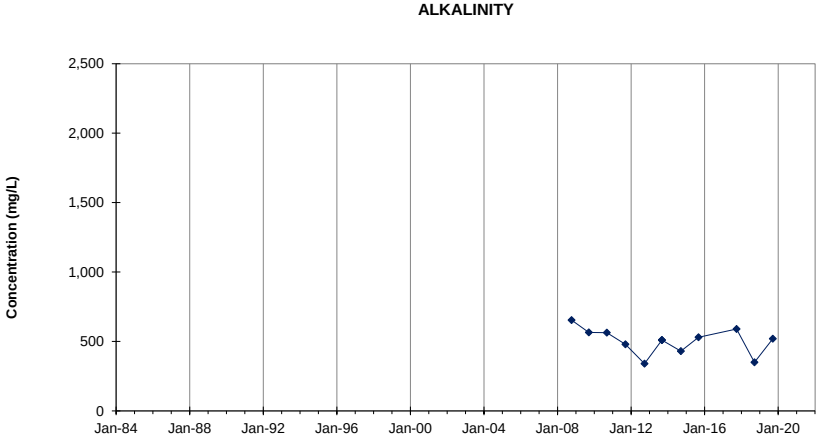


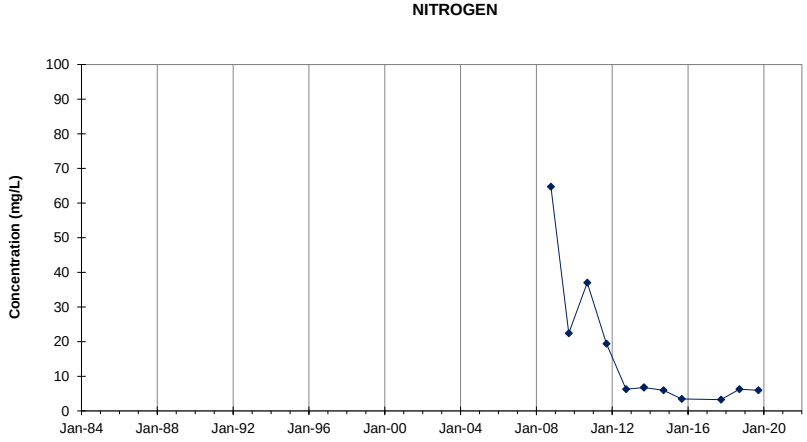
# FIGURE C-17

## TIME CONCENTRATION GRAPHS - Borehole 38



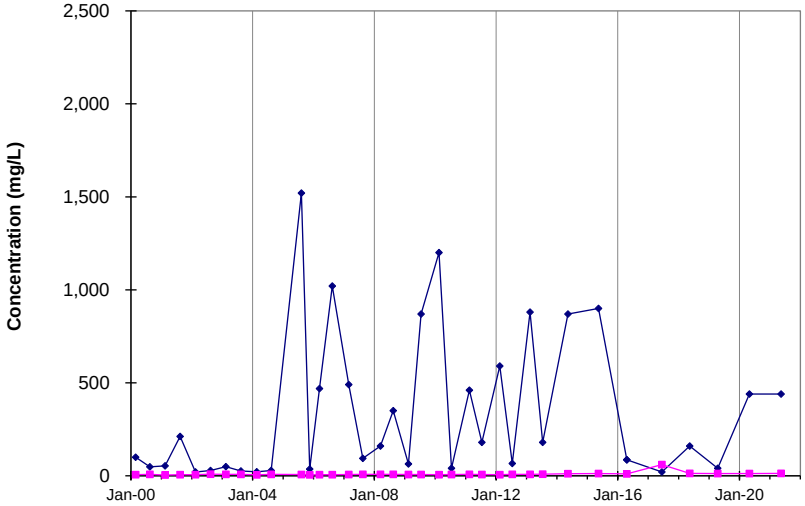



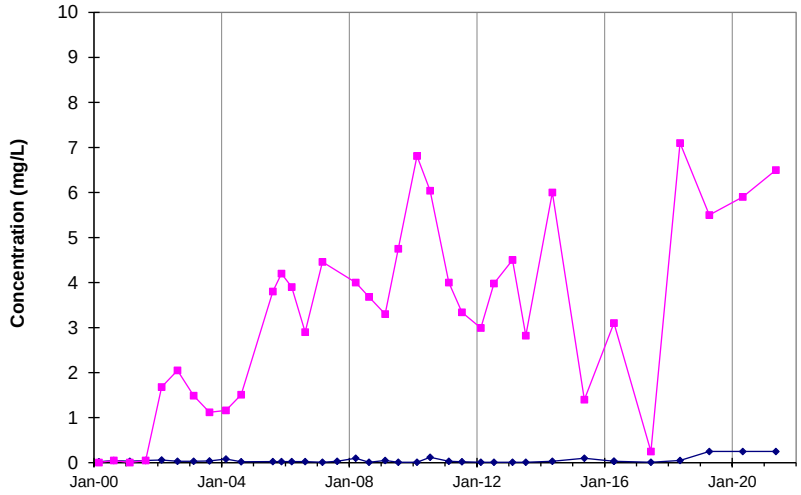
# FIGURE C-18

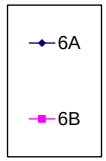
## TIME CONCENTRATION GRAPHS - Meridian Brick : Borehole MW6

### CHLORIDE

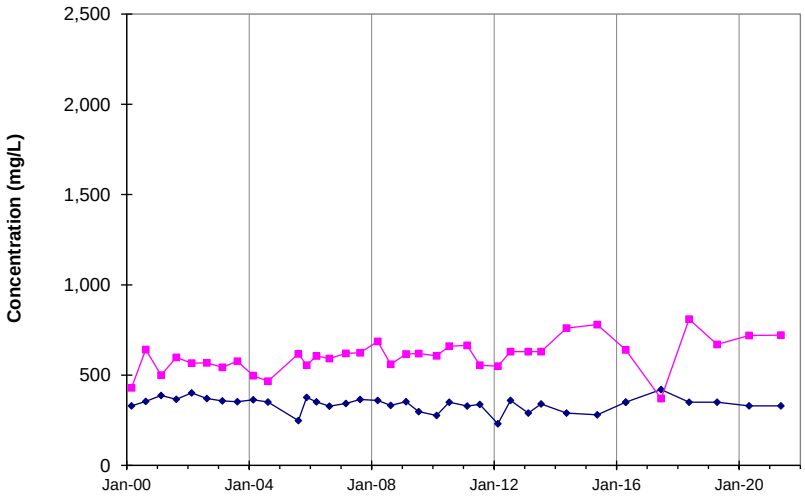



### IRON

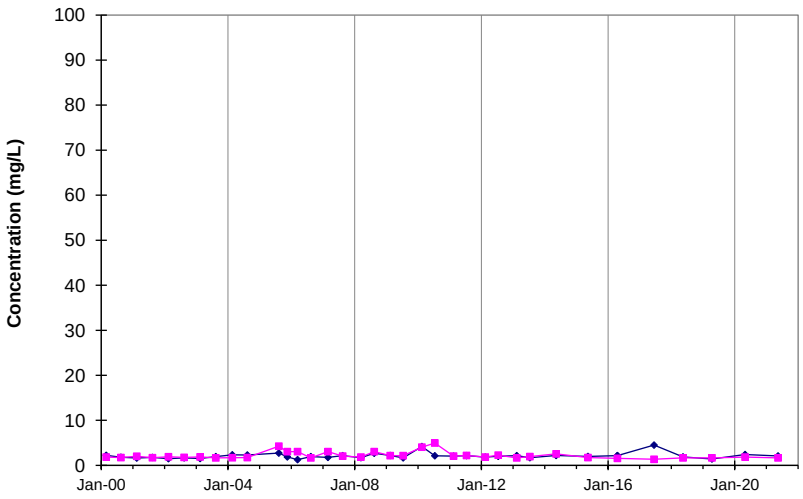



### ALKALINITY



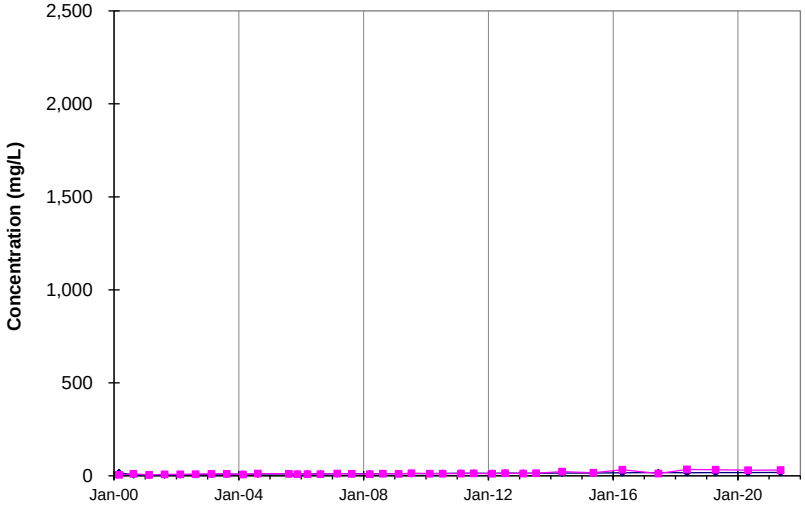

### NITROGEN



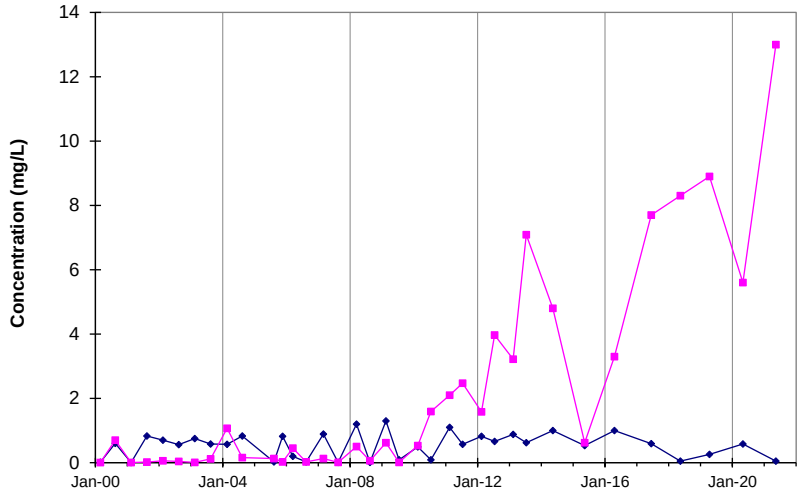
# FIGURE C-19

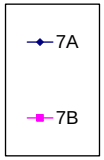
## TIME CONCENTRATION GRAPHS - Meridian Brick : Borehole MW7

### CHLORIDE

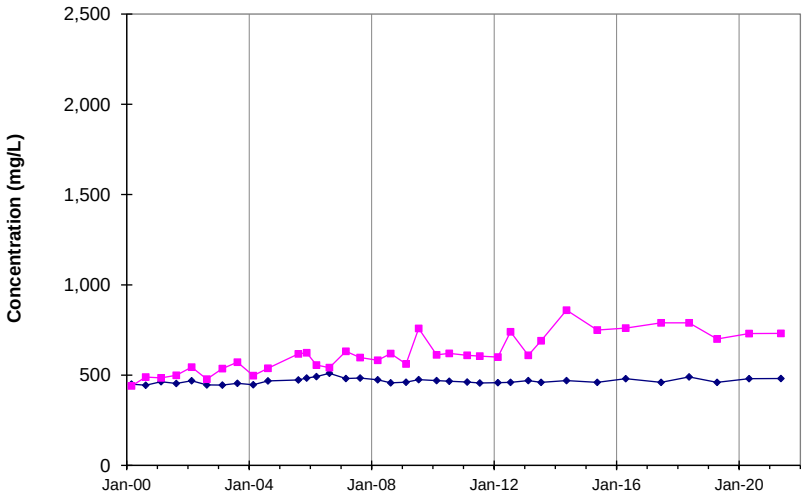



### IRON

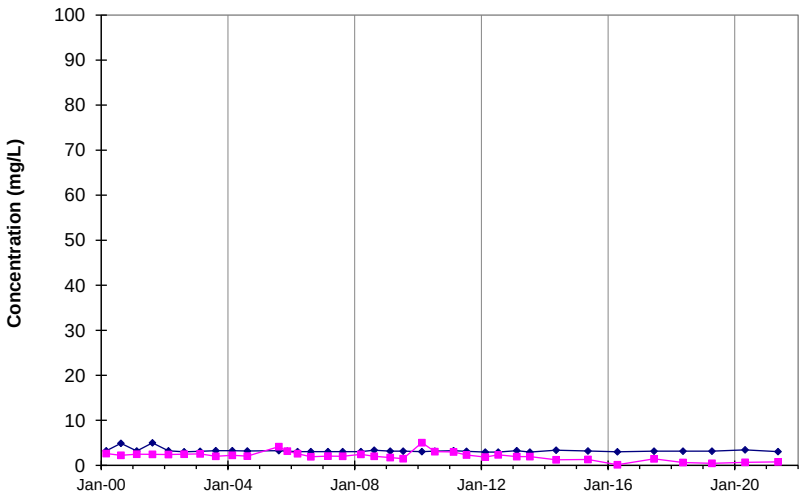



### ALKALINITY



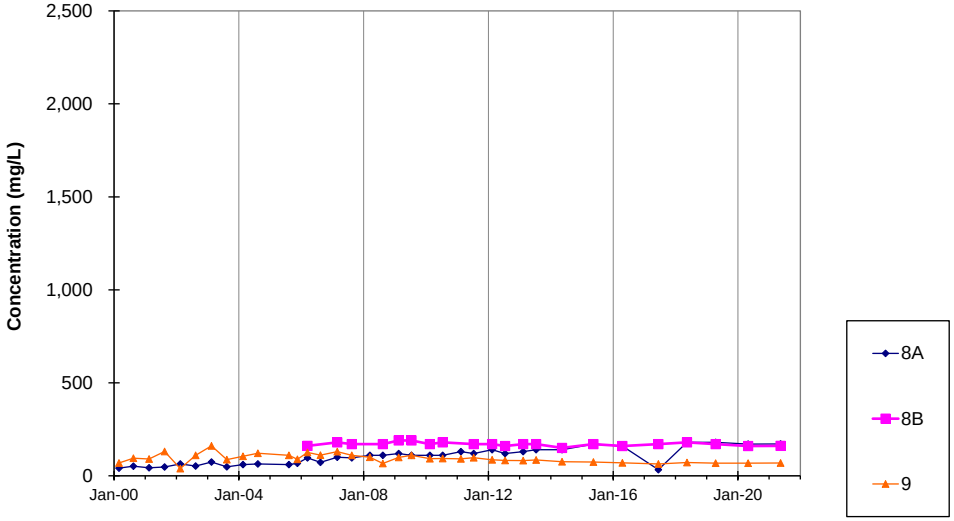

### NITROGEN



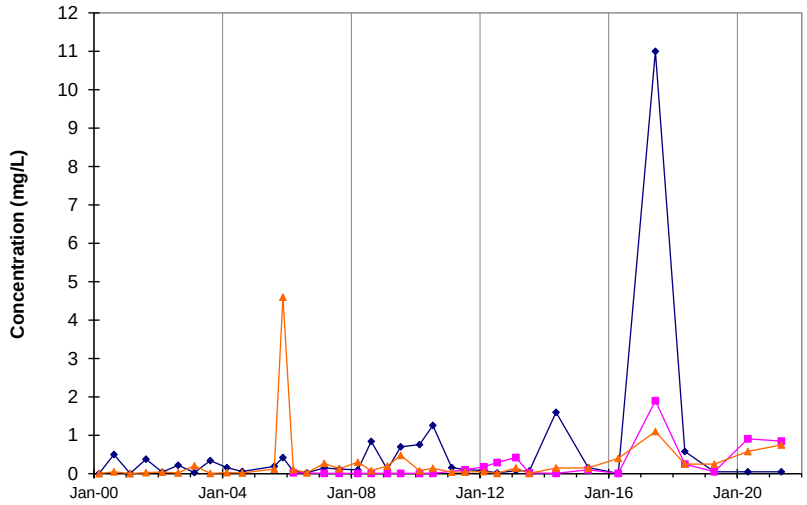
# FIGURE C-20

## TIME CONCENTRATION GRAPHS - Meridian Brick : Borehole MW8 & MW9

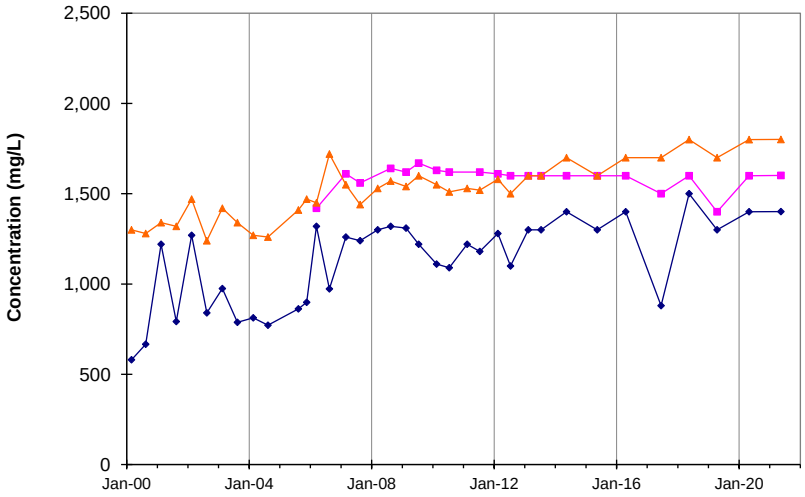
### CHLORIDE



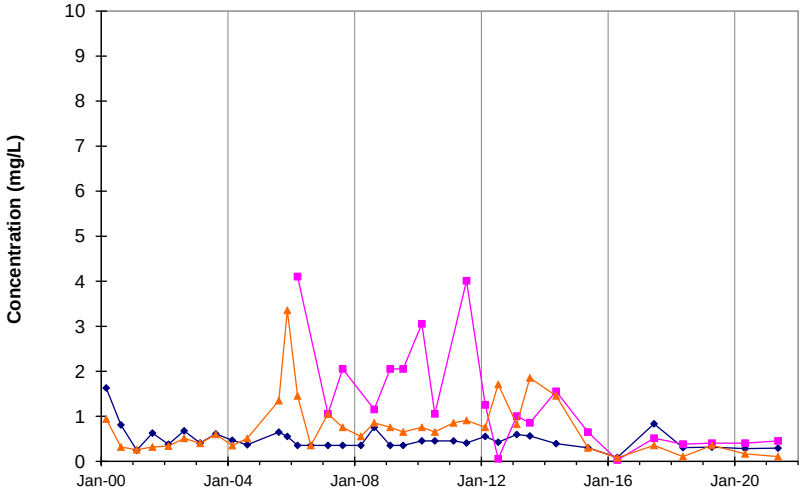

### IRON




### ALKALINITY



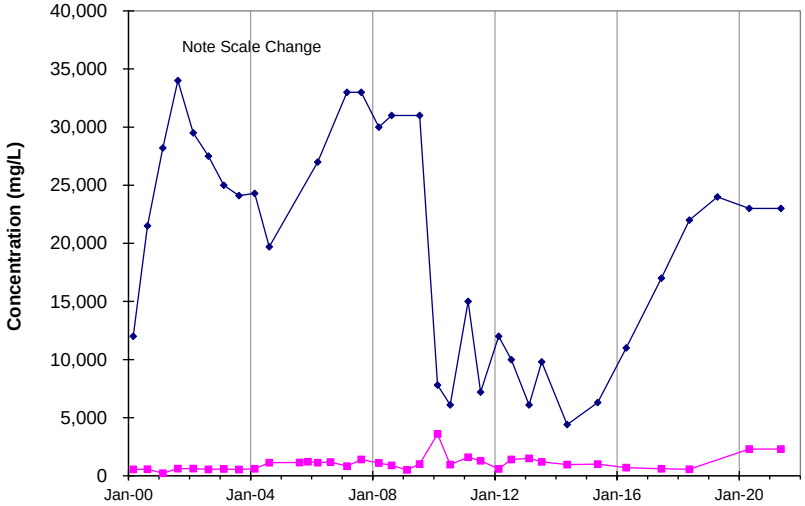

### NITROGEN



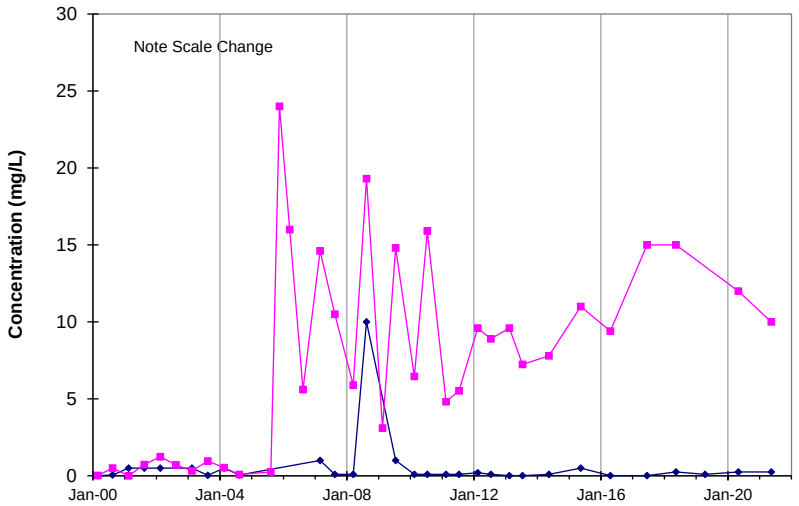
# FIGURE C-21

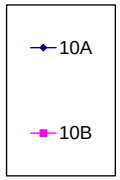
## TIME CONCENTRATION GRAPHS - Meridian Brick : Borehole MW10

### CHLORIDE

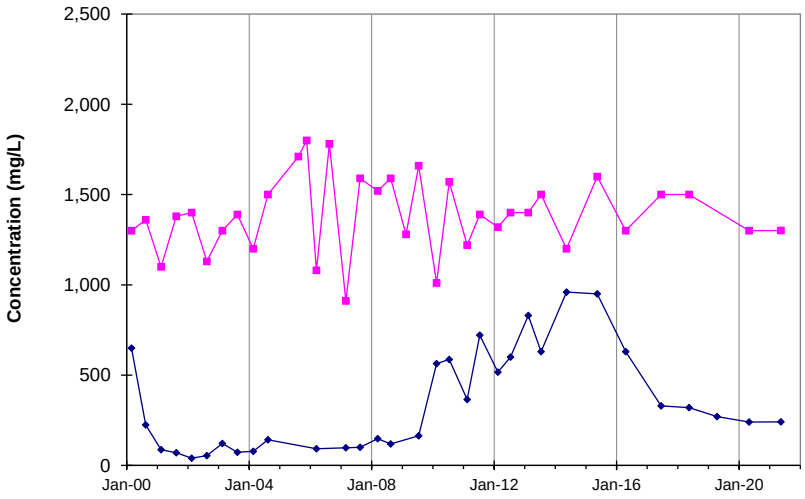



### IRON

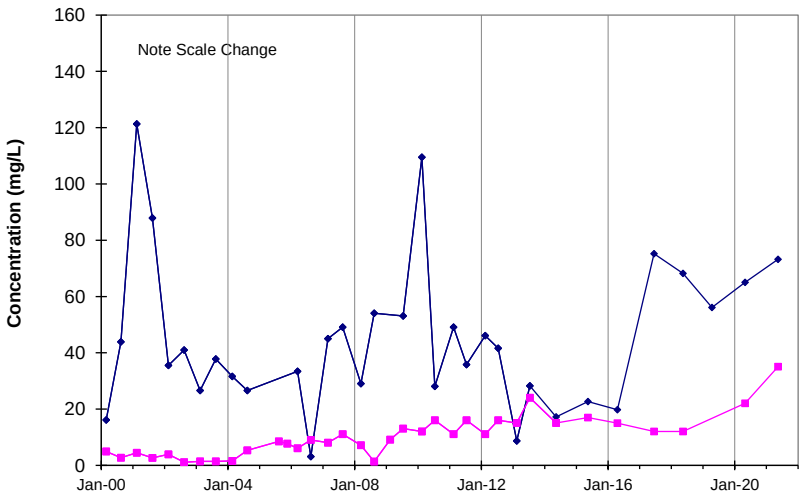



### ALKALINITY



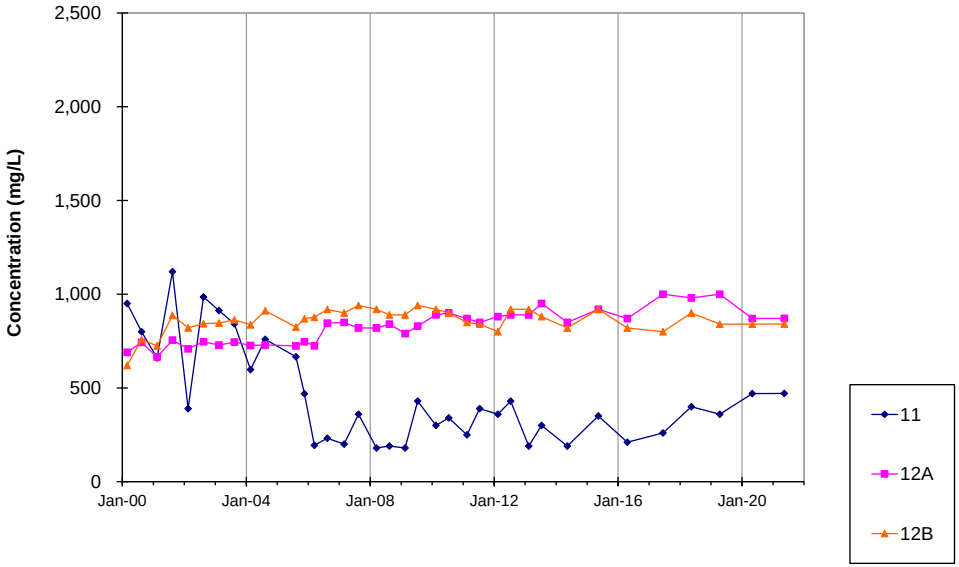

### NITROGEN



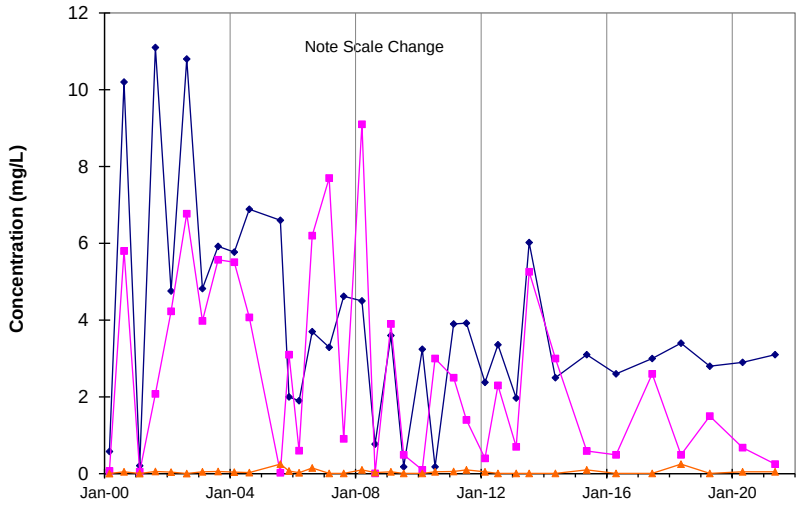
# FIGURE C-22

## TIME CONCENTRATION GRAPHS - Meridian Brick : Borehole MW11 & 12

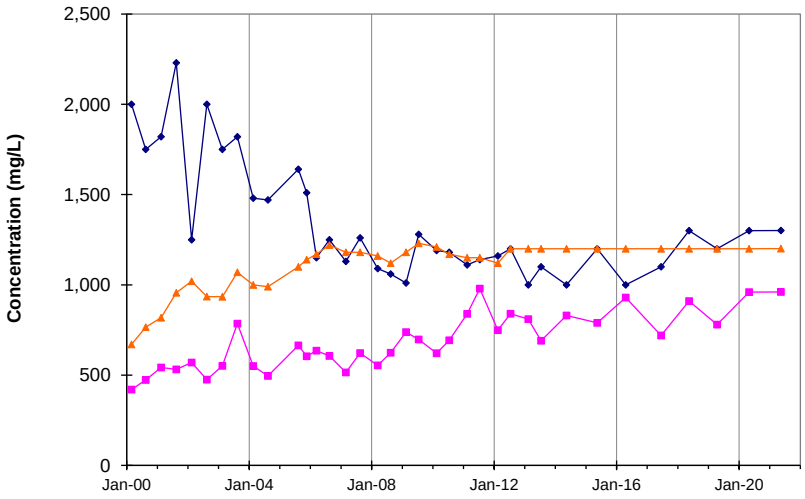
### CHLORIDE




### IRON




### ALKALINITY




### NITROGEN

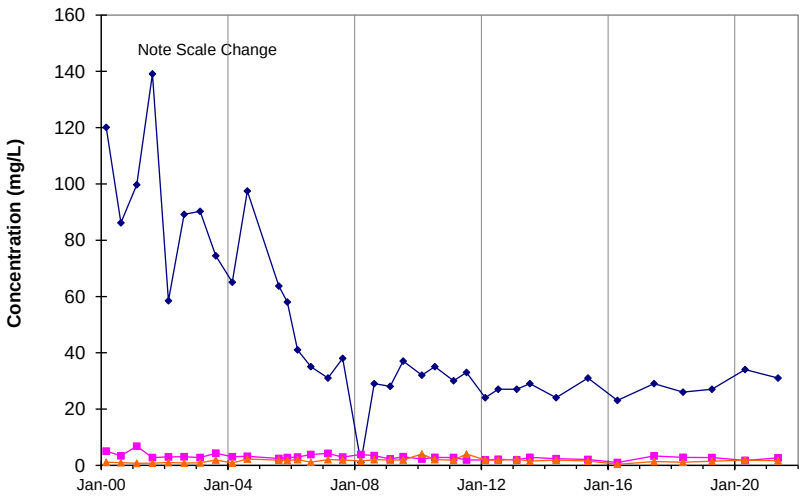


**TABLE C-1**
**GROUNDWATER FIELD CHEMICAL RESULTS - September 2021**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| LOCATION | TEMPERATURE (°C) | pH (as units) | CONDUCTIVITY (µS/cm) |
|---|---|---|---|
| **14-I** | 14.6 | 7.2 | >3,999 |
| **14-II** | 14.6 | 7.2 | 2,168 |
| **15-I** | 12.2 | 7.3 | >3,999 |
| **15-II** | 14.1 | 7.6 | 1,353 |
| **16-I** | 17.5 | 6.9 | >3,999 |
| **16-II** | 16.8 | 7.2 | >3,999 |
| **16-III** | 13.2 | 6.9 | >3,999 |
| **16-IV** | 14.7 | 7.4 | >3,999 |
| **18-IR** | 14.6 | 7.5 | 1,105 |
| **18-IIR** | 11.7 | 7.9 | 1,563 |
| **18-IIIR** | 14.7 | 7.6 | 1,102 |
| **21-IR** | 12.8 | 7.9 | 3,586 |
| **21-IIR** | 13.1 | 7.8 | >3,999 |
| **21-IIIR** | 12.7 | 7.5 | 2,204 |
| **22-IR** | 12.5 | 7.8 | 1,901 |
| **22-IIR** | 11.6 | 7.7 | 1,480 |
| **22-IIIR** | 13.0 | 7.7 | 1,114 |
| **23-I** | 12.0 | 7.6 | 2,941 |
| **23-II** | 11.9 | 7.7 | 1,475 |
| **23-III** | 13.0 | 7.5 | 728 |
| **24-I** | 12.5 | 6.7 | >3,999 |
| **24-II** | 11.8 | 6.8 | >3,999 |
| **24-III** | 12.8 | 7.9 | 1,010 |
| **25-I** | 18.0 | 6.4 | >3,999 |
| **26-I** | 11.0 | 8.1 | 3,424 |
| **26-II** | 11.1 | 7.8 | 1,506 |
| **26-III** | 12.9 | 8.0 | 1,890 |
| **27-I** | 11.3 | 7.2 | >3,999 |
| **27-II** | 11.8 | 7.7 | 3,535 |
| **27-III** | 13.0 | 7.3 | 1,870 |
| **28-I** | 13.5 | 7.3 | 1,788 |
| **29-I** | 14.1 | 7.1 | 1,354 |
| **30-I** | 14.1 | 7.1 | 1,354 |
| **31-I** | 14.4 | 7.1 | 1,326 |
| **32-I** | 11.5 | 7.4 | 2,065 |
| **32-II** | 12.6 | 7.5 | 2,296 |
| **32-III** | 14.2 | 7.8 | 2,134 |
| **33-I** | 14.1 | 7.0 | 3,150 |
| **34-I** | 15.3 | 7.5 | 1,690 |
| **35-IR** | 11.9 | 6.9 | >3,999 |
| **35-IIR** | 11.5 | 7.5 | >3,999 |
| **35-IIIR** | 11.3 | 7.5 | 3,335 |
| **35-IVR** | 13.3 | 7.7 | 3,545 |
| **36-I** | 20.1 | 6.9 | 1,080 |
| **37-I** | 24.1 | 6.8 | >3,999 |
| **38-I** | - | - | - |
| **39-I** | 22.6 | 6.9 | >3,999 |

NOTES: 1) "-" - Indicates monitor was blocked or inaccessible - no sample obtained.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **14-I** | Nov-85 | 7.16 | 7250 | 1585 | | 114 | 2000 | 4.70 | <0.05 | 4.70 | | | 2.8 | 2.9 | | | |
| | Jul-86 | 8.07 | 7200 | 1612 | | 115 | 1057 | 4.60 | 2.80 | 1.80 | | | 2.6 | 1.9 | | | |
| | Sep-87 | 7.40 | 5280 | 2110 | | 224 | 2287 | 2.00 | | | | | 2.0 | 2.0 | | | |
| | Nov-87 | 7.39 | 5000 | 1510 | | 340 | 2061 | 4.70 | 3.45 | 1.25 | | | 1.3 | 5.0 | | | |
| | Jul-88 | 7.29 | 4880 | 1517 | | 131 | 2044 | 3.60 | 4.19 | <0.05 | | | | | | | |
| | Nov-88 | | 4400 | 1524 | | 117 | 1970 | | | | | | <0.5 | 1.0 | | | |
| | Oct-89 | 7.40 | 7050 | 1733 | | 141 | 1705 | 5.40 | 4.50 | 0.90 | | | <2.0 | 3.0 | | 880 | |
| | Oct-90 | | 5950 | 1650 | | 133 | | 4.62 | 4.48 | 0.14 | <0.2 | <0.02 | 2.0 | | | 771 | 1.18 |
| | Sep-91 | 7.20 | 7010 | 1660 | | 122 | 2200 | 4.98 | 1.14 | 3.84 | 0.10 | <0.01 | <2.0 | 2.3 | | 860 | <0.08 |
| | Aug-92 | 7.33 | 6490 | 1530 | | 110 | 2100 | 6.11 | 5.85 | 0.26 | <0.1 | <0.01 | <2.0 | <0.5 | | 760 | 1.53 |
| | Aug-93 | 7.43 | 6780 | 1560 | | 136 | 1900 | 5.48 | 3.79 | 1.69 | 0.04 | <0.01 | 3.7 | <0.3 | | 792 | 2.62 |
| | Aug-94 | 7.43 | 6540 | 1370 | | 124 | 400 | 5.40 | 2.93 | 2.47 | <0.02 | 0.06 | 3.0 | 1.0 | | 890 | 1.12 |
| | Sep-95 | 7.33 | 6650 | 1910 | 1740 | 152 | 2300 | 3.70 | 3.09 | 0.61 | 0.09 | <0.01 | <2.0 | 2.8 | | 812 | 1.19 |
| | Oct-96 | 7.22 | 5540 | 1290 | 1400 | 137 | 1710 | 1.69 | 1.56 | 0.13 | 3.50 | <2.0 | <0.5 | 0.7 | | 763 | <0.1 |
| | Sep-98 | 7.26 | 5896 | 1370 | 1350 | 144 | 1680 | 1.22 | 0.72 | 0.50 | 0.40 | <0.2 | <1.0 | 6.2 | 52 | 728 | 0.04 |
| | Sep-99 | 7.47 | 2155 * | 568 * | 143 * | 122 | 625 | 2.43 | 2.16 | 0.27 | 0.20 | <0.2 | <1.0 | 5.8 | 21 | 212 * | 1.25 |
| | Sep-00 | 7.85 | 5387 | 1200 | 1290 | 177 | 1680 | 3.01 | 2.80 | 0.21 | 1.90 | <0.2 | <1.0 | 7.8 | 57 | 715 | <0.01 |
| | Sep-01 | | 2430 * | 64 * | 653 * | 925 * | 1370 | 4.05 | 2.08 | 1.97 | <0.2 | <0.2 | <1.0 | 1.3 | 4 | 126 * | <0.01 |
| | Sep-02 | 7.16 | 6450 | 1400 | 1630 | 129 | 1750 | 1.14 | 1.04 | 0.10 | 1.30 | <2.0 | <1.0 | <0.5 | 50 | 761 | <0.01 |
| | Sep-03 | 7.60 | 6490 | 1360 | 1590 | 122 | 1872 | 4.05 | 3.85 | 0.20 | <0.2 | <2.0 | <1.0 | 0.7 | 51 | 815 | <0.01 |
| | Sep-04 | 7.88 | 6060 | 1160 | | 139 | 1660 | 4.40 | 4.03 | 0.37 | <10 | <0.1 | <1.0 | 12.0 | 57 | 940 | 2.51 |
| | Sep-05 | 7.83 | 5470 | 1350 | 1740 | 124 | 2020 | 4.40 | 2.16 | 2.24 | 1.30 | <3 | <1 | 2.0 | 56 | 900 | 1.30 |
| | Sep-06 | 7.70 | 6420 | 1380 | 1580 | 129 | 1900 | 1.20 | 1.24 | <0.05 | 2.00 | 0.13 | 1.0 | <2.0 | 55 | 810 | 0.35 |
| | Sep-07 | 7.60 | 6460 | 1300 | 1530 | 134 | 2000 | 1.30 | 0.45 | 0.85 | 1.90 | 0.06 | <1 | <2.0 | 54 | 840 | <0.10 |
| | Oct-08 | 7.80 | 6480 | 1300 | 1530 | 127 | 1800 | 5.00 | 1.30 | 3.70 | 1.60 | 0.10 | <1 | <2.0 | 46 | 739 | <0.02 |
| | Sep-09 | 7.40 | 6650 | 1300 | 1600 | 126 | 1900 | 0.90 | 0.59 | 0.31 | 1.70 | 0.30 | <1 | 4.0 | 47 | 773 | <0.2 |
| | Sep-10 | 7.60 | 6800 | 1400 | 1600 | 119 | 1800 | 3.00 | 1.80 | 1.20 | 2.00 | 1.10 | <1 | 3.0 | 47 | 730 | <0.2 |
| | Sep-11 | 7.49 | 6680 | 1400 | 1500 | 118 | 1700 | 3.00 | 2.00 | 1.00 | 1.80 | 0.31 | <1 | <2.0 | 49 | 771 | <0.02 |
| | Sep-12 | 7.18 | 6700 | 1300 | 1400 | 120 | 1700 | 3.80 | 2.20 | 1.60 | 1.00 | 0.05 | <1 | <2.0 | 52 | 807 | 0.46 |
| | Sep-13 | 7.63 | 6800 | 1300 | 1500 | 120 | 1900 | 1.70 | 1.20 | 0.50 | 1.70 | 0.12 | <1 | <2.0 | 50 | 790 | <0.2 |
| | Sep-14 | 7.75 | 6800 | 1400 | 1600 | 130 | 2000 | 2.00 | 1.40 | 0.60 | 1.08 | 0.07 | <1 | <1.0 | 53 | 850 | 0.30 |
| | Sep-15 | 7.44 | 6900 | 1500 | 1600 | 130 | 2000 | 3.60 | 2.30 | 1.30 | 1.37 | 0.05 | <1 | <2.0 | 58 | 810 | 0.29 |
| | Sep-16 | 7.56 | 6900 | 1400 | 1600 | 120 | 2000 | 3.80 | 3.10 | 0.70 | 0.95 | 0.28 | <1 | 11.0 | 62 | 820 | <0.02 |
| | Sep-17 | 7.55 | 7200 | 1500 | 1600 | 120 | 1900 | 4.60 | 4.40 | 0.20 | 0.37 | 0.73 | <10 | <2 | 52 | 810 | <0.2 |
| | Sep-18 | 7.44 | 6900 | 1500 | 1600 | 130 | 1900 | 4.80 | 4.90 | <0.05 | <0.1 | 0.08 | <1 | <2 | 56 | 820 | <0.02 |
| | Sep-19 | 7.60 | 6900 | 1400 | 1500 | 110 | 2000 | 3.10 | 2.20 | 0.90 | 1.66 | 0.46 | <1 | 3.0 | 61 | 840 | 0.71 |
| | Sep-20 | 7.40 | 6800 | 1400 | 1600 | 130 | 2000 | 4.20 | 3.70 | 0.50 | 0.25 | 0.27 | <1 | 13.0 | 54 | 820 | <0.2 |
| | Sep-21 | 7.50 | 6600 | 1300 | 1500 | 120 | 1900 | 1.50 | 0.13 | 1.37 | 1.34 | 0.68 | <1 | 13.0 | 53 | 790 | 0.03 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **14-II** | Nov-85 | 6.95 | 2950 | 220 | | 537 | 1200 | 0.30 | <0.05 | 0.30 | | | <1 | 0.9 | | | |
| | Jul-86 | 8.09 | 2670 | 232 | | 527 | 1222 | 1.00 | <0.05 | 1.00 | | | <1 | 5.1 | | | |
| | Sep-87 | 9.10 | 2040 | 630 | | 1780 | 1153 | <0.10 | | | | | 3.0 | 5.7 | | | |
| | Nov-87 | 7.16 | 2000 | 370 | | 820 | 1321 | 0.55 | <0.01 | 0.55 | | | 1.8 | 5.0 | | | |
| | Jul-88 | 6.99 | 1990 | 243 | | 608 | 1278 | <0.20 | <0.01 | | | | 2.1 | | | | |
| | Nov-88 | | 2050 | 221 | | 585 | 1402 | 0.29 | <0.01 | 0.29 | | | 2.0 | <1.0 | | | |
| | Oct-89 | 7.40 | 2940 | 383 | | 619 | 907 | 0.60 | 0.19 | 0.41 | | | 4.0 | 2.5 | | 300 | |
| | Oct-90 | | 2970 | 271 | | 630 | | 0.18 | <0.05 | 0.18 | * 401 | <0.02 | 2.0 | | | 232 | 0.16 |
| | Sep-91 | 7.01 | 2930 | 255 | | 608 | 1300 | 2.73 | 2.43 | 0.30 | <0.1 | <0.01 | 3.9 | 11.0 | | 250 | 1.00 |
| | Aug-92 | 6.98 | 2930 | 289 | | 656 | 1300 | 0.34 | 0.03 | 0.31 | <0.1 | <0.01 | <2.0 | 1.2 | | 320 | 0.12 |
| | Aug-93 | 7.02 | 2910 | 282 | | 666 | 1200 | 5.18 | 1.98 | 3.20 | 0.02 | <0.01 | 15.7 | 15.0 | | 227 | 0.38 |
| | Aug-94 | 7.01 | 3040 | 284 | | 672 | 1300 | 3.88 | 2.26 | 1.62 | <0.02 | 0.06 | 120 | 18.0 | | 243 | 1.07 |
| | Sep-95 | 7.02 | 3020 | 293 | 824 | 710 | 1400 | 3.40 | 2.78 | 0.62 | <0.04 | <0.01 | 12 | 26.0 | | 234 | <0.25 |
| | Oct-96 | 7.01 | 2966 | 276 | 703 | 738 | 1350 | 2.59 | 2.22 | 0.37 | <0.1 | <0.2 | 61.1 | 7.3 | | 232 | 0.30 |
| | Sep-98 | 7.05 | 2743 | 276 | 631 | 802 | 1260 | 8.30 | 0.66 | 7.64 | <0.2 | <0.2 | <1.0 | 7.7 | 21 | 207 | 0.15 |
| | Sep-99 | 7.39 | 1327 * | 211 | 156 * | 209 * | 466 | 1.13 | 0.34 | 0.79 | 0.70 | <0.2 | <1.0 | 2.2 | 7 | 104 | 0.57 |
| | Sep-00 | 7.76 | 3010 | 319 | 675 | 858 | 1380 | 3.03 | 2.19 | 0.84 | <0.2 | <0.2 | 3.0 | 4.4 | 21 | 219 | <0.01 |
| | Sep-01 | | 1760 | 38 * | 641 | 415 * | 1040 | 1.00 | 0.39 | 0.61 | 0.40 | <0.2 | <1.0 | 1.4 | 6 | 54 * | <0.01 |
| | Sep-02 | 6.96 | 2987 | 295 | 646 | 898 | 1360 | 0.36 | <0.03 | 0.36 | <0.2 | <0.2 | <1.0 | <0.5 | 22 | 205 | <0.01 |
| | Sep-03 | 7.50 | 3140 | 296 | 607 | 842 | 1348 | 0.26 | 0.03 | 0.36 | <0.2 | <0.2 | 1.0 | 1.1 | 24 | 204 | <0.01 |
| | Sep-04 | 7.87 | 2900 | 254 | | 943 | 1380 | 1.20 | <0.05 | 1.18 | <0.1 | <0.1 | <1.0 | 11.0 | 22 | 218 | 1.21 |
| | Sep-05 | 7.48 | 2930 | 265 | 621 | 913 | 1420 | 11.90 | 7.05 | 4.85 | <0.2 | <0.3 | 167 | 10.0 | 27 | 260 | <0.05 |
| | Sep-06 | 7.60 | 3140 | 283 | 519 | 974 | 1500 | 8.00 | 3.50 | 4.50 | <0.1 | <0.01 | 3.0 | <2.0 | 25 | 230 | 0.15 |
| | Sep-07 | 7.70 | 3140 | 250 | 579 | 941 | 1500 | 5.00 | 0.33 | 4.67 | <0.1 | <0.01 | 3.0 | <2.0 | 25 | 240 | <0.05 |
| | Oct-08 | 7.70 | 3100 | 250 | 544 | 911 | 1300 | 4.00 | 0.13 | 3.87 | <0.1 | <0.01 | <1 | <2.0 | 23 | 211 | <0.02 |
| | Sep-09 | 7.30 | 3050 | 240 | 520 | 936 | 1300 | 9.00 | 0.52 | 8.48 | <0.1 | <0.01 | 33 | <2.0 | 23 | 205 | 0.08 |
| | Sep-10 | 7.30 | 3120 | 250 | 520 | 915 | 1300 | 3.00 | 0.11 | 2.89 | <0.1 | <0.01 | 2 | <2.0 | 21 | 200 | 0.17 |
| | Sep-11 | 7.35 | 3000 | 220 | 490 | 966 | 1300 | 2.00 | 0.23 | 1.77 | <0.1 | <0.01 | 4 | <2.0 | 21 | 195 | 0.21 |
| | Sep-12 | 7.09 | 3000 | 220 | 430 | 920 | 1300 | 3.30 | 0.23 | 3.07 | <0.10 | <0.01 | 11 | <2.0 | 23 | 193 | 3.40 |
| | Sep-13 | 7.33 | 3100 | 230 | 460 | 1000 | 1300 | 1.50 | 0.22 | 1.28 | <0.1 | <0.01 | <1 | 3.0 | 25 | 200 | 0.89 |
| | Sep-14 | 7.56 | 3100 | 220 | 480 | 1000 | 1400 | 0.52 | 0.06 | 0.46 | <0.1 | <0.01 | <1 | <1.0 | 25 | 220 | 0.44 |
| | Sep-15 | 7.28 | 3200 | 230 | 480 | 1000 | 1400 | <1.00 | 0.32 | <0.68 | <0.1 | <0.01 | 32 | <2.0 | 24 | 200 | 1.40 |
| | Sep-16 | 7.32 | 3200 | 240 | 480 | 1000 | 1600 | 0.84 | <0.05 | 0.83 | <0.1 | <0.01 | <1 | <2.0 | 28 | 230 | 0.03 |
| | Sep-17 | 7.39 | 3100 | 210 | 450 | 1000 | 1500 | 0.28 | 0.08 | 0.20 | <0.1 | <0.01 | <10 | 2.0 | 27 | 210 | 0.17 |
| | Sep-18 | 7.14 | 3100 | 220 | 460 | 1100 | 1400 | 0.29 | 0.10 | 0.20 | <0.1 | <0.01 | <1 | <2 | 27 | 210 | 1.10 |
| | Sep-19 | 7.64 | 2900 | 190 | 410 | 1000 | 1400 | 0.43 | 0.21 | 0.22 | <0.10 | <0.010 | <1 | 3.0 | 26 | 200 | 0.79 |
| | Sep-20 | 7.31 | 2900 | 190 | 460 | 1000 | 1400 | 0.28 | 0.06 | 0.22 | <0.10 | <0.010 | <1 | 3.0 | 24 | 200 | 0.02 |
| | Sep-21 | 7.40 | 2500 | 160 | 350 | 880 | 1000 | 0.41 | 0.06 | 0.35 | <0.10 | <0.010 | <1 | <2 | 20 | 140 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **15-I** | Nov-85 | 7.00 | 4460 | 1155 | | 241 | 1230 | 3.00 | <0.05 | 3.00 | | | <1.0 | 6.5 | | | |
| | Jul-86 | 7.99 | 4310 | 1105 | | 195 | 976 | 3.20 | 2.70 | 0.50 | | | 2.4 | 5.5 | | | |
| | Sep-87 | 9.20 | 3140 | 1370 | | 730 | 1211 | 1.60 | | | | | <1.0 | 3.3 | | | |
| | Nov-87 | 7.24 | 3200 | 1210 | | 520 | 1282 | 3.46 | 1.78 | 1.68 | | | 2.7 | 6.0 | | | |
| | Jul-88 | 7.35 | 2900 | 1128 | | 258 | 1196 | 2.50 | 3.15 | - | | | | | | | |
| | Nov-88 | | 2740 | 1184 | | 238 | 1200 | 4.15 | 3.24 | 0.91 | | | <0.5 | 5.0 | | | |
| | Oct-89 | 7.50 | 4340 | 1282 | | 247 | 1007 | 3.76 | 3.01 | 0.75 | | | <2.0 | <0.8 | | 460 | |
| | Oct-90 | | 4230 | 1250 | | 251 | | 5.97 | 2.59 | 3.38 | <0.2 | <0.02 | 2.0 | | | 387 | 2.09 |
| | Sep-91 | 7.14 | 4350 | 1070 | | 241 | 1400 | 3.68 | 1.67 | 2.01 | 0.10 | 0.02 | 5.4 | <0.7 | | 420 | 0.13 |
| | Aug-92 | 7.13 | 4230 | 1210 | | 227 | 1700 | 4.59 | 3.15 | 1.44 | <0.1 | <0.01 | <2.0 | <0.5 | | 370 | 2.51 |
| | Aug-93 | 7.11 | 4470 | 1170 | | 240 | 1300 | 4.67 | 2.71 | 1.96 | 0.08 | <0.01 | 5.6 | 0.8 | | 411 | 3.41 |
| | Aug-94 | 7.25 | 4470 | 1080 | | 246 | 1300 | 3.64 | 2.93 | 0.71 | <0.02 | <0.02 | <5. | 1.3 | | 462 | 6.16 |
| | Sep-95 | 7.30 | 4440 | 1190 | 330 | 250 | 1300 | 3.48 | 2.92 | 0.56 | <0.04 | <0.01 | <2.0 | 1.5 | | 416 | 2.48 |
| | Sep-96 | 7.37 | 1516 | 349 | 95 | 99 | 374 * | 1.05 | 1.01 | 0.04 | 0.90 | <0.2 | <0.5 | 0.8 | | 118 | 0.50 |
| | Dec-97 | 7.59 | 4220 | 1270 | | 206 | 1140 | 3.00 | 3.00 | 0.00 | 2.70 | <0.2 | <1.0 | 7.2 | | 368 | 0.23 |
| | Sep-98 | 7.24 | 4357 | 1240 | 323 | 234 | 1220 | 2.46 | 2.58 | <0.05 | <0.2 | <0.2 | <1.0 | 7.2 | 39 | 406 | 0.45 |
| | Sep-99 | 7.31 | 4165 | 985 | 285 | 201 | 1070 | 2.77 | 2.08 | 0.69 | 0.50 | <2.0 | <1.0 | 2.6 | 35 | 376 | 2.12 |
| | Sep-00 | 7.81 | 3262 | 1200 | 314 | 240 | 1230 | 3.63 | 3.37 | 0.26 | <0.2 | <0.2 | <1.0 | 1.1 | 39 | 403 | <0.01 |
| | Sep-01 | | 1120 * | 42 * | 305 | 290 | 500 * | 0.60 | 0.18 | 0.42 | <0.2 | <0.2 | <1.0 | <0.5 | 3 | 80 * | <0.01 |
| | Sep-02 | 7.27 | 4166 | 1150 | 289 | 249 | 1120 | 3.08 | 2.81 | 0.27 | <0.2 | <2.0 | <1.0 | 2.7 | 36 | 379 | <0.01 |
| | Sep-03 | 7.60 | 4410 | 1150 | 306 | 236 | 1196 | 2.97 | 2.98 | <0.05 | <0.2 | <2.0 | <1.0 | 4.0 | 38 | 396 | <0.01 |
| | Sep-04 | 7.94 | 4180 | 954 | | 248 | 1210 | 2.80 | 2.53 | 0.27 | <10 | <0.1 | <1.0 | 13.0 | 48 | 457 | 0.22 |
| | Sep-05 | 7.94 | 3740 | 1100 | 257 | 234 | 1100 | 9.00 | 3.35 | 5.65 | 0.40 | <0.3 | 7.0 | 5.0 | 40 | 420 | 1.70 |
| | Sep-06 | 8.00 | 1970 | 434 | 126 | 214 | 580 * | 0.60 | 0.06 | 0.54 | 0.10 | 0.05 | <1 | <2.0 | 15 | 150 | <0.05 |
| | Sep-07 | 7.90 | 4380 | 1100 | 289 | 230 | 1400 | 4.00 | 1.71 | 2.29 | 0.30 | 0.02 | <1 | <2.0 | 44 | 460 | <0.05 |
| | Oct-08 | 7.90 | 931 * | 86 * | 88 | 274 | 350 * | 5.00 | 1.10 | 3.90 | 0.40 | 0.02 | <1 | <2.0 | 8 | 53 * | <0.02 |
| | Sep-09 | 7.40 | 3500 | 890 | 250 | 205 | 920 | 6.00 | 3.20 | 2.80 | 1.30 | 0.11 | 3 | <2.0 | 31 | 309 | <0.02 |
| | Sep-10 | 7.70 | 4480 | 1100 | 310 | 224 | 1100 | 17.00 | 3.40 | 13.60 | 0.10 | 0.15 | 7 | <2.0 | 37 | 373 | 0.22 |
| | Sep-11 | 7.45 | 4730 | 1200 | 330 | 240 | 1300 | <10 | 6.90 | <3.10 | <0.1 | <0.01 | 57 | <2.0 | 38 | 390 | 0.67 |
| | Sep-12 | 7.21 | 4800 | 1200 | 320 | 200 | 1300 | 3.80 | 3.60 | 0.20 | <0.1 | <0.01 | <1 | <2.0 | 43 | 442 | 2.34 |
| | Sep-13 | 7.60 | 4800 | 1200 | 340 | 230 | 1300 | 3.70 | 2.80 | 0.90 | <0.1 | 0.01 | <1 | <2.0 | 39 | 420 | 1.20 |
| | Sep-14 | 7.73 | 5000 | 1300 | 370 | 220 | 1400 | 5.30 | 2.80 | 2.50 | 0.49 | <0.01 | <1 | <1.0 | 46 | 420 | <0.02 |
| | Sep-15 | 7.62 | 4900 | 1300 | 360 | 220 | 1400 | 3.30 | 1.10 | 2.20 | 1.08 | 0.07 | <1 | 3.0 | 46 | 440 | <0.02 |
| | Sep-16 | 7.64 | 5000 | 1300 | 360 | 230 | 1500 | 3.10 | 2.70 | 0.40 | 0.55 | 0.03 | <1 | 9.0 | 48 | 460 | <0.02 |
| | Sep-17 | 7.49 | 5000 | 1200 | 310 | 240 | 1400 | 3.50 | 3.40 | 0.10 | <0.1 | 0.01 | <10 | <2 | 46 | 420 | 0.49 |
| | Sep-18 | 7.49 | 5000 | 1300 | 350 | 240 | 1400 | 3.50 | 3.40 | 0.10 | 0.14 | <0.01 | <1 | <2 | 47 | 450 | 0.05 |
| | Sep-19 | 7.66 | 4900 | 1300 | 350 | 220 | 1400 | 4.00 | 3.60 | 0.40 | 0.21 | 0.06 | <1 | 10.0 | 47 | 460 | 1.30 |
| | Sep-20 | 7.65 | 4800 | 1300 | 350 | 230 | 1500 | 3.60 | 3.50 | 0.10 | <0.10 | <0.010 | <1 | 3.0 | 46 | 430 | 0.66 |
| | Sep-21 | 7.59 | 4800 | 1300 | 310 | 220 | 1400 | 3.60 | 2.20 | 1.40 | 0.67 | 0.15 | <1 | 10.0 | 46 | 430 | 0.66 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **15-II** | Nov-85 | 7.05 | 1970 | 189 | | 396 | 733 | 0.60 | <0.05 | 0.60 | | | <1.0 | 0.6 | | | |
| | Jul-86 | 7.84 | 2340 | 380 | | 573 | 709 | 1.00 | 0.05 | 0.95 | | | 1.0 | 7.0 | | | |
| | Sep-87 | 8.30 | 1900 | 730 | | 388 | 766 | 0.10 | | | | | <1.0 | 4.5 | | | |
| | Nov-87 | 7.45 | 1700 | 440 | | 500 | 818 | 0.67 | <0.01 | 0.67 | | | 3.2 | 4.0 | | | |
| | Jul-88 | 7.39 | 1500 | 252 | | 401 | 833 | <0.20 | 0.06 | <0.14 | | | 2.2 | | | | |
| | Nov-88 | | 1560 | 349 | | 399 | 877 | 0.49 | 0.30 | 0.19 | | | <0.5 | <1.0 | | | |
| | Oct-89 | 7.46 | 2440 | 610 | | 347 | 627 | 0.84 | 0.48 | 0.36 | | | <2.0 | 4.0 | | 250 | |
| | Oct-90 | | 2490 | 466 | | 422 | | 0.67 | 0.21 | 0.46 | <0.2 | <0.02 | 2.0 | | | 176 | 0.17 |
| | Sep-91 | 7.20 | 2400 | 470 | | 328 | 780 | 0.68 | 0.47 | 0.21 | <0.2 | 0.02 | 2.4 | 1.7 | | 220 | 0.22 |
| | Aug-92 | 7.18 | 1940 | 166 | | 646 | 900 | 0.55 | <0.02 | 0.55 | <0.1 | <0.01 | <2.0 | <0.5 | | 130 | 0.85 |
| | Aug-93 | 7.73 | 2320 | 388 | | 398 | 800 | 0.90 | 0.52 | 0.38 | <0.02 | <0.01 | 2.7 | 1.3 | | 181 | 2.73 |
| | Aug-94 | 7.26 | 2360 | 431 | | 348 | 830 | 1.04 | 0.63 | 0.41 | <0.02 | <0.02 | 4.0 | 2.1 | | 200 | 1.49 |
| | Sep-95 | 7.24 | 2420 | 454 | 333 | 386 | 900 | 1.14 | 0.80 | 0.34 | <0.04 | <0.01 | 5.3 | 6.8 | | 199 | 0.79 |
| | Sep-96 | 7.13 | 2361 | 271 | 379 | 528 | 965 | 4.10 | 3.50 | 0.60 | <0.1 | <0.2 | 20.5 | 14.2 | | 169 | 0.90 |
| | Dec-97 | 7.46 | 1860 | 173 | | 519 | 720 | 1.36 | 0.26 | 1.10 | <0.2 | <0.2 | <1.0 | 1.7 | | 105 | 0.15 |
| | Sep-98 | 7.20 | 2248 | 447 | 265 | 402 | 816 | 9.40 | 0.75 | 8.65 | <0.2 | <0.2 | <1.0 | 61.5 | 15 | 189 | 0.69 |
| | Sep-99 | 7.45 | 2348 | 394 | 320 | 416 | 760 | 2.19 | 0.69 | 1.50 | <0.2 | <0.2 | <1.0 | 2.7 | 15 | 179 | 1.13 |
| | Sep-00 | 7.79 | 2410 | 213 | 292 | 950 | 1040 | 26.20 | 24.10 | 2.10 | <0.2 | <0.2 | 12.0 | 14.5 | 17 | 152 | 0.16 |
| | Sep-01 | | 1690 | 185 | 143 | 562 | 814 | 2.90 | 1.93 | 0.97 | 1.60 | <0.2 | <1.0 | 1.4 | 9 | 78 | <0.01 |
| | Sep-02 | 7.14 | 2416 | 282 | 315 | 796 | 1020 | 0.95 | 0.42 | 0.53 | <0.2 | <0.2 | <1.0 | 0.7 | 19 | 159 | 0.10 |
| | Sep-03 | 7.70 | 2650 | 288 | 383 | 687 | 1100 | 1.52 | 0.65 | 0.87 | <0.2 | <0.2 | 1.0 | 19.5 | 20 | 170 | <0.01 |
| | Sep-04 | 8.06 | 2280 | 352 | | 528 | 814 | 2.90 | 0.59 | 2.31 | <0.1 | <0.1 | <1.0 | 28.0 | 19 | 197 | 0.14 |
| | Sep-05 | 8.00 | 2260 | 408 | 258 | 435 | 883 | 5.80 | 0.73 | 5.07 | <0.2 | <0.3 | 71 | 3.0 | 18 | 210 | 0.83 |
| | Sep-06 | 7.80 | 2580 | 245 | 263 | 890 | 1100 | 21.00 | 17.30 | 3.70 | <0.1 | 0.02 | 170 | 18.0 | 21 | 180 | 1.30 |
| | Sep-07 | 7.60 | 2500 | 370 | 698 | 588 | 1100 | 14.00 | 1.28 | 12.72 | <0.1 | <0.01 | 10 | 3.0 | 19 | 200 | <0.05 |
| | Oct-08 | 7.90 | 2560 | 210 | 297 | 898 | 1100 | 8.00 | 3.50 | 4.50 | <0.1 | <0.01 | 6 | <2.0 | 18 | 162 | <0.02 |
| | Sep-09 | 7.60 | 2160 | 170 | 210 | 777 | 840 | 42.00 | 2.20 | 39.80 * | <0.1 | <0.01 | 40 | <2.0 | 16 | 135 | 0.29 |
| | Sep-10 | 7.70 | 2420 | 390 | 190 | 449 | 780 | 2.00 | 0.40 | 1.60 | <0.1 | 0.01 | 2 | <2.0 | 15 | 167 | <0.02 |
| | Sep-11 | 7.54 | 2520 | 450 | 230 | 401 | 780 | 9.00 | 0.62 | 8.38 | <0.1 | <0.01 | 24 | <2.0 | 16 | 180 | 0.30 |
| | Sep-12 | 7.46 | 2500 | 450 | 210 | 330 | 840 | 2.80 | 0.61 | 2.19 | 0.88 | <0.01 | <1 | <2.0 | 19 | 212 | 0.59 |
| | Sep-13 | 7.69 | 2500 | 400 | 240 | 420 | 810 | 1.20 | 0.31 | 0.89 | <0.1 | <0.01 | <1 | <2.0 | 17 | 190 | 0.27 |
| | Sep-14 | 7.71 | 2500 | 440 | 250 | 410 | 890 | 2.10 | 0.52 | 1.58 | <0.1 | <0.01 | <1 | <1.0 | 19 | 220 | 0.20 |
| | Sep-15 | 7.60 | 2500 | 420 | 250 | 440 | 910 | 1.60 | 1.30 | 0.30 | <0.1 | <0.01 | 2 | <2.0 | 20 | 210 | 0.16 |
| | Sep-16 | 7.72 | 2600 | 460 | 240 | 400 | 920 | 1.10 | 0.52 | 0.58 | <0.1 | <0.01 | <1 | 2.0 | 21 | 230 | <0.02 |
| | Sep-17 | 7.68 | 2600 | 470 | 210 | 400 | 810 | 0.91 | 0.81 | 0.10 | <0.1 | <0.01 | <10 | 3.0 | 20 | 240 | 0.28 |
| | Sep-18 | 7.59 | 2700 | 490 | 270 | 420 | 820 | 2.00 | 1.60 | 0.40 | <0.1 | <0.01 | <1 | <2 | 19 | 230 | 0.29 |
| | Sep-19 | 7.68 | 2700 | 430 | 250 | 540 | 880 | 58.00 | 56.00 | 2.00 | <0.10 | <0.010 | 200 | 460.0 | 21 | 210 | <0.02 |
| | Sep-20 | 7.74 | 2600 | 500 | 270 | 410 | 890 | 7.60 | 7.10 | 0.50 | <0.10 | <0.010 | 9 | 37.0 | 20 | 220 | 0.27 |
| | Sep-21 | 7.95 | 1400 | 110 | 220 | 410 | 560 | 1.10 | 0.44 | 0.76 | <0.10 | 0.01 | <1 | 5.0 | 20 | 220 | 0.27 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **16-I** | Nov-87 | 7.16 | 2380 | 15780 | | 57 | 8913 | 15.97 | 17.24 | <0.05 | | | 2.5 | 6.2 | | | |
| | Jul-88 | 6.88 | | 16620 | | 30 | 9460 | 18.30 | 18.99 | <0.05 | | | | | | | |
| | Nov-88 | | 2740 | 16396 | | 33 | 4490 | 56.04 | 18.68 | 37.36 | | | <0.5 | 3.0 | | | |
| | Oct-89 | | | | | | | | | | | | | | | | |
| | Oct-89 | 6.71 | 43000 | 19025 | | 220 | 8005 | 20.86 | 20.43 | 0.43 | | | | 0.5 | | 7300 | |
| | Oct-90 | | 59000 | 22100 | | 19 | | 24.30 | 24.00 | 0.30 | <0.2 | <0.02 | <2.0 | | | 7530 | 7.97 |
| | Sep-91 | 7.07 | 49600 | 18200 | | 38 | 10000 | 27.00 | 21.50 | 5.50 | <0.2 | <0.01 | <2.0 | <0.5 | | 10600 | <0.08 |
| | Aug-92 | 7.02 | 45000 | 22800 | | 33 | 13000 | 32.90 | 21.70 | 11.20 | <0.1 | <0.01 | * 68.9 | <0.5 | | 8560 | 2.99 |
| | Aug-93 | 7.02 | 47500 | 21800 | | 27 | 12000 | 30.50 | 19.40 | 11.10 | <0.02 | <0.01 | 3.4 | <0.3 | | 9010 | 9.17 |
| | Aug-94 | 6.94 | 47800 | 19100 | | 28 | 12000 | 45.20 | 22.90 | 22.30 | <0.02 | 0.03 | <5.0 | 1.3 | | 11800 | 5.93 |
| | Sep-95 | 6.97 | 48800 | 19600 | 1860 | 37 | 13000 | 21.90 | 21.90 | 0.00 | <0.04 | <0.01 | <2.0 | <0.5 | | 9920 | 2.84 |
| | Sep-96 | 6.67 | 43470 | 20300 | 1650 | 30 | 11000 | 21.70 | 21.80 | <0.05 | <1.0 | <20.0 | <0.5 | 2.8 | | 8430 | 3.50 |
| | Sep-97 | 6.29 | 41700 | 18300 | 1770 | 9 | 10800 | 21.10 | 20.40 | 0.70 | <2.0 | <20.0 | <1.0 | 0.3 | | 8180 | 6.45 |
| | Sep-98 | 7.11 | 44760 | 18300 | 1740 | 15 | 11400 | 34.00 | 22.40 | 11.60 | <2.0 | <2.0 | <1.0 | 1.4 | 178 | 7750 | 2.35 |
| | Sep-99 | 6.81 | 48050 | 17600 | 1890 | 14 | 10200 | 20.70 | 21.60 | <0.05 | <0.2 | <20.0 | <1.0 | 2.0 | 176 | 8900 | 5.07 |
| | Sep-00 | | 32740 | 18200 | 1730 | 10 | 9330 | 21.00 | 21.90 | <0.05 | <0.2 | <20.0 | <1 | 1.6 | 162 | 7910 | 1.48 |
| | Sep-01 | | 59000 | 19600 | 1490 | 8 | 11400 | 20.20 | 19.80 | 0.40 | <20 | <20.0 | <1.0 | <0.5 | 164 | 7830 | 0.79 |
| | Sep-02 | 6.86 | 55650 | 17700 | 1850 | 12 | 8650 | 19.50 | 19.80 | <0.05 | <2.0 | <20.0 | <1.0 | <0.5 | 164 | 7180 | 0.22 |
| | Sep-03 | 7.80 | 51700 | 19200 | 1760 | 14 | 9305 | 19.40 | 19.10 | 0.30 | <2.0 | <20.0 | <1.0 | <0.5 | 137 | 7710 | 0.79 |
| | Sep-04 | 7.20 | 34900 | 13800 | | 33 | 8250 | 20.30 | 21.80 | <0.05 | <200 | <0.1 | <1.0 | <4.0 | 154 | 9120 | 11.30 |
| | Sep-05 | 7.01 | 32100 | 16900 | 1640 | 27 | 8720 | 15.60 | 19.00 | <0.05 | <0.2 | | <1 | <2.0 | 160 | 8000 | <5 |
| | Sep-06 | 7.00 | 46500 | 14500 | 1640 | 30 | 11000 | 22.00 | 20.80 | 1.20 | <0.1 | <0.01 | 5.0 | <2.0 | 180 | 8300 | 7.10 |
| | Sep-07 | 6.90 | 48500 | 19000 | 1650 | 28 | 11000 | 23.00 | 26.80 | <0.05 | <0.1 | <0.01 | 3.0 | <2.0 | 190 | 8800 | <2.50 |
| | Oct-08 | 7.00 | 48100 | 19000 | 1610 | 30 | 9700 | 23.00 | 28.00 | <0.05 | <0.1 | <0.01 | <1 | <2.0 | 169 | 7960 | 1.30 |
| | Sep-09 | 6.80 | 49200 | 19000 | 1600 | 29 | 10000 | 25.00 | 26.00 | <0.05 | 0.10 | <0.01 | <1 | <2.0 | 120 | 7420 | <2 |
| | Sep-10 | 7.00 | 48800 | 17000 | 1600 | 48 | 9800 | 44.00 | 24.00 | 20.00 | <0.1 | <0.01 | 4.0 | <200.0 | 166 | 7360 | 0.40 |
| | Sep-11 | 6.89 | 47900 | 18000 | 1600 | 28 | 10000 | 26.00 | 22.00 | 4.00 | <0.1 | <0.01 | 19.0 | <2.0 | 157 | 7690 | 2.50 |
| | Sep-12 | 6.32 | 48000 | 16000 | 1500 | 25 | 9700 | 20.00 | 22.00 | <0.05 | <1.0 | <0.10 | 3.6 | <2.0 | 164 | 7430 | 5.40 |
| | Sep-13 | 6.90 | 50000 | 20000 | 1500 | 24 | 12000 | 20.00 | 21.00 | <0.05 | <0.1 | <0.01 | <1 | <2.0 | 190 | 8100 | 4.00 |
| | Sep-14 | 7.01 | 50000 | 20000 | 1700 | 28 | 11000 | 23.00 | 21.00 | 2.00 | <0.1 | <0.01 | <1 | <2.0 | 180 | 8300 | 3.60 |
| | Sep-15 | 6.56 | 51000 | 21000 | 1600 | 23 | 11000 | 21.00 | 21.00 | <0.05 | <0.1 | <0.05 | 3.5 | <2.0 | 180 | 7800 | <0.2 |
| | Sep-16 | 6.82 | 52000 | 19000 | 1600 | 25 | 11000 | 21.00 | 22.00 | <0.05 | <0.5 | <0.05 | <5 | <2.0 | 180 | 7700 | 2.30 |
| | Mar-18 | 6.80 | 51000 | 20000 | 1500 | 26 | 11000 | 22.00 | 21.00 | 1.0 | <0.5 | <0.05 | <5 | <2 | 180 | 8100 | <0.2 |
| | Sep-18 | 6.96 | 50000 | 19000 | 1600 | 36 | 10000 | 22.00 | 19.00 | 0.5 | <0.5 | <0.05 | 2.1 | <2 | 170 | 7600 | <0.2 |
| | Sep-19 | 7.23 | 48000 | 18000 | 1600 | 36 | 10000 | 19.00 | 21.00 | <0.05 | <0.10 | <0.050 | 7.9 | <2 | 180 | 8000 | 0.30 |
| | Sep-20 | 6.93 | 47000 | 16000 | 1600 | 32 | 9600 | 20.00 | 20.00 | <0.05 | <0.10 | <0.050 | <1 | <2 | 170 | 7500 | <0.2 |
| | Sep-21 | 7.13 | 44000 | 15000 | 1800 | 35 | 9700 | 21.00 | 20.00 | 1.0 | <0.50 | <0.050 | 1.7 | <2 | 180 | 7700 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **16-II** | Nov-87 | 7.01 | 2810 | 21100 | | 46 | 12877 | 21.24 | 20.35 | 0.89 | | | 2.7 | 5.1 | | | |
| | Jul-88 | 6.81 | | 22613 | | 27 | 14240 | 20.10 | 23.02 | - | | | | | | | |
| | Nov-88 | | 3590 | 22115 | | 38 | | 52.98 | 18.85 | 34.13 | | | <0.5 | 3.0 | | | |
| | Oct-89 | 6.66 | 53400 | 28225 | | 200 | 12991 | 24.87 | 23.78 | 1.09 | | | | 0.3 | | 9500 | |
| | Oct-90 | | 71900 | 27200 | | 19 | | 26.60 | 24.90 | 1.70 | <0.2 | <0.02 | <2.00 | | | | 7.38 |
| | Sep-91 | 6.99 | 56400 | 23800 | | 33 | 15000 | 35.80 | 23.00 | 12.80 | <0.2 | <0.01 | <2.0 | <0.5 | | 11200 | <0.08 |
| | Aug-92 | 7.00 | 53900 | 25200 | | 31 | 25000 | 33.50 | 23.80 | 9.70 | <0.1 | <0.01 | 30.1 | <0.5 | | 10400 | 5.68 |
| | Aug-93 | 6.95 | 47600 | 19400 | | 34 | 11000 | 30.40 | 17.90 | 12.50 | <0.02 | <0.01 | 4.2 | <0.3 | | 8550 | 2.10 |
| | Aug-94 | 6.86 | 43600 | 15800 | | 35 | 10000 | 29.30 | 19.20 | 10.10 | <0.02 | <0.02 | <5.0 | 0.9 | | 10100 | 0.18 |
| | Sep-95 | 7.08 | 39500 | 15000 | 2260 | 39 | 9700 | 18.40 | 17.40 | 1.00 | <0.04 | <0.01 | 5.8 | <0.5 | | 7860 | <0.25 |
| | Sep-96 | 6.74 | 36990 | 16400 | 1980 | 36 | 8370 | 17.30 | 16.80 | 0.50 | <1.0 | <20.0 | <0.5 | 2.5 | | 7320 | <0.1 |
| | Sep-97 | 6.93 | 34600 | 14200 | 2130 | 26 | 7640 | 21.20 | 19.70 | 1.50 | <2.0 | <20.0 | <1.0 | 1.1 | | 7180 | 1.10 |
| | Sep-98 | 7.19 | 31630 | 12000 | 2210 | 27 | 7420 | 15.90 | 15.90 | 0.00 | <2.0 | <2.0 | <1.0 | 0.8 | 130 | 6650 | 0.03 |
| | Sep-99 | 7.16 | 32190 | 12600 | 2190 | 21 | 7070 | 14.00 | 14.70 | <0.05 | 2.80 | <20.0 | <1.0 | 2.6 | 126 | 6510 | <0.01 |
| | Sep-00 | | 29520 | 15400 | 1860 | 20 | 7910 | 20.00 | 20.00 | 0.00 | <0.2 | <20.0 | <1 | 0.5 | 147 | 7130 | <0.10 |
| | Sep-01 | | 2787 * | 16400 | 1810 | 17 | 8700 | 42.40 | 17.70 | 24.70 | <20 | <20.0 | <1.0 | <0.5 | 143 | 7330 | <0.10 |
| | Sep-02 | 7.05 | 46150 | 13800 | 2100 | 21 | 6880 | 16.40 | 17.00 | <0.05 | <2.0 | <20.0 | <1.0 | <0.5 | 140 | 6200 | <0.10 |
| | Sep-03 | 7.50 | 43600 | 15400 | 1980 | 20 | 7212 | 20.90 | 17.10 | 3.80 | <2.0 | <20.0 | <1.0 | <0.5 | 138 | 6640 | <0.01 |
| | Sep-04 | 7.27 | 31400 | 11400 | | 38 | 6900 | 18.80 | 19.00 | <0.05 | <200 | <0.1 | <1.0 | <5.0 | 173 | 8560 | 2.61 |
| | Sep-05 | 7.04 | 30100 | 15400 | 2060 | 25 | 7440 | 14.00 | 15.50 | <0.05 | 1.50 | | <1 | <2.0 | 150 | 7300 | <5 |
| | Sep-06 | 7.20 | 38700 | 12000 | 2020 | 37 | 7600 | 18.00 | 17.60 | 0.40 | <0.1 | 0.10 | 3 | <2.0 | 150 | 7200 | <0.50 |
| | Sep-07 | 6.90 | 39600 | 14000 | 2210 | 20 | 7700 | 17.00 | 19.30 | <0.05 | 0.50 | 2.00 | 3 | 6.0 | 160 | 7800 | <2.50 |
| | Oct-08 | 7.00 | 36900 | 14000 | 2080 | 25 | 6300 | 15.00 | 18.00 | <0.05 | 1.30 | 0.27 | <1 | 3.0 | 143 | 6070 | <0.02 |
| | Sep-09 | 6.80 | 38500 | 14000 | 2100 | 35 | 6500 | 21.00 | 20.00 | 1.00 | 0.40 | 0.17 | 2 | <2.0 | 117 | 6270 | <2 |
| | Sep-10 | 7.20 | 40900 | 14000 | 1800 | 66 | 7000 | 26.00 | 23.00 | 3.00 | 0.30 | 0.03 | * 82 | 7.0 | 143 | 6750 | 0.40 |
| | Sep-11 | 7.03 | 39900 | 14000 | 1900 | 42 | 6900 | 19.00 | 19.00 | <0.05 | 0.20 | 0.05 | 11 | <2.0 | 141 | 6180 | 0.70 |
| | Sep-12 | 6.57 | 40000 | 13000 | 1800 | 36 | 7000 | 19.00 | 19.00 | <0.05 | <1.0 | <0.10 | 1.2 | <2.0 | 141 | 6390 | 1.10 |
| | Sep-13 | 7.18 | 40000 | 14000 | 1900 | 30 | 7000 | 18.00 | 17.00 | 1.00 | <0.1 | <0.01 | <1 | <2.0 | 140 | 6700 | <2 |
| | Sep-14 | 7.27 | 42000 | 14000 | 2100 | 35 | 7400 | 18.00 | 18.00 | <0.05 | <0.1 | <0.01 | <1 | <2.0 | 150 | 7500 | 0.40 |
| | Sep-15 | 6.95 | 40000 | 14000 | 2100 | 32 | 7200 | 18.00 | 18.00 | <0.05 | <0.1 | <0.01 | 3.7 | <2.0 | 150 | 6900 | <0.2 |
| | Sep-16 | 7.07 | 41000 | 14000 | 2000 | 32 | 7200 | 18.00 | 18.00 | <0.05 | <0.1 | 0.21 | 5.7 | 23.0 | 150 | 6900 | 0.70 |
| | Mar-18 | 7.05 | 40000 | 14000 | 1900 | 33 | 6600 | 16.00 | 15.00 | 1.0 | 0.62 | 0.03 | <5 | <2 | 150 | 7000 | 0.38 |
| | Sep-18 | 6.92 | 37000 | 13000 | 2100 | 34 | 5700 | 16.00 | 15.00 | 1.0 | 0.43 | 0.25 | 1.6 | <2 | 150 | 6100 | <0.02 |
| | Sep-19 | 7.13 | 39000 | 13000 | 1900 | 28 | 6700 | 18.00 | 18.00 | 0.0 | 0.77 | 0.03 | <2 | <2 | 150 | 6700 | 2.10 |
| | Sep-20 | 6.92 | 39000 | 12000 | 2000 | 32 | 7000 | 17.00 | 18.00 | <0.05 | 0.34 | 0.01 | <2 | <2 | 150 | 6800 | 1.00 |
| | Sep-21 | 6.99 | 38000 | 13000 | 2000 | 23 | 7000 | 18.00 | 16.00 | 2.0 | 0.27 | 1.64 | <1 | 4.0 | 160 | 6800 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **16-III** | Nov-87 | 7.40 | 2880 | 23725 | | 49 | 17324 | 21.05 | 20.44 | 0.61 | | | 3.8 | 5.6 | | | |
| | Jul-88 | 7.33 | | 24403 | | 21 | 17480 | 25.10 | 21.85 | 3.25 | | | 1.4 | | | | |
| | Nov-88 | | 3890 | 2346 | | 25 | 17550 | 39.29 | 10.32 | 28.97 | | | <0.5 | 3.0 | | | |
| | Oct-89 | 7.29 | 55300 | 27190 | | 40 | 14714 | 23.49 | 23.64 | <0.05 | | | <2 | 0.3 | | 6000 | |
| | Oct-90 | | 73900 | 27400 | | 12 | | 24.50 | 23.20 | 1.30 | <0.2 | <0.02 | <2 | | | | 0.18 |
| | Sep-91 | 7.15 | 63100 | 24400 | | 30 | 18000 | 32.50 | 22.80 | 9.70 | <0.2 | 0.01 | <2.0 | <0.5 | | 10400 | <0.08 |
| | Aug-92 | 7.51 | 56700 | 28700 | | 22 | 29000 | 34.00 | 22.70 | 11.30 | <0.1 | <0.01 | 16.0 | <0.5 | | 9920 | 0.22 |
| | Aug-93 | 7.15 | 55600 | 28400 | | 23 | 18000 | 33.10 | 20.40 | 12.70 | <0.02 | <0.01 | 8.0 | <0.3 | | 10500 | 0.25 |
| | Aug-94 | 7.14 | 59200 | 25600 | | 23 | 19000 | 49.70 | 24.20 | 25.50 | <0.02 | 0.03 | <5.0 | 1.2 | | 13900 | 0.20 |
| | Sep-95 | 7.03 | 56000 | 25200 | 1330 | 34 | 18000 | 24.70 | 22.90 | 1.80 | <0.04 | 0.01 | 7.1 | 0.6 | | 11000 | <0.25 |
| | Sep-96 | 6.76 | 52420 | 25700 | 1240 | 47 | 16300 | 24.40 | 23.30 | 1.10 | <1.0 | <20.0 | 1.8 | 3.0 | | 8290 | 0.10 |
| | Sep-97 | 6.81 | 27800 | 24100 | 1410 | 5 | 16200 | 22.60 | 20.40 | 2.20 | <2.0 | <20.0 | <1.0 | 0.9 | | 8710 | <0.10 |
| | Sep-98 | 7.15 | 54050 | 24000 | 1460 | 8 | 16000 | 26.00 | 21.90 | 4.10 | <2.0 | <2.0 | <1.0 | 1.1 | 204 | 7900 | <0.10 |
| | Sep-99 | 7.11 | 61470 | 24700 | 1500 | 3 | 17700 | 23.20 | 23.00 | 0.20 | <0.2 | <20.0 | <1.0 | 2.2 | 204 | 9310 | 0.04 |
| | Sep-00 | | 38950 | 24600 | 1220 | 26 | 15800 | 37.00 | 22.90 | 14.10 | <0.2 | <20.0 | <1 | 0.8 | 193 | 8450 | <0.1 |
| | Sep-01 | | 72000 | 24400 | 1290 | 5 | 16700 | 21.80 | 19.90 | 1.90 | <20 | <20.0 | <1.0 | <0.5 | 185 | 8440 | <0.1 |
| | Sep-02 | 7.07 | 77300 | 23800 | 1380 | 5 | 16100 | 22.70 | 21.30 | 1.40 | <2.0 | <20.0 | 1.0 | <0.5 | 202 | 8250 | <0.1 |
| | Sep-03 | 7.70 | 67500 | 26200 | 1300 | 6 | 17380 | 18.70 | 20.60 | <0.05 | <2.0 | <20.0 | <1.0 | <0.5 | 188 | 8890 | <0.01 |
| | Sep-04 | 7.11 | 44300 | 21100 | | 33 | 15700 | 22.20 | 24.00 | <0.05 | <200 | <0.1 | <1.0 | <4.0 | 187 | 8570 | <0.11 |
| | Sep-05 | 7.04 | 41500 | 26000 | 1430 | 28 | 16600 | 27.00 | 21.80 | 5.20 | 1.30 | | <1 | <2.0 | 210 | 9300 | <5 |
| | Sep-06 | 6.90 | 59200 | 24800 | 1340 | 61 | 16000 | 24.00 | 22.50 | 1.50 | <0.1 | <0.01 | 12 | 35.0 | 200 | 8100 | <3 |
| | Sep-07 | 7.20 | 60600 | 24000 | 1300 | 33 | 18000 | 25.00 | 28.20 | <0.05 | <0.1 | <0.01 | 6 | <2.0 | 240 | 10000 | <2.5 |
| | Oct-08 | 7.10 | 61000 | 24000 | 1270 | 59 | 15000 | 33.00 | 30.00 | 3.00 | <0.1 | <0.01 | 11 | 13.0 | 197 | 7530 | <0.02 |
| | Sep-09 | 7.00 | 61100 | 24000 | 1300 | 33 | 16000 | 25.00 | 25.00 | 0.00 | <0.1 | <0.01 | 2 | <2.0 | 205 | 8350 | <2 |
| | Sep-10 | 7.10 | 62400 | 24000 | 1300 | 26 | 16000 | 25.00 | 23.00 | 2.00 | 0.10 | <0.01 | 2 | <200 | 213 | 8610 | <0.2 |
| | Sep-11 | 7.10 | 58200 | 23000 | 1300 | 30 | 15000 | 23.00 | 22.00 | 1.00 | <0.1 | <0.1 | 34 | <2.0 | 183 | 8020 | <0.2 |
| | Sep-12 | 6.49 | 59000 | 24000 | 1200 | 31 | 15000 | 21.00 | 22.00 | <0.05 | 0.35 | <0.01 | 4 | <2.0 | 204 | 8470 | <0.2 |
| | Sep-13 | 7.14 | 61000 | 26000 | 1300 | 32 | 16000 | 21.00 | 20.00 | 1.00 | 0.52 | 0.77 | <1 | <2.0 | 220 | 8500 | <2 |
| | Sep-14 | 7.17 | 63000 | 26000 | 1400 | 32 | 17000 | 23.00 | 22.00 | 1.00 | 0.65 | 0.16 | <1 | <2.0 | 220 | 9500 | <0.2 |
| | Sep-15 | 6.95 | 61000 | 26000 | 1300 | 35 | 16000 | 23.00 | 21.00 | 2.00 | 0.11 | <0.05 | <5 | <2.0 | 210 | 8400 | <0.2 |
| | Sep-16 | 7.10 | 62000 | 24000 | 1300 | 31 | 16000 | 21.00 | 20.00 | 1.00 | 1.02 | 0.04 | <1 | 5.0 | 210 | 8500 | <0.2 |
| | Mar-18 | 6.92 | 61000 | 24000 | 1300 | 34 | 16000 | 22.00 | 20.00 | 2.00 | 0.66 | 0.02 | <5 | <2 | 200 | 8700 | <2 |
| | Sep-18 | 6.99 | 61000 | 24000 | 1300 | 37 | 16000 | 22.00 | 20.00 | 2.00 | <1.0 | <0.1 | 4 | <2 | 220 | 8700 | <0.2 |
| | Sep-19 | 7.17 | 60000 | 23000 | 1300 | 30 | 16000 | 20.00 | 19.00 | 1.00 | 2.52 | <0.050 | <2 | 2.0 | 220 | 8800 | <0.2 |
| | Sep-20 | 7.01 | 58000 | 25000 | 1400 | 34 | 16000 | 21.00 | 21.00 | <0.05 | 0.31 | 0.23 | 2 | <2 | 210 | 8300 | <0.2 |
| | Sep-21 | 7.16 | 55000 | 26000 | 1300 | 35 | 16000 | 24.00 | 22.00 | 2.00 | 0.10 | 0.13 | 3.000 | <2 | 230 | 8800 | 0.05 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **16-IV** | Nov-85 | 7.04 | 2780 | 283 | | 470 | 899 | 0.50 | <0.05 | 0.50 | | | 0.6 | <1.0 | | | |
| | Jul-86 | 7.79 | 3090 | 322 | | 529 | 997 | 0.20 | <0.05 | 0.20 | | | 0.8 | 3.3 | | | |
| | Sep-87 | 8.10 | 1690 | 500 | | 1314 | 795 | <0.10 | | | | | <1.0 | 2.7 | | | |
| | Aug-93 | 7.19 | 1510 | 99 | | 477 | 600 | 0.37 | <0.01 | 0.37 | <0.02 | <0.01 | <2.0 | 0.8 | | 111 | 0.16 |
| | Aug-94 | 7.21 | 1400 | 94 | | 445 | 540 | 0.56 | <0.02 | 0.56 | <0.02 | <0.02 | <1.0 | 1.2 | | 87 | <0.10 |
| | Sep-95 | 7.24 | 2090 | 208 | 278 | 498 | 1200 | 0.37 | <0.03 | 0.37 | <0.04 | <0.01 | <2.0 | 1.5 | | 172 | <0.25 |
| | Sep-96 | 7.18 | 1186 | 56 | 119 | 453 | 534 | 0.31 | 0.24 | 0.07 | <0.1 | <0.2 | 3.2 | 6.0 | | 69 | 0.10 |
| | Sep-97 | 7.10 | 1320 | 61 | 122 | 464 | 524 | 1.50 | 0.20 | 1.30 | <0.2 | <0.2 | <1.0 | 1.6 | | 69 | 0.14 |
| | Sep-98 | 7.53 | 1302 | 109 | 169 | 475 | 718 | 1.05 | 0.07 | 0.98 | <0.2 | <0.2 | <1.0 | 1.5 | 13 | 83 | 0.37 |
| | Sep-99 | 7.51 | 1648 | 177 | 238 | 452 | 690 | 0.88 | 0.08 | 0.80 | 0.20 | <0.2 | <1.0 | 2.2 | 13 | 120 | 0.05 |
| | Sep-00 | | 1583 | 299 | 296 | 364 | 727 | 0.70 | 0.04 | 0.66 | <0.2 | <0.2 | <1 | 1.3 | 11 | 102 | <0.01 |
| | Sep-01 | | 2274 | 758 * | 297 | 296 | 935 | 0.58 | 0.29 | 0.29 | <0.2 | <0.2 | <1.0 | <0.5 | 15 | 312 * | <0.01 |
| | Sep-02 | 7.24 | 2170 | 464 | 216 | 293 | 609 | 0.43 | 0.03 | 0.40 | 0.50 | <0.2 | <1.0 | <0.5 | 12 | 205 | <0.01 |
| | Sep-03 | 7.70 | 2480 | 465 | 286 | 397 | 726 | 0.44 | <0.03 | 0.44 | <0.2 | <0.2 | <1.0 | 0.7 | 11 | 239 | <0.01 |
| | Sep-04 | 7.93 | 1480 | 147 | | 428 | 515 | 2.30 | 0.18 | 2.12 | <1 | <0.1 | <1.0 | 9.0 | 10 | 173 | 0.46 |
| | Sep-05 | 7.90 | 1420 | 142 | 188 | 439 | 541 | 4.00 | <0.05 | 4.00 | <0.2 | | <1 | <2.0 | 11 | 140 | <0.05 |
| | Sep-06 | 7.90 | 1280 | 83 | 148 | 477 | 460 | 5.20 | 4.41 | 0.79 | <0.1 | <0.01 | * 52 | <2.0 | 10 | 110 | 0.27 |
| | Sep-07 | 8.00 | 1320 | 90 | 145 | 462 | 500 | 13.00 | 0.74 | 12.26 | <0.1 | 0.02 | 6.0 | <2.0 | 11 | 120 | <0.05 |
| | Oct-08 | 8.10 | 1040 | 39 | 63 | 456 | 400 | 2.00 | 0.18 | 1.82 | <0.1 | <0.01 | <1 | <2.0 | 8 | 70 | <0.02 |
| | Sep-09 | 7.60 | 918 | 37 | 56 | 402 | 350 | 9.00 | 0.40 | 8.60 | <0.1 | <0.01 | 1.0 | <2.0 | 9 | 56 | <0.02 |
| | Sep-10 | 7.70 | 1100 | 47 | 79 | 436 | 400 | 3.00 | 0.11 | 2.89 | <0.1 | <0.01 | 2.0 | <2.0 | 9 | 66 | <0.02 |
| | Sep-11 | 7.60 | 1120 | 60 | 95 | 421 | 430 | 3.00 | 0.06 | 2.94 | <0.1 | <0.01 | 1.0 | <2.0 | 10 | 67 | 0.14 |
| | Sep-12 | 7.44 | 1200 | 75 | 110 | 390 | 480 | 2.30 | 0.16 | 2.14 | 0.36 | <0.01 | <1 | <2.0 | 11 | 85 | 0.05 |
| | Sep-13 | 7.87 | 960 | 42 | 55 | 390 | 380 | 1.50 | <0.05 | 1.45 | <0.1 | <0.01 | 1.5 | <2.0 | 9 | 57 | <0.02 |
| | Sep-14 | 7.96 | 1100 | 65 | 90 | 430 | 470 | 6.10 | 0.08 | 6.02 | <0.1 | <0.01 | <1 | <2.0 | 10 | 68 | <0.02 |
| | Sep-15 | 7.77 | 1200 | 72 | 96 | 450 | 500 | 0.33 | <0.05 | 0.32 | <0.1 | 0.02 | <1 | <2.0 | 12 | 76 | <0.2 |
| | Sep-16 | 7.77 | 1400 | 110 | 140 | 460 | 610 | 0.62 | <0.05 | 0.61 | <0.1 | <0.01 | <1 | <2.0 | 16 | 98 | <0.02 |
| | Mar-18 | 7.77 | 780 | 36 | 38 | 340 | 340 | 0.15 | 0.13 | 0.02 | 0.12 | <0.01 | <5 | <2 | 7 | 38 | <0.02 |
| | Sep-18 | 7.69 | 1200 | 79 | 120 | 480 | 510 | 0.18 | 0.07 | 0.11 | <0.1 | <0.01 | <1 | <2 | 14 | 84 | <0.02 |
| | Sep-19 | 8.02 | 930 | 34 | 47 | 410 | 410 | 0.46 | 0.09 | 0.37 | <0.10 | 0.01 | 1.1 | 4.0 | 10 | 49 | <0.02 |
| | Sep-20 | 7.96 | 1100 | 69 | 89 | 440 | 520 | 0.42 | 0.32 | 0.10 | <0.10 | <0.010 | 6.3 | <2 | 13 | 71 | <0.02 |
| | Sep-21 | 7.76 | 1100 | 85 | 99 | 430 | 460 | 0.70 | 0.07 | 0.63 | <0.10 | <0.010 | 1.2 | 6.0 | 12 | 71 | <0.02 |

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3) Blank indicates parameter not analysed.

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**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **18-I R** | Sep-20 | 7.95 | 1100 | 20 | 200 | 450 | 620 | 0.22 | 0.07 | 0.15 | 0.11 | <0.010 | <1 | 5.0 | 10 | 43 | <0.02 |
| | Sep-21 | 7.96 | 1100 | 27 | 180 | 440 | 560 | 0.61 | 0.15 | 0.46 | 0.10 | <0.010 | <1 | 4.0 | 9 | 40 | <0.02 |
| **18-II** | Dec-85 | 7.34 | 2980 | 376 | | 569 | 938 | 3.70 | 2.30 | 1.40 | | | | 3.2 | | | |
| | Jul-86 | 7.73 | 1600 | 113 | | 642 | 617 | 1.20 | 0.75 | 0.45 | | | <1.0 | 6.2 | | | |
| | Sep-87 | 7.40 | 1750 | 490 | | 461 | 1647 | 0.50 | | | | | 9.0 | 22.0 | | | |
| | Nov-87 | 7.31 | 2100 | 455 | | 600 | 1065 | 1.44 | <0.01 | 1.44 | | | 9.2 | 8.0 | | | |
| | Jul-88 | 7.52 | 2250 | 487 | | | | 1.20 | | | | | <0.5 | | | | |
| | Nov-88 | | 1390 | 199 | | 436 | 794 | 0.85 | 0.57 | 0.28 | | | | 2.0 | | | |
| | Oct-89 | 7.42 | 1770 | 200 | | 510 | 652 | 0.59 | 0.32 | 0.27 | | | | 0.3 | | 140 | |
| | Oct-90 | | 1600 | 115 | | 437 | | 0.38 | 0.23 | 0.15 | 0.30 | <0.02 | <2.0 | | | 154 | <0.08 |
| | Sep-91 | 7.65 | 2870 | 383 | | 377 | 930 | 1.07 | 0.92 | 0.15 | <0.2 | <0.01 | <2.0 | 2.8 | | 260 | <0.08 |
| | Aug-92 | 7.26 | 1660 | 136 | | 438 | 690 | 0.72 | 0.44 | - | <0.1 | <0.01 | <2.0 | 0.9 | | 140 | <0.08 |
| | Aug-93 | 7.40 | 1330 | 73 | | 427 | 560 | 0.70 | 0.28 | 0.42 | 0.29 | <0.01 | <2.0 | 5.3 | | 86 | <0.10 |
| | Aug-94 | 7.35 | 1440 | 74 | | 393 | 580 | 0.67 | 0.28 | 0.39 | 0.06 | <0.02 | <5.0 | <0.3 | | 83 | <0.10 |
| | Sep-95 | 7.35 | 1570 | 109 | 327 | 405 | 750 | 0.26 | 0.13 | 0.13 | 0.16 | <0.01 | <2.0 | 0.6 | | 93 | <0.25 |
| | Sep-96 | 7.23 | 1357 | 80 | 252 | 399 | 612 | 0.54 | 0.22 | 0.32 | <0.4 | <0.2 | <0.5 | 0.4 | | 89 | <0.1 |
| | Sep-97 | 7.28 | 1430 | 115 | 332 | 336 | 551 | 0.86 | 0.06 | 0.80 | 1.30 | <0.2 | <1.0 | 0.5 | | 125 | 0.31 |
| | Sep-98 | 7.46 | 2257 | 266 | 633 | 334 | 830 | 1.79 | 0.98 | 0.81 | 2.70 | <0.2 | 5.0 | 1.8 | 20 | 230 | 0.08 |
| | Sep-99 | 7.38 | 3254 | 437 | 900 | 338 | 1090 | 0.66 | 0.58 | 0.08 | 2.60 | <0.2 | <1.0 | 1.8 | 26 | 362 | 0.53 |
| | Sep-00 | 7.88 | 1688 | 156 | 504 | 416 | 750 | 1.37 | 1.28 | 0.09 | 0.30 | <0.2 | <1 | 1.2 | 16 | 168 | <0.01 |
| | Sep-01 | | 1620 | 53 | 484 | 439 | 970 | 0.49 | <0.03 | 0.49 | <0.2 | <0.2 | <1.0 | <0.5 | 4 | 31 | <0.01 |
| | Sep-02 | 7.36 | 1937 | 161 | 496 | 387 | 697 | 0.83 | 0.65 | 0.18 | <0.2 | <0.2 | <1.0 | <0.5 | 16 | 167 | <0.01 |
| | Sep-03 | 7.50 | 2390 | 252 | 684 | 387 | 800 | 1.19 | 1.03 | 0.16 | 0.80 | <0.2 | <1.0 | 5.3 | 19 | 210 | <0.01 |
| | Sep-04 | 7.64 | 2710 | 334 | | 32 * | 945 | 1.50 | 1.14 | 0.36 | <1 | 0.30 | 1.0 | 8.0 | 7 | 239 | 0.15 |
| | Sep-05 | 8.10 | 1300 | 169 | 295 | 426 | 585 | 4.50 | 0.64 | 3.86 | 1.60 | <0.3 | <1 | <2.0 | 13 | 110 | <0.05 |
| | Sep-06 | 8.10 | 1880 | 175 | 535 | 234 | 630 | 0.60 | 0.34 | 0.26 | 0.90 | 0.05 | <1 | <2.0 | 16 | 160 | <0.05 |
| | Oct-08 | 8.00 | 1390 | 56 | 266 | 407 | 550 | 9.00 | 4.50 | 4.50 | 1.50 | 0.03 | * 13 | 3.0 | 13 | 91 | <0.02 |
| | Sep-10 | 7.80 | 1120 | 30 | 150 | 418 | 480 | <2 | <0.05 | <2 | 3.70 | <0.01 | <1 | <2.0 | 8 | 50 | <0.02 |
| | Sep-11 | 7.71 | 1150 | 32 | 150 | 441 | 530 | 9.00 | <0.05 | 8.98 | 1.80 | <0.01 | <1 | <2.0 | 8 | 50 | <0.02 |
| | Sep-12 | 7.42 | 1100 | 30 | 140 | 410 | 530 | 1.40 | 0.06 | 1.34 | 2.10 | <0.01 | <1 | <2.0 | 8 | 48 | <0.02 |
| | Sep-13 | 7.90 | 1100 | 31 | 150 | 440 | 530 | 1.30 | 0.43 | 0.87 | 2.40 | <0.01 | <1 | <2.0 | 8 | 51 | <0.02 |
| | Sep-14 | 7.78 | 1100 | 34 | 140 | 430 | 550 | 2.30 | 0.07 | 2.23 | 3.02 | <0.01 | <1 | <2.0 | 8 | 54 | <0.02 |
| | Sep-15 | 7.71 | 1200 | 27 | 160 | 450 | 630 | 0.77 | 0.10 | 0.67 | 1.69 | <0.01 | <1 | <2.0 | 8 | 50 | <0.02 |
| | Sep-16 | 7.91 | 1200 | 38 | 180 | 460 | 650 | 0.51 | 0.11 | 0.40 | 2.23 | <0.01 | <1 | 2.0 | 10 | 59 | <0.02 |
| **18-II R** | Sep-17 | 7.66 | 2500 | 170 | 750 | 360 | 880 | 1.10 | 0.90 | 0.20 | 0.19 | 0.08 | <1 | <2 | 27 | 240 | <0.02 |
| | Sep-18 | 7.74 | 2200 | 130 | 690 | 390 | 880 | 1.10 | 1.00 | 0.10 | 0.12 | 0.04 | <1 | <2 | 20 | 150 | <0.02 |
| | Sep-19 | 7.93 | 1600 | 88 | 430 | 370 | 730 | 1.20 | 1.10 | 0.10 | 0.10 | 0.18 | <1 | 7.0 | 18 | 110 | <0.1 |
| | Sep-20 | 7.83 | 2900 | 280 | 850 | 350 | 790 | 2.00 | 2.20 | <0.05 | 0.22 | 0.09 | <1 | 10.0 | 23 | 200 | <0.02 |
| | Sep-21 | 7.82 | 1700 | 100 | 440 | 380 | 730 | 1.40 | 1.00 | 0.40 | <0.10 | 0.11 | <1 | 6.0 | 19 | 110 | <0.02 |

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| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **18-III** | Dec-85 | 7.18 | 935 | 6 | | 502 | 534 | 1.00 | <0.05 | 1.00 | | | | 4.2 | | | |
| | Jul-86 | 8.10 | 954 | 20 | | 373 | 490 | 1.00 | <0.05 | 1.00 | | | <1.0 | 3.1 | | | |
| | Nov-87 | 7.26 | 700 | 240 | | 540 | 542 | 0.43 | <0.01 | 0.43 | | | 2.2 | 6.0 | | | |
| | Jul-88 | 6.92 | 774 | | | 496 | 540 | | <0.01 | | | | 1.0 | | | | |
| | Nov-88 | | 853 | 61 | | 477 | 724 | 0.34 | 0.01 | 0.33 | | | | 7.0 | | | |
| | Oct-90 | | 1200 | 13 | | 520 | | 0.25 | <0.05 | 0.25 | <0.2 | <0.02 | <2.0 | | | 42 | <0.08 |
| | Sep-91 | 7.74 | 1310 | 33 | | 466 | 630 | 1.13 | 0.08 | 1.05 | <0.2 | 0.04 | <2.0 | <0.5 | | 53 | <0.08 |
| | Aug-92 | 7.24 | 1170 | 35 | | 494 | 650 | 0.13 | <0.02 | <0.13 | <0.1 | <0.01 | <2.0 | <0.5 | | 53 | <0.08 |
| | Aug-93 | 7.29 | 1100 | 33 | | 464 | 570 | 0.26 | <0.01 | 0.26 | 0.25 | <0.01 | <2.0 | <0.3 | | 46 | <0.10 |
| | Aug-94 | 7.40 | 1260 | 44 | | 423 | 590 | 0.17 | 0.03 | 0.14 | <0.02 | <0.02 | <5.0 | <0.3 | | 61 | <0.10 |
| | Sep-95 | 7.44 | 1480 | 93 | 286 | 422 | 680 | 0.13 | 0.09 | 0.04 | 0.20 | <0.01 | <2.0 | 0.8 | | 83 | <0.25 |
| | Sep-96 | 7.30 | 1209 | 35 | 177 | 436 | 496 | 1.10 | 0.11 | 0.99 | 0.40 | <0.2 | <0.5 | 0.3 | | 24 | <0.1 |
| | Sep-97 | 7.44 | 999 | 38 | 184 | 448 | 555 | 0.91 | 0.12 | 0.79 | 0.30 | <0.2 | <1.0 | 0.7 | | 27 | <0.10 |
| | Sep-98 | 7.58 | 1086 | 25 | 188 | 452 | 546 | 2.07 | 0.07 | 2.00 | 0.60 | <0.2 | 4.0 | 1.1 | 7 | 36 | 0.02 |
| | Sep-99 | 7.59 | 1204 | 48 | 212 | 397 | 591 | 0.20 | 0.04 | 0.16 | 1.20 | <0.2 | <1.0 | 1.9 | 8 | 62 | 0.05 |
| | Sep-00 | 8.09 | 907 | 20 | 145 | 432 | 525 | 0.44 | 0.04 | 0.40 | 2.60 | <0.2 | <1 | 0.5 | 8 | 39 | <0.01 |
| | Sep-01 | | 1293 | 10 | 265 | 546 | 798 | 0.55 | <0.03 | 0.55 | <0.2 | <0.2 | <1.0 | <0.5 | 4 | 21 | <0.01 |
| | Sep-02 | 7.35 | 1251 | 54 | 216 | 431 | 555 | 0.43 | <0.03 | 0.43 | 0.30 | <0.2 | <1.0 | <0.5 | 8 | 67 | <0.01 |
| | Sep-03 | 7.80 | 1119 | 28 | 218 | 469 | 578 | 0.59 | 0.06 | 0.53 | 0.80 | <0.2 | <1.0 | 0.6 | 8 | 44 | <0.01 |
| | Sep-04 | 8.10 | 834 | 4 | | 379 | 447 | 0.90 | <0.05 | <0.90 | 0.30 | <0.1 | 1.0 | <5.0 | 2 | 28 | 0.44 |
| | Sep-05 | 8.11 | 1190 | 63 | 223 | 444 | 560 | 4.80 | 0.07 | 4.73 | 1.00 | <0.3 | <1 | <2.0 | 10 | 78 | <0.05 |
| | Sep-06 | 7.90 | 1170 | 27 | 178 | 497 | 630 | 1.70 | 0.81 | 0.89 | 0.80 | 0.05 | 8.0 | <2.0 | 7 | 34 | 0.17 |
| | Sep-07 | 7.90 | 2450 * | 220 * | 664 * | 307 | 850 | 7.00 | 2.33 | 4.67 | 0.60 | 0.05 | 12.0 | <2.0 | 21 | 230 * | <0.05 |
| | Oct-08 | 8.00 | 1110 | 25 | 161 | 445 | 500 | 19.00 | 0.14 | 18.86 | 0.60 | 0.08 | <1 | 5.0 | 8 | 44 | 0.04 |
| **18-III R** | Sep-17 | 7.76 | 1200 | 47 | 160 | 420 | 510 | 2.00 | 0.12 | 1.88 | 4.66 | <0.01 | <10 | <2 | 15 | 67 | <0.02 |
| | Sep-18 | 7.89 | 1200 | 59 | 160 | 420 | 500 | 0.86 | 0.16 | 0.70 | 6.67 | <0.01 | <1 | <2 | 12 | 64 | <0.02 |
| | Sep-19 | 8.06 | 930 | 42 | 130 | 390 | 510 | 0.72 | <0.050 | 0.70 | 6.38 | <0.010 | <1 | <2 | 11 | 60 | <0.1 |
| | Sep-20 | 7.95 | 1100 | 48 | 150 | 410 | 530 | 0.38 | <0.050 | 0.38 | 5.52 | <0.010 | <1 | <2 | 11 | 61 | <0.02 |
| | Sep-21 | 8.10 | 1200 | 68 | 150 | 400 | 500 | 1.90 | <0.050 | 1.90 | 6.82 | <0.010 | <1 | <2 | 10 | 61 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

Monitor 18-III has been reported as dry since 2012.
Monitor 18-III was decommissioned in the fall of 2016.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **21-I** | Jul-86 | 8.07 | 4220 | 10 | | 177 | 2260 | 8.80 | 7.70 | 1.10 | | | 5.0 | 23.7 | | | |
| | Sep-87 | 8.20 | 2880 | 865 | | 144 | 2102 | 2.00 | | | | | <1.0 | 7.0 | | | |
| | Nov-87 | 7.76 | 3000 | 240 | | 94 | 1799 | 3.44 | 1.94 | 1.50 | | | <0.1 | 7.0 | | | |
| | Jul-88 | 7.81 | 3040 | | | 104 | 2318 | 3.40 | 3.22 | 0.18 | | | <0.5 | | | | |
| | Nov-88 | | 2860 | 34.0 | | 88 | 2158 | 3.33 | 2.04 | 1.29 | | | | 2.0 | | | |
| | Oct-89 | 7.88 | 4000 | 20.5 | | 150 | 1919 | 2.90 | 2.81 | 0.09 | | | | 0.3 | | 285 | |
| | Oct-90 | | 1350 | 2.0 | | 200 | | 0.99 | 0.56 | 0.43 | <0.2 | 0.02 | <2.0 | | | 81 | <0.08 |
| | Sep-91 | 7.81 | 489 | 1.6 | | 264 | 300 | 0.47 | <0.05 | 0.47 | <0.2 | <0.01 | 2.2 | <0.7 | | 3 | <0.08 |
| | Aug-92 | 7.55 | 1980 | 5.7 | | 169 | 1000 | 1.43 | 1.14 | 0.29 | <0.1 | <0.01 | <2.0 | <0.5 | | 140 | <0.08 |
| | Aug-93 | 7.44 | 581 | <2.6 | | 247 | 300 | 0.52 | 0.11 | 0.41 | 0.52 | <0.01 | <2.0 | 0.3 | | 15 | 0.12 |
| | Aug-94 | 7.38 | 460 | <2.6 | | 234 | 240 | 0.61 | 0.04 | 0.57 | 0.06 | <0.02 | <1.0 | 0.5 | | 3 | 0.15 |
| | Sep-95 | 7.86 | 456 | <2.6 | 77 | 218 | 250 | 0.67 | 0.16 | 0.51 | 0.33 | <0.01 | <2.0 | 1.7 | | 7 | <0.25 |
| | Sep-96 | 7.13 | 465 | 0.5 | 6 | 211 | 240 | 1.20 | 0.15 | 1.05 | 1.80 | <0.2 | <0.5 | 0.8 | | 2 | <0.1 |
| | Sep-97 | 7.26 | 385 | 0.6 | 7 | 224 | 238 | 3.18 | 1.25 | 1.93 | 2.40 | 0.10 | <1.0 | 0.3 | | 1 | 0.49 |
| | Sep-98 | 7.47 | 460 | 0.7 | 6 | 249 | 266 | 1.81 | 0.51 | 1.30 | <0.2 | <0.2 | <1.0 | 4.6 | 1 | 2 | 0.30 |
| | Sep-99 | 7.45 | 435 | 0.6 | 11 | 211 | 244 | 0.14 | 0.08 | 0.06 | 0.20 | <0.2 | <1.0 | 2.0 | 3 | 8 | <0.01 |
| | Sep-00 | 8.01 | 584 | 1.8 | 102 | 254 | 285 | 1.75 | 1.52 | 0.23 | <0.2 | <0.2 | <1.0 | 2.3 | 8 | 26 | <0.01 |
| | Sep-01 | | 773 | 2.7 | 287 | 228 | 413 | 2.00 | 1.44 | 0.56 | <0.2 | <0.2 | <1.0 | 3.8 | 12 | 49 | <0.01 |
| | Sep-02 | 7.47 | 1319 | 3.4 | 564 | 195 | 576 | 1.68 | 1.39 | 0.29 | <0.2 | 0.30 | <1.0 | <0.5 | 15 | 72 | <0.01 |
| | Sep-03 | 7.70 | 445 | 1.4 | 14 | 221 | 245 | 0.31 | <0.03 | 0.31 | 1.10 | <0.2 | <1.0 | 2.4 | 2 | 3 | <0.01 |
| | Sep-04 | 8.30 | 378 | 1.6 | | 214 | 216 | 1.80 | <0.05 | <1.80 | 0.60 | <0.1 | <1.0 | <5.0 | 3 | 5 | 0.66 |
| | Sep-05 | 8.13 | 325 | 2.0 | 12 | 177 | 187 | 10.00 | 0.41 | 9.59 | 0.30 | <0.3 | <1 | <2.0 | 2 | 4 | 0.06 |
| | Sep-06 | 8.10 | 402 | 2.0 | 10 | 222 | 220 | 0.50 | <0.05 | 0.50 | 1.40 | 0.01 | 1.0 | <2.0 | 2 | 7 | <0.05 |
| | Sep-07 | 7.90 | 419 | 2.0 | 10 | 217 | 230 | 1.20 | <0.05 | 1.18 | 0.50 | <0.01 | <1 | <2.0 | 1 | 3 | <0.05 |
| | Oct-08 | 8.00 | 356 | 3.0 | 11 | 176 | 190 | 6.00 | 0.11 | 5.89 | 1.40 | <0.01 | <1 | 3.0 | 2 | 3 | <0.02 |
| | Sep-09 | 7.70 | 384 | 3.0 | 7 | 197 | 180 | 10.00 | 1.60 | 8.40 | 1.10 | 0.08 | <1 | <2.0 | 3 | 3 | <0.02 |
| | Sep-10 | 7.90 | 450 | 2.0 | 37 | 185 | 180 | 4.00 | 1.10 | 2.90 | 1.20 | 0.21 | 3.0 | <2.0 | 7 | 17 | <0.02 |
| | Sep-11 | 7.87 | 356 | 2.0 | 4 | 183 | 180 | 5.00 | 0.95 | 4.05 | 0.70 | 0.07 | 9.0 | 4.0 | 6 | 2 | <0.02 |
| | Sep-12 | 7.49 | 440 | 2.0 | 11 | 210 | 220 | 7.50 | 0.42 | 7.08 | 0.72 | <0.01 | <1 | <2.0 | 3 | 2 | <0.02 |
| | Sep-13 | 7.89 | 450 | 2.0 | 8 | 230 | 240 | 8.50 | 0.77 | 7.73 | 0.65 | <0.01 | <1 | <2.0 | 4 | 2 | <0.02 |
| | Sep-14 | 8.04 | 440 | 2.0 | 9 | 230 | 230 | 2.70 | 0.45 | 2.25 | 0.49 | 0.01 | <1 | <2.0 | 6 | 5 | 0.02 |
| | Sep-15 | 7.70 | 440 | 5.0 | 12 | 210 | 250 | 1.10 | 0.15 | 0.95 | 0.85 | 0.04 | <1 | <2.0 | 5 | 8 | 0.02 |
| | Sep-16 | 7.82 | 320 | 3.9 | 11 | 160 | 180 | 1.60 | 0.27 | 1.33 | 0.42 | 0.01 | 1.5 | 8.0 | 4 | 2 | <0.02 |
| **21-I R** | Sep-17 | 7.73 | 5000 | 12.0 | 3100 | 180 | 1900 | 2.10 | 1.10 | 1.00 | 4.25 | 0.09 | <1 | 7.0 | 46 | 630 | <0.02 |
| | Sep-18 | 7.97 | 4800 | 9.0 | 2800 | 240 | 1700 | 1.70 | 1.50 | 0.20 | 1.01 | 0.12 | <1 | <2 | 36 | 590 | <0.02 |
| | Sep-19 | 8.30 | 4100 | 7.8 | 1600 | 650 | 720 | 0.27 | 0.15 | 0.12 | 0.39 | 0.02 | <1 | 3.0 | 10 | 770 | <0.1 |
| | Sep-20 | 8.18 | 3800 | 7.6 | 1500 | 650 | 760 | 0.28 | 0.19 | 0.09 | 0.26 | <0.010 | <1 | <2 | 11 | 660 | <0.02 |
| | Sep-21 | 8.19 | 3200 | 8.3 | 1200 | 650 | 680 | 0.34 | 0.18 | 0.16 | 0.15 | 0.01 | <1 | 4.0 | 10 | 590 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **21-II** | Sep-87 | 8.30 | 1210 | 625 | | 576 | 1182 | 0.30 | | | | | 3.0 | 43.0 | | | |
| | Nov-87 | 8.22 | 1300 | 105 | | 680 | 1183 | 1.48 | <0.01 | 1.48 | | | 1.7 | 1.2 | | | |
| | Jul-88 | 8.08 | 1290 | | | 546 | 910 | 0.10 | | | | | <0.5 | | | | |
| | Nov-88 | | 1200 | 30 | | 478 | 917 | 0.79 | 0.56 | 0.23 | | | | 2.0 | | | |
| | Oct-89 | 7.91 | 1570 | 17.5 | | 550 | 736 | 0.73 | 0.58 | 0.15 | | | | 0.4 | | 95 | |
| | Oct-90 | | 1660 | 3.9 | | 550 | 0 | 0.50 | 0.33 | 0.17 | <0.2 | <0.02 | <2.0 | | | 88 | <0.08 |
| | Sep-91 | 7.89 | 7090 | 1.6 | | 352 | 550 | 3.08 | 1.22 | 1.86 | 0.80 | 0.25 | * 67.2 | 4.8 | | 60 | <0.08 |
| | Aug-92 | 7.38 | 1520 | 3.0 | | 503 | 840 | 2.65 | 2.06 | 0.59 | <0.1 | 0.02 | <2.0 | 12.0 | | 84 | |
| | Aug-93 | 7.42 | 1750 | <2.6 | | 492 | 870 | 0.27 | 0.04 | 0.23 | 0.35 | 0.02 | <2.0 | <0.3 | | 98 | 0.21 |
| | Aug-94 | 7.59 | 1540 | <2.6 | | 387 | 900 | 0.92 | 0.54 | 0.38 | 0.23 | <0.02 | <1.0 | 0.7 | | 83 | 0.38 |
| | Sep-95 | 7.79 | 1980 | <2.6 | 795 | 446 | 1000 | 1.67 | 0.49 | 1.18 | 0.23 | 0.03 | <2.0 | 2.6 | | 107 | <0.25 |
| | Sep-96 | 7.52 | 1650 | 4.5 | 635 | 329 | 840 | 0.38 | 0.14 | 0.24 | 1.60 | <0.2 | <0.5 | 0.3 | | 105 | <0.1 |
| | Sep-97 | 7.52 | 1650 | 5.1 | 685 | 432 | 930 | 0.68 | 0.30 | 0.38 | 0.30 | <0.2 | <1.0 | 1.0 | | 104 | 0.18 |
| | Sep-98 | 7.30 | 524 | 5.4 | 52 | 218 | 200 | 10.70 | 5.70 | 5.00 | 0.30 | 0.60 | <1.0 | 34.2 | 19 | 10 | 0.24 |
| | Sep-99 | 7.71 | 1466 | 9.5 | 445 | 389 | 689 | 5.20 | 5.70 | <0.05 | 4.60 | 0.30 | <1.0 | 25.5 | 16 | 109 | 0.05 |
| | Sep-00 | 7.99 | 1517 | 9.5 | 345 | 702 | 812 | 12.20 | 12.20 | 0.00 | <0.2 | <0.2 | 1.0 | 32.7 | 14 | 101 | 0.04 |
| | Sep-01 | | 1340 | 5.0 | 540 | 555 | 899 | 4.80 | 4.24 | 0.56 | <0.2 | <0.2 | <1.0 | 5.3 | 12 | 49 | <0.01 |
| | Sep-02 | 7.49 | 1814 | 4.8 | 664 | 484 | 893 | 1.63 | 1.49 | 0.14 | <0.2 | <0.2 | <0.1 | 0.6 | 10 | 100 | <0.01 |
| | Sep-03 | 7.50 | 1830 | 4.7 | 662 | 485 | 245 | 2.99 | <0.03 | 2.99 | <0.2 | <0.2 | <1.0 | 7.0 | 2 | 3 | <0.01 |
| | Sep-04 | 8.20 | 775 | 4.0 | | 292 | | 6.20 | 5.84 | 0.36 | 1.90 | <0.1 | 1.0 | 29.0 | 8 | 75 | 0.10 |
| | Sep-05 | 7.93 | 708 | 5.0 | 114 | 217 | 319 | 2.70 | 1.64 | 1.06 | 11.80 | <0.3 | <1 | 4.0 | 9 | 61 | 1.30 |
| | Sep-06 | 8.10 | 510 | 4.0 | 56 | 228 | 280 | 2.50 | 1.25 | 1.25 | 0.80 | 0.03 | 2.0 | <2.0 | 4 | 18 | 1.80 |
| | Sep-07 | 7.60 | 285 | 8.0 | 42 | 83 * | 140 | 1.00 | 0.12 | 0.88 | 2.70 | 0.08 | <1 | <2.0 | 3 | 8 | <0.05 |
| | Oct-08 | 8.10 | 1260 | 5.0 | 380 | 281 | 560 | 9.00 | 1.10 | 7.90 | 0.30 | 0.13 | * 79 | 7.0 | 8 | 62 | <0.02 |
| | Sep-09 | 7.80 | 1550 | 6.0 | 500 | 378 | 730 | 5.00 | 0.81 | 4.19 | 0.90 | 0.09 | 7.0 | <2.0 | 9 | 85 | <0.02 |
| | Sep-10 | 7.90 | 1750 | 6.0 | 540 | 424 | 790 | 5.00 | 1.20 | 3.80 | 1.50 | 0.52 | 1.0 | <2.0 | 10 | 91 | <0.02 |
| | Sep-11 | 7.83 | 955 | 6.0 | 250 | 261 | 410 | 4.00 | 2.50 | 1.50 | 1.20 | 0.34 | <1 | <2.0 | 9 | 43 | <0.02 |
| | Sep-12 | 8.02 | 1800 | 8.0 | 570 | 420 | 850 | 2.40 | 0.90 | 1.50 | 0.87 | 0.05 | 7.3 | 4.0 | 11 | 103 | <0.02 |
| | Sep-16 | 7.91 | 580 | 7.0 | 38 | 250 | 260 | 10.00 | 9.20 | 0.80 | 0.42 | 0.12 | 11.0 | 32.0 | 13 | 13 | 0.28 |
| **21-II R** | Sep-17 | 7.98 | 8500 | 20.0 | 4800 | 410 | 1700 | 1.80 | 0.26 | 1.54 | 6.18 | 0.05 | <1 | <2 | 18 | 1700 | <0.02 |
| | Sep-18 | 8.09 | 8300 | 15.0 | 5000 | 410 | 1700 | 1.20 | 0.39 | 0.81 | 1.80 | 0.02 | <1 | <2 | 17 | 1600 | <0.02 |
| | Sep-19 | 8.12 | 7200 | 12.0 | 3900 | 460 | 1500 | 0.80 | 0.33 | 0.47 | 0.91 | 0.01 | <1 | 9.0 | 15 | 1400 | <0.1 |
| | Sep-20 | 7.96 | 5900 | 9.6 | 2900 | 540 | 1300 | 0.33 | 0.06 | 0.27 | 0.47 | 0.02 | <1 | 4.0 | 13 | 1100 | <0.02 |
| | Sep-21 | 8.10 | 5200 | 9.7 | 2700 | 580 | 1100 | 0.80 | 0.27 | 0.53 | 2.72 | 0.02 | <1 | 14.0 | 11 | 1000 | <0.02 |
| **21-III** | Sep-05 | 7.99 | 525 | 2.0 | 18 | 287 | 288 | 106.00 * | 2.71 | 103.29 * | <0.2 | <0.3 | 51.0 | 6.0 | 2 | 7 | 0.32 |
| | Sep-06 | 8.00 | 542 | 2.0 | 12 | 319 | 310 | 0.90 | 0.53 | 0.37 | <0.1 | <0.01 | 5.0 | <2 | 4 | 9 | <0.05 |
| | Sep-07 | 7.90 | 794 | 6.0 | 8 | 452 | 460 | 5.00 | 1.15 | 3.85 | <0.1 | 0.02 | 12.0 | 5.0 | 4 | 9 | <0.05 |
| | Oct-08 | 7.90 | 789 | 4.0 | 3 | 442 | 410 | 10.00 | 4.40 | 5.60 | <0.1 | <0.01 | 125.0 | 20.0 | 3 | 6 | 0.25 |
| | Sep-09 | 7.40 | 975 | 7.0 | 2 | 570 | 480 | 13.00 | 11.00 | 2.00 | <0.1 | 0.01 | 5.0 | 8.0 | 5 | 7 | 1.34 |
| | Sep-10 | 7.70 | 905 | 5.0 | 20 | 491 | 460 | 12.00 | 4.30 | 7.70 | <0.1 | 0.01 | 34.0 | 9.0 | 5 | 11 | <0.02 |
| | Sep-11 | 7.72 | 1000 | 6.0 | 28 | 550 | 530 | 34.00 | 4.80 | 29.20 | <0.1 | <0.01 | 4.0 | 3.0 | 6 | 10 | <0.02 |
| | Sep-12 | 7.31 | 990 | 4.0 | 32 | 470 | 550 | 4.30 | 2.30 | 2.00 | <0.1 | <0.01 | <1 | 2.0 | 5 | 10 | <0.02 |
| | Sep-13 | 7.87 | 850 | 3.0 | 31 | 460 | 470 | 4.30 | 0.72 | 3.58 | <0.5 | <0.05 | <1 | <2.0 | 5 | 10 | 0.02 |
| | Sep-14 | 7.74 | 880 | 3.0 | 33 | 460 | 510 | 2.90 | 0.48 | 2.42 | <0.1 | 0.01 | <1 | <2.0 | 5 | 12 | <0.02 |
| | Sep-15 | 7.72 | 800 | 3.1 | 37 | 420 | 470 | 0.81 | 0.35 | 0.46 | <0.1 | 0.02 | <1 | <2.0 | 5 | 10 | 0.04 |
| | Sep-16 | 7.99 | 820 | 2.6 | 32 | 440 | 510 | 0.77 | 0.19 | 0.58 | <0.1 | <0.01 | <1 | 2.0 | 6 | 13 | <0.02 |
| **21-III R** | Sep-17 | 7.78 | 2400 | 6.4 | 950 | 660 | 1400 | 0.15 | 0.08 | 0.07 | <0.1 | 0.02 | <1 | <2 | 13 | 170 | <0.02 |
| | Sep-18 | 7.94 | 2400 | 5.2 | 920 | 700 | 1300 | 0.10 | <0.050 | 0.10 | <0.1 | <0.01 | <1 | <2 | 11 | 150 | <0.02 |
| | Sep-19 | 8.05 | 2500 | 5.3 | 830 | 650 | 1200 | 0.16 | <0.050 | 0.14 | <0.10 | <0.010 | <1 | <2 | 9 | 150 | <0.1 |
| | Sep-20 | 7.92 | 2400 | 3.7 | 910 | 650 | 1300 | <0.10 | <0.050 | <0.05 | <0.10 | <0.010 | <1 | <2 | 10 | 160 | <0.02 |
| | Sep-21 | 8.18 | 2200 | 5.3 | 750 | 650 | 1200 | 0.13 | <0.050 | 0.13 | <0.10 | <0.010 | <1 | <2 | 9 | 140 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

Monitor 21-II was blocked at approximately 10 m below grade in 2013.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **22-I** | Jul-86 | 8.50 | 2110 | 15 | | 483 | 470 | 3.40 | 2.40 | 1.00 | | | 3.2 | 31.7 | | | |
| | Sep-87 | 8.20 | 1080 | 1160 | | 570 | 359 | 1.20 | | | | | 3.0 | 39.0 | | | |
| | Nov-87 | | | | | | | | | | | | <0.1 | | | | |
| | Jul-88 | 8.17 | 1050 | | | 565 | 322 | 1.70 | 2.13 | - | | | <0.5 | | | | |
| | Nov-88 | | 916 | | | 525 | 337 | 3.53 | 1.94 | 1.59 | | | <0.5 | 4.0 | | | |
| | Oct-90 | | 8630 | 12 | | <1.0 | 358 | 0.37 | <0.05 | 0.37 | <0.2 | <0.02 | 2.0 | | | 16 | <0.08 |
| | Sep-91 | 7.78 | 789 | 10 | | 261 | 260 | 0.54 | 0.07 | 0.47 | <0.1 | <0.01 | 11.0 | 2.9 | | 60 | <0.08 |
| | Aug-92 | 7.84 | 878 | 27 | | 348 | 380 | 19.10 | 1.60 | 17.50 | 0.60 | 0.32 | <2.0 | | | 160 | 149.00 |
| | Aug-93 | | | | | | | | | | | | <2.0 | | | | |
| | Aug-94 | 7.41 | 578 | 9 | | 228 | 290 | 0.31 | 0.04 | 0.27 | 0.32 | <0.02 | <1.0 | 0.7 | | 7 | <0.10 |
| | Sep-95 | 7.91 | 1200 | 15 | 336 | 421 | 540 | 3.15 | 0.39 | 2.76 | 0.25 | 0.05 | <2.0 | 2.0 | | 83 | <0.25 |
| | Sep-96 | 7.31 | 933 | 4 | 82 | 445 | 550 | 0.70 | 0.17 | 0.53 | 0.40 | <0.2 | <0.5 | 1.7 | | 12 | <0.1 |
| | Sep-97 | 7.42 | 665 | 8 | 73 | 420 | 485 | 2.10 | 1.31 | 0.79 | <0.2 | <0.2 | 10.0 | 0.6 | | 35 | 0.57 |
| | Sep-98 | 7.52 | 703 | 4 | 54 | 366 | 529 | 0.83 | 0.04 | 0.79 | 0.20 | <0.2 | <1.0 | 2.4 | 3 | 6 | 0.05 |
| | Sep-99 | 7.68 | 713 | 4 | 76 | 315 | 423 | 0.52 | 0.05 | 0.47 | 0.20 | <0.2 | <1.0 | 2.0 | 3 | 8 | <0.01 |
| | Sep-00 | 8.27 | 659 | 4 | 77 | 355 | 402 | 0.58 | 0.05 | 0.53 | 0.40 | <0.2 | <1 | 0.6 | 3 | 14 | <0.01 |
| | Sep-01 | | 671 | 5 | 98 | 363 | 407 | 0.80 | 0.11 | 0.69 | 0.30 | <0.2 | <1.0 | 1.3 | 7 | 34 | <0.01 |
| | Sep-02 | 7.70 | 713 | 6 | 59 | 339 | 393 | 0.51 | <0.03 | 0.51 | 0.60 | <0.2 | <1.0 | <0.5 | 3 | 6 | <0.01 |
| | Sep-03 | 7.80 | 665 | 8 | 53 | 328 | 387 | 0.40 | <0.03 | 0.40 | 0.90 | <0.2 | <1.0 | 0.9 | 3 | 6 | <0.01 |
| | Sep-04 | 8.19 | 782 | 6 | | 406 | 434 | 13.40 * | 2.92 * | 10.48 * | 0.10 | <0.1 | 1.0 | 16.0 | | | |
| | Sep-05 | 8.06 | 357 | 3 | 17 | 191 | 205 | 0.80 | 0.20 | 0.60 | 0.60 | <0.3 | <1 | <2.0 | 6 | 5 | 0.05 |
| | Sep-06 | 7.90 | 276 | 3 | 15 | 142 | 160 | 0.50 | <0.05 | 0.50 | 0.60 | <0.01 | <1 | <2.0 | 5 | 6 | <0.05 |
| | Sep-07 | 7.80 | 389 | 3 | 14 | 188 | 210 | 2.50 | 0.06 | 2.44 | 0.80 | 0.02 | <1 | 2.0 | 4 | 3 | <0.05 |
| | Oct-08 | 7.90 | 300 | 20 | 18 | 127 | 140 | 1.60 | 0.07 | 1.53 | 1.50 | 0.02 | <1 | <2.0 | 5 | 5 | <0.02 |
| | Sep-09 | 7.90 | 1270 | 9 | 190 | 515 | 280 | 5.00 | 2.90 | 2.10 | 0.30 | 0.27 | 2.0 | 2.0 | 24 | 167 | <0.02 |
| | Sep-10 | | 1220 | 8 | 170 | | 270 | | | | | | | | 25 | 146 | <0.02 |
| | Sep-11 | 8.18 | 1190 | 7 | 140 | 501 | 300 | 2.00 | 1.60 | 0.40 | 1.40 | 0.07 | <1 | 5.0 | 27 | 148 | <0.02 |
| | Sep-12 | 8.01 | 1300 | 9 | 120 | 530 | 290 | 13.00 | 6.20 | 6.80 | 0.31 | 0.02 | 51.0 | 15.0 | 27 | 152 | <0.02 |
| | Sep-13 | 8.05 | 870 | 8 | 87 | 370 | 260 | 1.60 | 1.30 | 0.30 | 1.10 | 0.53 | <1 | <2.0 | 18 | 88 | <0.02 |
| | Sep-14 | 7.94 | 570 | 4 | 36 | 270 | 280 | 11.00 | 0.48 | 10.52 | 0.29 | 0.02 | <1 | <2.0 | 7 | 19 | <0.02 |
| | Sep-15 | 7.66 | 480 | 5 | 35 | 220 | 240 | 0.66 | 0.13 | 0.53 | 0.36 | 0.03 | <1 | <2.0 | 6 | 21 | 0.07 |
| **22-I R** | Sep-17 | 7.81 | 2400 | 11 | 670 | 690 | 810 | 3.00 | 2.70 | 0.30 | 1.23 | 0.17 | <10 | <2 | 38 | 280 | <0.02 |
| | Sep-18 | 8.01 | 3000 | 11 | 1100 | 700 | 870 | 1.50 | 1.50 | <0.05 | 0.51 | 0.02 | <1 | <2 | 33 | 400 | <0.02 |
| | Sep-19 | 8.15 | 2400 | 9 | 740 | 710 | 790 | 0.34 | 0.11 | 0.23 | 0.39 | 0.09 | <1 | 4.0 | 22 | 380 | <0.1 |
| | Sep-20 | 7.99 | 2700 | 10 | 940 | 660 | 800 | 2.40 | 2.40 | <0.05 | 0.18 | 0.09 | <1 | 3.0 | 33 | 330 | <0.02 |
| | Sep-21 | 8.11 | 2200 | 8 | 540 | 730 | 740 | 0.82 | 0.74 | 0.08 | 0.43 | 0.05 | <1 | 12.0 | 28 | 310 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **22-II** | Jul-86 | 7.90 | 911 | 7 | | 462 | 517 | 0.40 | 0.05 | 0.35 | | | <1.0 | 6.5 | | | |
| | Sep-87 | 7.30 | 590 | 290 | | 470 | 630 | <0.10 | | | | | <1.0 | 34.0 | | | |
| | Nov-87 | 7.45 | 700 | 145 | | 780 | 611 | 0.38 | <0.01 | 0.38 | | | <0.1 | 4.7 | | | |
| | Jul-88 | 7.92 | 743 | | | 484 | 554 | <0.20 | <0.01 | | | | <0.5 | | | | |
| | Nov-88 | | 688 | | | 482 | 566 | 0.19 | <0.01 | 0.19 | | | <0.5 | 4.0 | | | |
| | Oct-89 | 7.25 | 837 | 42 | | 400 | 472 | 0.17 | 0.05 | 0.12 | | | 3.0 | 0.3 | | 11 | |
| | Oct-90 | | 4080 | 17 | | 1 | 1487 | 0.18 | <0.05 | 0.18 | <0.2 | <0.02 | 2.0 | | | 12 | <0.08 |
| | Sep-91 | 7.71 | 1040 | 20 | | 339 | 510 | 0.26 | <0.05 | 0.26 | <0.2 | <0.01 | 4.4 | <0.7 | | 14 | <0.08 |
| | Aug-92 | 7.08 | 1230 | 22 | | 510 | 790 | 0.49 | <0.02 | 0.49 | <0.1 | <0.01 | <2.0 | 1.2 | | 21 | <0.08 |
| | Aug-93 | 7.34 | 1140 | <2.6 | | 508 | 650 | 0.46 | <0.01 | 0.46 | 0.08 | <0.01 | <2.0 | 8.0 | | 18 | <0.10 |
| | Aug-94 | 7.18 | 1110 | <2.6 | | 470 | 630 | 0.61 | 0.05 | 0.56 | <0.02 | <0.02J | <1.0 | 0.6 | | 14 | <0.10 |
| | Sep-95 | 7.48 | 1090 | <2.6 | 259 | 464 | 650 | 0.93 | 0.05 | 0.88 | <0.04 | <0.01 | <2.0 | 1.8 | | 7 | <0.25 |
| | Sep-96 | 7.19 | 884 | 7 | 84 | 409 | 555 | 0.60 | 0.09 | 0.51 | <0.1 | <0.2 | <0.5 | 0.8 | | 11 | <0.1 |
| | Sep-97 | 7.29 | 711 | 7 | 91 | 355 | 456 | 7.10 | 0.37 | 6.73 | 1.20 | <0.2 | <1.0 | 7.1 | | 9 | 0.15 |
| | Sep-98 | 7.48 | 781 | 5 | 86 | 384 | 467 | 1.56 | 0.08 | 1.48 | <0.2 | <0.2 | <1.0 | 6.3 | 3 | 9 | 0.29 |
| | Sep-99 | 7.57 | 855 | 7 | 113 | 357 | 506 | 0.47 | 0.08 | 0.39 | 0.20 | <0.2 | <1.0 | 1.5 | 4 | 11 | 0.29 |
| | Sep-00 | 7.92 | 828 | 5 | 97 | 466 | 533 | 0.35 | 0.04 | 0.31 | <0.2 | <0.2 | <1 | <0.5 | 3 | 10 | <0.01 |
| | Sep-01 | | 741 | 9 | 44 | 449 | 488 | 2.30 | 9.73 | - | <0.2 | <0.2 | * 258 | 30.4 * | 6 | 8 | 0.05 |
| | Sep-02 | 7.40 | 890 | 7 | 59 | 452 | 470 | 6.00 | 5.28 | 0.72 | <0.2 | <0.2 | 9.0 | 2.2 | 5 | 9 | 0.03 |
| | Sep-03 | 7.60 | 845 | 8 | 69 | 433 | 432 | 11.90 | 11.70 | 0.20 | <0.2 | <0.2 | 1.0 | 7.7 | 6 | 8 | 0.04 |
| | Sep-04 | 8.29 | 647 | 5 | | 365 | 372 | 0.60 | <0.05 | <0.60 | 0.20 | <0.1 | 1.0 | <4.0 | 3 | 5 | 0.11 |
| | Sep-05 | 8.12 | 761 | 5 | 84 | 373 | 450 | 1.80 | 0.06 | 1.74 | <0.2 | <0.3 | <1 | <2.0 | 4 | 9 | 0.20 |
| | Sep-06 | 8.20 | 848 | 6 | 76 | 448 | 490 | 0.40 | 0.06 | 0.34 | 0.50 | <0.01 | <1 | <2.0 | 5 | 12 | <0.05 |
| | Sep-07 | 8.10 | 962 | 6 | 84 | 480 | 580 | 2.70 | 0.24 | 2.46 | 0.10 | 0.01 | 1.0 | <2.0 | 4 | 11 | <0.05 |
| | Oct-08 | 8.00 | 775 | 5 | 72 | 363 | 430 | 4.00 | 1.10 | 2.90 | <0.1 | 0.01 | <1 | <2.0 | 4 | 7 | <0.02 |
| | Sep-09 | 7.70 | 903 | 5 | 69 | 455 | 490 | 11.00 | 0.38 | 10.62 | <0.1 | <0.01 | 6.0 | <2.0 | 3 | 9 | <0.02 |
| | Sep-10 | 7.70 | 1020 | 7 | 75 | 496 | 530 | 2.00 | <0.05 | 1.98 | <0.1 | <0.01 | <1 | <2.0 | 4 | 10 | <0.02 |
| | Sep-11 | 7.76 | 924 | 6 | 71 | 448 | 520 | 4.00 | <0.05 | 3.98 | <0.1 | <0.01 | <1 | <2.0 | 4 | 9 | <0.02 |
| | Sep-12 | 7.47 | 930 | 6 | 68 | 410 | 500 | 1.10 | <0.05 | 1.08 | <0.10 | <0.01 | <1 | 2.0 | 3 | 9 | <0.02 |
| | Sep-13 | 7.91 | 880 | 5 | 63 | 430 | 490 | 0.94 | 0.23 | 0.71 | <0.1 | <0.01 | <1 | <2.0 | 4 | 8 | <0.02 |
| | Sep-14 | 7.78 | 870 | 5 | 54 | 430 | 500 | <1.00 | <0.05 | <0.05 | <0.1 | <0.01 | <1 | <2.0 | 3 | 8 | <0.02 |
| | Sep-15 | 7.74 | 870 | 6 | 61 | 420 | 530 | 0.44 | 0.06 | 0.38 | <0.1 | 0.01 | <1 | <2.0 | 4 | 9 | <0.02 |
| | Sep-16 | 7.87 | 840 | 5 | 64 | 420 | 540 | 0.29 | 0.07 | 0.22 | <0.1 | <0.01 | <1 | <2.0 | 4 | 9 | <0.02 |
| **22-II R** | Sep-17 | 7.88 | 1700 | 7 | 300 | 730 | 890 | 0.20 | 0.11 | 0.09 | <0.1 | 0.05 | <10 | <2 | 19 | 100 | <0.2 |
| | Sep-18 | 7.89 | 1700 | 7 | 320 | 720 | 850 | 0.28 | 0.21 | 0.07 | 0.12 | <0.01 | <1 | <2 | 14 | 92 | <0.02 |
| | Sep-19 | 8.11 | 1600 | 6 | 350 | 680 | 910 | 0.22 | 0.10 | 0.12 | <0.10 | <0.010 | <1 | 5.0 | 13 | 110 | <0.1 |
| | Sep-20 | 7.87 | 1700 | 7 | 360 | 680 | 960 | 0.21 | 0.12 | 0.09 | <0.10 | <0.010 | <1 | <2 | 14 | 100 | <0.02 |
| | Sep-21 | 8.01 | 1600 | 7 | 310 | 650 | 780 | 0.18 | <0.050 | 0.18 | <0.10 | <0.010 | <1 | 5.0 | 11 | 110 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **22-III** | Jul-86 | 8.21 | 779 | 6 | | 349 | 423 | 1.00 | <0.05 | 1.00 | | | <1.0 | 5.2 | | | |
| | Sep-87 | 8.30 | 710 | 390 | | 1066 | 533 | <0.10 | | | | | 1.0 | 2.9 | | | |
| | Nov-87 | 7.45 | 700 | 150 | | 710 | 680 | 0.52 | <0.01 | 0.52 | | | <0.1 | <1.0 | | | |
| | Jul-88 | 7.77 | 774 | | | 528 | 604 | <0.20 | <0.01 | | | | <0.5 | | | | |
| | Nov-88 | | 671 | | | 505 | 576 | 0.15 | <0.01 | 0.15 | | | <0.5 | 2.0 | | | |
| | Oct-90 | | 3040 | 27 | | <1 | 1671 | 0.20 | <0.05 | 0.20 | <0.2 | <0.02 | 2.0 | | | | |
| | Aug-92 | 7.19 | 1130 | 15 | | 497 | 730 | 0.26 | <0.02 | 0.26 | <0.1 | <0.01 | <2.0 | <0.5 | | 18 | <0.08 |
| | Sep-95 | 7.65 | 1080 | <2.6 | 252 | 460 | 600 | 0.30 | <0.03 | 0.30 | 0.06 | <0.01 | <2.0 | 0.7 | | 14 | <0.25 |
| | Sep-96 | 7.19 | 904 | 8 | 89 | 418 | 507 | | 0.07 | | <0.1 | <0.2 | <0.5 | 1.0 | | 10 | <0.1 |
| | Sep-00 | 7.99 | 863 | 5 | 91 | 513 | 579 | 0.27 | <0.03 | 0.27 | <0.2 | <0.2 | <1 | <0.5 | 2 | 9 | <0.01 |
| **22-III R** | Sep-17 | 8.01 | 1300 | 15 | 160 | 560 | 680 | 0.11 | <0.050 | 0.09 | <0.1 | <0.01 | <10 | <2 | 9 | 37 | 0.02 |
| | Sep-18 | 7.88 | 1100 | 14 | 130 | 570 | 670 | 0.13 | <0.050 | 0.13 | <0.1 | <0.01 | <1 | <2 | 8 | 20 | <0.02 |
| | Sep-19 | 8.05 | 960 | 14 | 120 | 540 | 640 | 0.23 | <0.050 | 0.21 | <0.10 | <0.010 | <1 | <2 | 7 | 17 | <0.1 |
| | Sep-20 | 7.91 | 1100 | 13 | 140 | 550 | 640 | 0.10 | <0.050 | 0.10 | <0.10 | <0.010 | <1 | <2 | 7 | 17 | <0.02 |
| | Sep-21 | 7.99 | 1100 | 14 | 130 | 530 | 660 | <0.10 | <0.050 | <0.050 | <0.10 | <0.010 | <1 | 3.0 | 7 | 20 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

Monitor 22-III is reported as dry to near-dry between 1999 and 2005, and blocked since 2007.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **23-I** | Dec-85 | 8.57 | 3340 | 6.6 | 1920 | 371 | 1140 | | 4.00 | | | | 0.6 | 4.1 | | 250 | |
| | Dec-85 | 7.10 | 3330 | 6.6 | 1520 | 246 | 267 | 2.85 | 1.60 | 1.25 | | | 1.6 | 1.8 | | 328 | |
| | Jul-86 | 8.43 | 3220 | 11.9 | | 99 | 1406 | 2.60 | 2.15 | 0.45 | | | 2.4 | 1.5 | | | |
| | Sep-87 | 7.60 | 2260 | 230.0 | | 276 | 1812 | 1.00 | | | | | 2.0 | 44.0 | | | |
| | Nov-87 | 7.67 | 2410 | 250.0 | | 259 | 1528 | 1.91 | 0.89 | 1.02 | | | 2.3 | 9.2 | | | |
| | Dec-87 | | | | | | | | | | | | 0.9 | | | | |
| | Dec-87 | | | | | | | | | | | | 6.5 | | | | |
| | Jul-88 | 7.54 | 2180 | | | 290 | | | 1.83 | | | | 1.2 | | | | |
| | Nov-88 | | 2240 | 32.1 | | 240 | 1767 | 2.03 | 1.76 | 0.27 | | | <0.5 | 2.0 | | | |
| | Oct-89 | 7.58 | 3410 | 32.5 | | 266 | 1501 | 2.62 | 1.94 | 0.68 | | | <2.0 | 3.3 | | 275 | |
| | Oct-90 | | 3530 | 5.5 | | 263 | | 1.60 | 1.19 | 0.41 | <0.2 | 0.52 | <2.0 | | | 221 | <0.08 |
| | Sep-91 | 8.33 | 2360 | 6.8 | | 66 | 1100 | 1.23 | 1.30 | <0.05 | <0.2 | 0.25 | <2.0 | <0.7 | | 170 | <0.08 |
| | Aug-92 | 7.43 | 3220 | 6.4 | | 254 | 1800 | 2.17 | 2.13 | 0.04 | <0.1 | <0.01 | <2.0 | <0.5 | | 240 | 0.90 |
| | Aug-93 | 7.47 | 3470 | 6.6 | | 261 | 1800 | 2.78 | 2.11 | 0.67 | <0.02 | <0.01 | 3.9 | 0.6 | | 236 | 1.57 |
| | Aug-94 | 7.57 | 3090 | 8.2 | | 179 | 1600 | 2.78 | 2.31 | 0.47 | <0.02 | 0.05 | <1.0 | 1.1 | | 214 | 0.31 |
| | Sep-95 | 7.65 | 2600 | 6.8 | 1750 | 183 | 1200 | 5.37 | 5.10 | 0.27 | 2.51 | 1.36 | <2.0 | 17.0 | | 170 | <0.25 |
| | Sep-96 | 7.57 | 2438 | 4.7 | 1300 | 156 | 1110 | 35.00 * | 1.77 | 33.23 * | 2.40 | <0.2 | <0.5 | 1.4 | | 165 | 0.10 |
| | Sep-97 | 7.44 | 3130 | 8.0 | 2000 | 261 | 1780 | 2.70 | 2.10 | 0.60 | <0.2 | <0.1 | <1.0 | 1.1 | | 239 | 0.88 |
| | Sep-98 | 7.78 | 3122 | 6.8 | 2020 | 236 | 1770 | 2.38 | 2.38 | 0.00 | <0.2 | <0.2 | <1.0 | 5.0 | 29 | 241 | 0.03 |
| | Sep-99 | 7.69 | 3120 | 6.8 | 1880 | 158 | 1610 | 2.80 | 2.35 | 0.45 | 0.20 | <0.2 | <1.0 | 1.9 | 27 | 248 | 0.02 |
| | Sep-00 | 8.01 | 2539 | 7.5 | 2060 | 240 | 1750 | 2.79 | 2.51 | 0.28 | <0.2 | <0.2 | <1 | 2.1 | 29 | 240 | <0.01 |
| | Sep-01 | | 2308 | 34.8 * | 2120 | 244 | 1880 | 3.10 | 2.63 | 0.47 | 0.60 | <0.2 | <1.0 | 1.0 | 28 | 243 | <0.01 |
| | Sep-02 | 7.50 | 3291 | 7.7 | 2050 | 251 | 1770 | 3.04 | 2.80 | 0.24 | <0.2 | <0.2 | <1.0 | <0.5 | 28 | 229 | 0.01 |
| | Sep-03 | 7.60 | 3230 | 7.9 | 1820 | 215 | 1568 | 2.73 | 2.76 | <0.05 | <0.2 | <0.2 | <1.0 | 0.6 | 26 | 211 | <0.01 |
| | Sep-04 | 8.03 | 3060 | 7.8 | | 232 | 1660 | 3.70 | 3.08 | 0.62 | <1 | <0.1 | 3.0 | 14.0 | 31 | 268 | 0.43 |
| | Sep-06 | 8.10 | 1230 | 7.0 | 409 | 223 | 500 | 8.00 | 5.40 | 2.60 | 1.10 | 0.14 | 2.0 | <2.0 | 17 | 65 | <0.05 |
| | Sep-07 | 8.00 | 2770 | 7.0 | 1480 | 212 | 1300 | 5.20 | 2.55 | 2.65 | 0.30 | 0.02 | <1 | <2.0 | 25 | 190 | <0.05 |
| | Oct-08 | 8.00 | 805 * | 5.0 | 937 | 393 | 840 | 4.90 | 3.30 | 1.60 | 0.40 | 1.30 | <1 | 2.0 | 18 | 130 | <0.02 |
| | Sep-09 | 7.50 | 3460 | 9.0 | 1900 | 249 | 1600 | 4.00 | 2.50 | 1.50 | <0.1 | 0.01 | 3.0 | <2.0 | 32 | 247 | <0.02 |
| | Sep-10 | 7.70 | 3480 | 9.0 | 1900 | 246 | 1700 | 5.00 | 2.50 | 2.50 | <0.1 | <0.01 | <1 | <2.0 | 30 | 244 | <0.02 |
| | Sep-11 | 7.75 | 2950 | 8.0 | 1500 | 233 | 1400 | 6.00 | 4.50 | 1.50 | 1.80 | 0.13 | <1 | <2.0 | 28 | 213 | <0.02 |
| | Sep-12 | 7.44 | 2900 | 9.0 | 1400 | 200 | 1300 | 3.00 | 2.80 | 0.20 | 1.90 | <0.01 | <1 | <2.0 | 26 | 204 | <0.02 |
| | Sep-13 | 7.89 | 3000 | 8.0 | 1600 | 210 | 1500 | 3.40 | 2.60 | 0.80 | <0.1 | 0.12 | 5.3 | <2.0 | 30 | 220 | 0.06 |
| | Sep-14 | 7.73 | 3000 | 8.0 | 1600 | 190 | 1400 | 4.00 | 3.30 | 0.70 | <0.1 | 0.01 | <1 | <2.0 | 29 | 220 | 0.06 |
| | Sep-15 | 7.62 | 3400 | 8.9 | 1800 | 240 | 1800 | 2.90 | 2.60 | 0.30 | <0.1 | 0.05 | 1.7 | <2.0 | 34 | 270 | <0.02 |
| | Sep-16 | 7.81 | 3500 | 8.7 | 1900 | 250 | 1800 | 3.00 | 2.40 | 0.60 | <0.1 | 0.04 | <1 | 8.0 | 34 | 260 | <0.02 |
| | Sep-17 | 7.84 | 3200 | 9.5 | 1700 | 210 | 1600 | 2.50 | 2.10 | 0.40 | 0.52 | 1.04 | <10 | 2.0 | 30 | 230 | <0.02 |
| | Sep-18 | 7.85 | 3400 | 8.6 | 1900 | 260 | 1700 | 4.00 | 3.10 | 0.90 | <0.1 | 0.04 | 0.0 | <2 | 31 | 250 | <0.02 |
| | Sep-19 | 8.22 | 2700 | 7.3 | 1400 | 160 | 1300 | 5.00 | 4.30 | 0.70 | <0.10 | 0.54 | <1 | 13.0 | 25 | 190 | <0.1 |
| | Sep-20 | 7.65 | 3200 | 8.7 | 1900 | 250 | 1800 | 2.40 | 2.60 | <0.05 | <0.10 | 0.06 | <1 | <2 | 32 | 250 | <0.02 |
| | Sep-21 | 7.93 | 2900 | 8.2 | 1600 | 200 | 1300 | 3.40 | 2.90 | 0.50 | <0.10 | 0.43 | 0.01 | 13.0 | | 190 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **23-II** | Dec-85 | 7.37 | 1620 | 1.8 | 150 | 805 | 718 | 1.70 | 1.20 | 0.50 | | | <1.0 | 3.1 | | 64 | |
| | Dec-85 | 8.12 | 1583 | 1.2 | 116 | 839 | 722 | 1.50 | 1.00 | 0.50 | | | <1.0 | 1.5 | | 64 | |
| | Jul-86 | 8.41 | 1320 | 3.5 | | 753 | 705 | 2.00 | <0.05 | 2.00 | | | <1.0 | 31.1 | | | |
| | Sep-87 | 7.20 | 950 | 230.0 | | 718 | 775 | 0.30 | | | | | 2.0 | 75.0 | | | |
| | Nov-87 | 7.50 | 1010 | 110.0 | | 631 | 598 | 0.77 | <0.01 | 0.77 | | | 1.8 | 11.9 | | | |
| | Dec-87 | | | | | | | | | | | | 1.4 | | | | |
| | Dec-87 | | | | | | | | | | | | 5.7 | | | | |
| | Jul-88 | 7.72 | | | | 790 | | | 0.51 | | | | <0.5 | | | | |
| | Nov-88 | | 853 | 25.7 | | 497 | 771 | 0.49 | 0.34 | 0.15 | | | <0.5 | 2.0 | | | |
| | Oct-89 | 7.70 | 1210 | 132.5 | | 748 | 686 | 0.77 | 0.29 | 0.48 | | | <2.0 | 3.6 | | 44 | |
| | Oct-90 | | 1510 | 2.6 | | 760 | | 0.51 | 0.24 | 0.27 | <0.2 | <0.02 | <2.0 | | | 40 | 0.11 |
| | Sep-91 | 8.10 | 1370 | <1.6 | | 747 | 810 | 0.25 | <0.05 | 0.25 | <0.1 | <0.01 | <2.0 | 1.4 | | 42 | <0.08 |
| | Aug-92 | 7.44 | 1370 | <1.6 | | 741 | 840 | 0.44 | 0.18 | 0.26 | <0.1 | <0.01 | <2.0 | <0.5 | | 43 | <0.08 |
| | Aug-93 | 7.71 | 1460 | <2.6 | | 763 | 790 | 0.33 | 0.09 | 0.24 | 0.15 | <0.01 | <2.0 | <0.3 | | 45 | <0.10 |
| | Aug-94 | 7.65 | 1480 | <2.6 | | 720 | 840 | 0.61 | 0.14 | 0.47 | <0.02 | <0.02 | <1.0 | 0.6 | | 44 | <0.10 |
| | Sep-95 | 7.47 | 1480 | <2.6 | 282 | 725 | 810 | 0.40 | 0.13 | 0.27 | 0.08 | <0.01 | <2.0 | 2.2 | | 49 | <0.25 |
| | Sep-96 | 7.72 | 1381 | 3.2 | 138 | 715 | 758 | 0.35 | 0.19 | 0.16 | 0.60 | <0.2 | <0.5 | 1.4 | | 45 | <0.1 |
| | Sep-97 | 7.74 | 1190 | 3.4 | 132 | 728 | 768 | 0.70 | 0.06 | 0.64 | 0.30 | <0.1 | <1.0 | 0.1 | | 43 | <0.10 |
| | Sep-98 | 8.20 | 1256 | 2.9 | 132 | 696 | 753 | 0.08 | <0.02 | 0.08 | 0.40 | <0.2 | <1.0 | 2.8 | 8 | 46 | 0.02 |
| | Sep-99 | 7.65 | 1453 | 2.3 | 170 | 781 | 814 | 0.41 | 0.11 | 0.30 | <0.2 | <0.2 | <1.0 | 2.2 | 10 | 51 | 0.01 |
| | Sep-00 | 7.91 | 1205 | 3.2 | 141 | 756 | 742 | 3.33 | 2.72 | 0.61 | <0.2 | <0.2 | 1.0 | 6.5 | 8 | 50 | <0.01 |
| | Sep-01 | | 1068 | 3.2 | 130 | 798 | 819 | 1.65 | 0.98 | 0.67 | 0.20 | <0.2 | <1.0 | 5.1 | 9 | 51 | <0.01 |
| | Sep-02 | 7.75 | 1371 | 4.1 | 116 | 796 | 734 | 2.27 | 1.89 | 0.38 | 0.20 | 0.30 | <1.0 | 2.4 | 9 | 47 | <0.01 |
| | Sep-03 | 7.50 | 1490 | 4.4 | 119 | 742 | 752 | 0.71 | 0.44 | 0.27 | 0.30 | 0.20 | <1.0 | 2.3 | 10 | 51 | <0.01 |
| | Sep-04 | 8.26 | 1360 | 2.5 | | 838 | 848 | 2.00 | 0.46 | 1.54 | <0.1 | 0.20 | <1.0 | 8.0 | 13 | 67 | 0.42 |
| | Sep-06 | 8.10 | 1490 | 5.0 | 103 | 898 | 820 | 4.50 | 3.15 | 1.35 | 0.10 | 0.02 | 4.0 | 3.0 | 12 | 63 | <0.05 |
| | Sep-07 | 8.10 | 1470 | 5.0 | 100 | 818 | 790 | 3.60 | 2.22 | 1.38 | 0.10 | 0.05 | 11.0 | 2.0 | 9 | 56 | <0.05 |
| | Oct-08 | 8.10 | 1490 | 4.0 | 128 | 785 | 720 | 2.80 | 1.20 | 1.60 | <0.1 | 0.09 | <1 | 3.0 | 8 | 61 | <0.02 |
| | Sep-09 | 7.70 | 1450 | 4.0 | 120 | 778 | 720 | 1.80 | 1.30 | 0.50 | <0.1 | 0.06 | 3.0 | <2.0 | 8 | 60 | <0.02 |
| | Sep-10 | 7.70 | 1460 | 4.0 | 110 | 753 | 700 | 5.70 | 2.90 | 2.80 | <0.1 | 0.12 | 32.0 | 16.0 | 7 | 57 | <0.02 |
| | Sep-11 | 7.82 | 1470 | 4.0 | 120 | 753 | 750 | 5.00 | 0.73 | 4.27 | 0.10 | 0.08 | 4.0 | <2.0 | 9 | 63 | <0.02 |
| | Sep-12 | 7.65 | 1500 | 4.0 | 130 | 750 | 720 | 4.70 | 0.80 | 3.90 | <0.1 | 0.05 | <1 | <2.0 | 8 | 62 | <0.02 |
| | Sep-13 | 8.09 | 1500 | 4.0 | 140 | 750 | 780 | 0.88 | 0.62 | 0.26 | 0.59 | 0.10 | <1 | <2.0 | 9 | 68 | <0.02 |
| | Sep-14 | 7.88 | 1500 | 4.0 | 140 | 750 | 790 | 1.20 | 0.59 | 0.61 | <0.1 | 0.02 | <1 | <2.0 | 9 | 71 | <0.02 |
| | Sep-15 | 7.98 | 1500 | 3.8 | 140 | 750 | 830 | 0.45 | 0.18 | 0.27 | 0.38 | 0.20 | <1 | <2.0 | 9 | 71 | <0.02 |
| | Sep-16 | 8.00 | 1500 | 3.9 | 160 | 750 | 880 | 1.10 | 0.48 | 0.62 | <0.1 | 0.03 | <1 | <2.0 | 10 | 79 | <0.02 |
| | Sep-17 | 7.88 | 1500 | 6.6 | 160 | 760 | 810 | 0.98 | 0.72 | 0.26 | 0.23 | 0.52 | <10 | <2 | 9 | 70 | <0.02 |
| | Sep-18 | 7.99 | 1400 | 4.1 | 150 | 790 | 770 | 0.30 | 0.11 | 0.19 | 0.20 | 0.06 | <1 | <2 | 9 | 66 | <0.02 |
| | Sep-19 | 8.15 | 1300 | 4.3 | 110 | 760 | 780 | 0.94 | 0.80 | 0.14 | 0.22 | 0.31 | <1 | 17.0 | 9 | 68 | <0.1 |
| | Sep-20 | 8.15 | 1400 | 4.8 | 150 | 750 | 790 | 0.41 | 0.27 | 0.14 | 0.23 | 0.09 | <1 | 5.0 | 9 | 73 | <0.02 |
| | Sep-21 | 7.99 | 1400 | 4.1 | 140 | 770 | 730 | 1.80 | 1.60 | 0.20 | <0.10 | 0.06 | <1 | 15.0 | 8 | 64 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **23-III** | Nov-85 | 7.44 | 959 | 4.8 | 49 | 493 | 516 | 0.50 | 0.05 | 0.45 | | | 41.0 | 3.6 | | 14 | |
| | Dec-85 | 7.23 | 941 | 3.2 | 50 | 487 | 466 | 0.30 | 0.05 | 0.25 | | | 7.8 | 1.7 | | 21 | |
| | Dec-85 | 7.28 | 915 | 4.2 | 37 | 495 | 506 | 0.40 | 0.10 | 0.30 | | | 3.6 | 1.3 | | 14 | |
| | Jul-86 | 8.10 | 871 | 4.5 | | 487 | 475 | 0.40 | <0.05 | 0.40 | | | <1.0 | 0.6 | | | |
| | Sep-87 | 7.30 | 110 | 220.0 | | 444 | 572 | <0.10 | | | | | 2.0 | 4.0 | | | |
| | Nov-87 | 7.61 | 659 | 13.5 | | 386 | 391 | 0.02 | <0.01 | 0.02 | | | 2.3 | 5.6 | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 2.3 | | | | |
| | Jul-88 | 7.32 | | | | 488 | 514 | <0.20 | | | | | <0.5 | | | | |
| | Nov-88 | | 578 | 27.5 | | 490 | 527 | 0.20 | <0.01 | 0.20 | | | 0.7 | 1.0 | | | |
| | Oct-89 | 7.45 | 883 | 23.5 | | 476 | 385 | 0.32 | 0.05 | 0.27 | | | <2.0 | 5.2 | | 10 | |
| | Oct-90 | | 861 | 2.5 | | 478 | 0 | 0.19 | <0.05 | 0.19 | <0.2 | <0.02 | <2.0 | | | 12 | 0.10 |
| | Sep-91 | 7.63 | 908 | <1.6 | | 449 | 490 | 0.15 | <0.05 | 0.15 | <0.2 | <0.01 | <2.0 | <0.7 | | 11 | 1.69 |
| | Aug-92 | 7.40 | 862 | <1.6 | | 443 | 490 | 0.15 | <0.02 | - | <0.1 | <0.01 | <2.0 | <0.5 | | 11 | <0.08 |
| | Aug-93 | 7.42 | 832 | <2.6 | | 460 | 500 | 0.09 | <0.01 | 0.09 | 0.13 | <0.01 | <2.0 | <0.3 | | 11 | <0.10 |
| | Aug-94 | 7.42 | 842 | <2.6 | | 414 | 460 | 0.45 | 0.19 | 0.26 | <0.02 | <0.02 | <1.0 | 0.4 | | 9 | <0.10 |
| | Sep-95 | 7.54 | 845 | <2.6 | 111 | 387 | 450 | 0.13 | <0.03 | 0.13 | 0.15 | <0.01 | <2.0 | 0.5 | | 12 | <0.25 |
| | Sep-96 | 7.32 | 863 | 3.1 | 46 | 440 | 479 | 0.40 | 0.18 | 0.22 | 0.10 | <0.2 | <0.5 | 0.2 | | 11 | 0.10 |
| | Sep-97 | 7.44 | 711 | 2.6 | 81 | 398 | 442 | 1.90 | 0.12 | 1.78 | 0.30 | <0.1 | <1.0 | 0.6 | | 10 | 0.39 |
| | Sep-98 | 7.39 | 776 | 3.0 | 53 | 421 | 439 | 1.51 | 0.86 | 0.65 | <0.2 | <0.2 | <1.0 | 4.9 | 5 | 11 | 0.54 |
| | Sep-99 | 7.62 | 835 | 2.5 | 58 | 421 | 499 | 0.19 | 0.17 | 0.02 | <0.2 | <0.2 | <1.0 | 2.3 | 4 | 12 | 0.11 |
| | Sep-00 | 8.11 | 732 | 2.5 | 56 | 446 | 464 | 0.14 | 0.04 | 0.10 | <0.2 | <0.2 | <1 | 1.0 | 4 | 11 | <0.01 |
| | Sep-01 | | 656 | 3.1 | 51 | 440 | 470 | 0.40 | 0.10 | 0.30 | <0.2 | <0.2 | <1.0 | 1.4 | 5 | 10 | <0.01 |
| | Sep-02 | 7.49 | 796 | 2.7 | 62 | 408 | 421 | 0.26 | 13.00 * | - | <0.2 | <0.2 | <1.0 | <0.5 | 4 | 11 | <0.01 |
| | Sep-03 | 7.50 | 802 | 4.2 | 57 | 411 | 455 | 0.16 | 0.11 | 0.05 | <0.2 | <0.2 | <1.0 | 2.0 | 4 | 11 | 0.04 |
| | Sep-04 | 8.18 | 757 | 2.7 | | 401 | 421 | 0.30 | <0.05 | <0.30 | <0.1 | <0.1 | <1.0 | <4 | 4 | 19 | 0.21 |
| | Sep-06 | 8.00 | 829 | 4.0 | 66 | 443 | 420 | 0.40 | 0.08 | 0.32 | <0.1 | <0.01 | <1 | <2 | 6 | 20 | <0.05 |
| | Sep-07 | 8.10 | 803 | 4.0 | 63 | 399 | 410 | 0.90 | <0.05 | 0.88 | 0.10 | 0.03 | <1 | <2 | 5 | 25 | <0.05 |
| | Oct-08 | 8.20 | 775 | 4.0 | 59 | 379 | 350 | 1.10 | 0.20 | 0.90 | <0.1 | <0.01 | <1 | <2 | 3 | 40 | <0.02 |
| | Sep-09 | 7.70 | 784 | 4.0 | 49 | 402 | 370 | 0.90 | <0.05 | 0.90 | 0.10 | <0.01 | <1 | <2 | 4 | 31 | <0.02 |
| | Sep-10 | 7.90 | 828 | 4.0 | 42 | 414 | 370 | 0.90 | <0.05 | 0.88 | <0.1 | <0.01 | <1 | <2 | 2 | 41 | <0.02 |
| | Sep-11 | 7.96 | 812 | 3.0 | 39 | 405 | 380 | 1.00 | <0.05 | 0.98 | <0.1 | <0.01 | <1 | <2 | 3 | 40 | <0.02 |
| | Sep-12 | 7.62 | 770 | 5.0 | 33 | 350 | 350 | 0.21 | <0.05 | 0.19 | <0.10 | <0.01 | <1 | <2.0 | 3 | 35 | <0.02 |
| | Sep-13 | 8.02 | 720 | 5.0 | 30 | 370 | 330 | 0.43 | 0.08 | 0.35 | <0.1 | <0.01 | <1 | <2 | 4 | 35 | <0.02 |
| | Sep-14 | 7.86 | 750 | 6.0 | 28 | 380 | 350 | 0.60 | <0.05 | 0.55 | <0.1 | <0.01 | <1 | <2 | 3 | 35 | <0.02 |
| | Sep-15 | 7.83 | 770 | 4.9 | 34 | 400 | 430 | 0.22 | <0.05 | 0.21 | <0.1 | <0.01 | <1 | <2 | 4 | 34 | <0.02 |
| | Sep-16 | 7.93 | 790 | 5.0 | 34 | 410 | 460 | 0.62 | 0.05 | 0.58 | <0.1 | <0.01 | <1 | <2 | 5 | 26 | <0.02 |
| | Sep-17 | 8.03 | 740 | 7.1 | 28 | 380 | 360 | 0.16 | 0.06 | 0.10 | 0.18 | 0.01 | <10 | <2 | 4 | 28 | 0.02 |
| | Sep-18 | 8.05 | 770 | 5.6 | 32 | 420 | 390 | <0.10 | <0.050 | <0.10 | <0.1 | <0.01 | <1 | <2 | 4 | 23 | <0.02 |
| | Sep-19 | 8.15 | 530 | 6.1 | 22 | 340 | 330 | 0.11 | <0.050 | 0.09 | <0.10 | <0.010 | <1 | <2 | 3 | 28 | <0.1 |
| | Sep-20 | 7.74 | 690 | 6.7 | 26 | 380 | 390 | 0.59 | 0.26 | 0.33 | 0.15 | 0.02 | <1 | 12.0 | 5 | 24 | <0.02 |
| | Sep-21 | 8.13 | 690 | 4.8 | 28 | 370 | 350 | 0.25 | 0.17 | 0.08 | <0.10 | 0.05 | <1 | 4.0 | 3 | 21 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **24-I** | Dec-85 | 6.52 | 76400 | 34820 | 1300 | 104 | 23100 | | 31.50 | | | | 25.0 | 1.8 | | 12400 | |
| | Dec-85 | 7.38 | 57800 | 24340 | 1500 | 94 | 15800 | | 22.00 | | | | 10.6 | 1.3 | | 8550 | |
| | Jul-86 | 5.84 | 79400 | | | 1 | 25773 | | 31.50 | | | | 3.4 | 0.9 | | | |
| | Sep-87 | 6.80 | 35800 | 41730 | | 550 | 25291 | 9.57 | | | | | 7.0 | 1.8 | | | |
| | Nov-87 | 6.87 | 34300 | 38860 | | 39 | 27765 | 29.90 | 24.98 | 4.92 | | | 2.5 | 9.0 | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 4.0 | | | | |
| | Jul-88 | 6.49 | 56000 | 42195 | | 21 | 27910 | 31.40 | 32.20 | <0.05 | | | 2.0 | | | | |
| | Nov-88 | | 56500 | 36289 | | 36 | 27100 | 30.89 | | | | | <0.5 | 9.0 | | | |
| | Oct-89 | 6.57 | 89300 | 42470 | | 21 | 22748 | 36.78 | 32.72 | 4.06 | | | <2.0 | 2.9 | | 14000 | |
| | Oct-90 | | 112000 | 44500 | | <1.0 | | 35.20 | 33.60 | 1.60 | <0.2 | <0.02 | 13.0 | | | 13700 | 18.5 |
| | Sep-91 | 6.25 | 74000 | 42500 | | 30 | 29000 | 44.60 | 34.00 | 10.60 | <0.2 | <0.01 | <2.0 | <0.7 | | 23300 | 18.2 |
| | Aug-92 | 6.73 | 81900 | 47900 | | 56 | 30000 | 44.60 | 33.20 | 11.40 | <0.1 | <0.01 | <2.0 | <0.5 | | 17700 | 15.0 |
| | Aug-93 | 6.41 | 85500 | 52600 | | 28 | 28000 | 43.50 | 28.90 | 14.60 | <0.02 | <0.01 | 5.3 | 0.6 | | 18100 | 22.1 |
| | Aug-94 | 6.27 | 84800 | 42000 | | 24 | 63000 | 45.90 | 35.10 | 10.80 | <0.02 | <0.02 | 6.0 | 2.1 | | 27400 | 25.9 |
| | Sep-95 | 6.41 | 87900 | 42200 | 1340 | 18 | 28000 | 31.00 | 33.80 | <0.05 | <0.04 | <0.01 | 11.0 | <0.5 | | 21500 | 15.7 |
| | Sep-96 | 6.18 | 82490 | 45500 | 1070 | 22 | 28300 | 29.70 | 32.00 | <0.05 | <1.0 | <20.0 | <0.5 | 3.5 | | 15200 | 24.9 |
| | Sep-97 | 6.34 | 73000 | 43300 | 1330 | 6 | | 36.80 | 27.30 | 9.50 | <2.0 | <20.0 | <1.0 | 0.2 | | 14800 | 21.4 |
| | Sep-98 | 6.56 | 79540 | 40200 | 1290 | 2 | 25700 | 28.00 | 28.00 | 0.00 | <2.0 | <2.0 | <1.0 | 4.4 | 260 | 13400 | 32.4 |
| | Sep-99 | | 87590 | 41200 | 1290 | 17 | 27600 | 33.70 | 33.40 | 0.30 | <2.0 | <20.0 | <1.0 | 6.9 | 263 | 15000 | 29.7 |
| | Sep-00 | | 61280 | 43600 | 1230 | 14 | 25900 | 34.00 | 33.10 | 0.90 | <2.0 | <20.0 | <1 | 2.4 | 249 | 14700 | 12.5 |
| | Sep-01 | | 114500 | 45300 | 1190 | 33 | 26900 | 46.00 | 29.90 | 16.10 | <20.0 | <20.0 | <1.0 | 0.8 | 300 | 14300 | 6.6 |
| | Sep-02 | 6.40 | 124200 | 42300 | 1250 | 33 | 26400 | 30.60 | <0.03 | 30.60 | <2.0 | <20.0 | <1.0 | 1.3 | 268 | 13200 | 9.8 |
| | Sep-03 | 7.50 | 106000 | 45100 | 1080 | <1.0 | 27420 | 45.30 | 32.00 | 13.30 | <2.0 | <20.0 | <1.0 | 1.0 | 237 | 14500 | 16.3 |
| | Sep-04 | 6.44 | 63400 | 37200 | | 12 | 26700 | 36.00 | 34.60 | 1.40 | <200 | <0.1 | <1.0 | <5 | 304 | 15200 | 44.4 |
| | Sep-05 | 6.63 | 54300 | 34300 | <1000 | 23 | | 46.00 | 36.50 | 9.50 | <200 | <0.3 | 2.0 | <2 | 320 | 16000 | * <5 |
| | Sep-06 | 6.80 | 89400 | 43200 | 1190 | 47 | 27000 | 36.00 | 33.00 | 3.00 | <0.1 | 0.02 | 32.0 | <2 | 270 | 15000 | 42.0 |
| | Sep-07 | 6.40 | 92500 | 44000 | 1180 | 24 | 31000 | 36.00 | 43.60 | <0.05 | <0.1 | 0.01 | 11.0 | 3.0 | 310 | 17000 | 61.0 |
| | Oct-08 | 6.50 | 94900 | 41000 | 1090 | 34 | 25000 | 50.00 | 42.00 | 8.00 | <0.1 | 0.01 | <1 | 3.0 | 142 | 13300 | 51.0 |
| | Sep-09 | 6.50 | 94600 | 38000 | 1300 | 44 | 25000 | 39.00 | 37.00 | 2.00 | <0.1 | 0.02 | 6.0 | <2 | 191 | 13300 | 5.0 |
| | Sep-10 | 6.60 | 94800 | 41000 | 1200 | 31 | 26000 | 28.00 | 34.00 | <0.05 | <0.1 | <0.01 | 2.0 | <200 | 181 | 14400 | 17.0 |
| | Sep-11 | 6.55 | 91800 | 41000 | 1200 | 37 | 27000 | 35.00 | 33.00 | 2.00 | <0.1 | <0.1 | 60.0 | <2 | 297 | 14400 | 5.0 |
| | Sep-12 | 6.24 | 93000 | 42000 | 1100 | 25 | 24000 | 37.00 | 34.00 | 3.00 | <0.10 | <0.10 | 58.0 | <2.0 | 131 | 13700 | 20.0 |
| | Sep-13 | 6.52 | 94000 | 44000 | 1200 | 24 | 26000 | 32.00 | 33.00 | <0.05 | <0.5 | <0.05 | <1 | 3.0 | 260 | 14000 | 18.0 |
| | Sep-14 | 6.43 | 95000 | 44000 | 1200 | 23 | 27000 | 38.00 | 33.00 | 5.00 | <0.5 | <0.05 | <1 | <2 | 270 | 15000 | 14.0 |
| | Sep-15 | 6.17 | 94000 | 43000 | 1200 | 23 | 27000 | 27.00 | 31.00 | <0.05 | <0.1 | <0.05 | 11.0 | <2 | 290 | 15000 | 20.0 |
| | Sep-16 | 6.67 | 94000 | 42000 | 1200 | 39 | 27000 | 35.00 | 33.00 | 2.0 | <0.5 | <0.05 | 22.0 | <2 | 290 | 15000 | 6.5 |
| | Sep-17 | 6.58 | 94000 | 42000 | 1200 | 38 | 27000 | 38.00 | 33.00 | 5.00 | <1.0 | <0.01 | 17.0 | 3.0 | 280 | 14000 | 28.0 |
| | Sep-18 | 6.47 | 94000 | 43000 | 1200 | 32 | 27000 | 34.00 | 36.00 | <0.05 | <1.0 | <0.01 | 0.0 | <2 | 290 | 15000 | 15.0 |
| | Sep-19 | 6.34 | 90000 | 39000 | 1100 | 24 | 26000 | 38.00 | 35.00 | 3.00 | <0.10 | 0.05 | 11.0 | 9.0 | 290 | 13000 | 69.0 |
| | Sep-20 | 6.33 | 89000 | 40000 | 1200 | 23 | 26000 | 37.00 | 38.00 | <0.05 | <0.10 | <0.050 | <5 | <40 | 290 | 14000 | 79.0 |
| | Sep-21 | 6.42 | 91000 | 44000 | 1100 | 26 | 27000 | 35.00 | 35.00 | <0.05 | <0.10 | <0.010 | <5 | 6.0 | 260 | 15000 | 25.0 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **24-II** | Dec-85 | 7.68 | 25900 | 9320 | 1750 | 131 | 6240 | 11.70 | 11.30 | 0.40 | | | 4.6 | 3.2 | | 3650 | |
| | Dec-85 | 6.66 | 78800 | 35860 | 1300 | 36 | 23800 | | 33.00 | | | | 10.6 | 1.9 | | 12400 | |
| | Jul-86 | 7.15 | 88200 | | | 28 | 23170 | | 30.50 | | | | 3.4 | 2.7 | | | |
| | Sep-87 | 6.70 | 34500 | 17025 | | 220 | 24603 | 4.41 | | | | | 4.0 | 1.1 | | | |
| | Nov-87 | 6.83 | 33300 | 33045 | | 56 | 24334 | 28.55 | 26.45 | 2.10 | | | 0.1 | 9.3 | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 2.7 | | | | |
| | Jul-88 | 6.47 | 50000 | 35685 | | 28 | 24130 | 30.50 | 30.99 | <0.05 | | | 1.8 | | | | |
| | Nov-88 | | 49000 | 32181 | | 24 | 23750 | 38.33 | | | | | <0.5 | 7.0 | | | |
| | Oct-89 | 6.61 | 79100 | 36388 | | 74 | 19721 | 37.02 | 30.90 | 6.12 | | | <2.0 | 2.9 | | 11400 | |
| | Oct-90 | | 99000 | 36800 | | 4 | | 35.70 | 31.70 | 4.00 | <0.2 | <0.02 | <2.0 | | | 11700 | 19.5 |
| | Sep-91 | 6.48 | 70700 | 37500 | | 29 | 25000 | 40.10 | 33.10 | 7.00 | <0.2 | <0.01 | <2.0 | 2.3 | | 19100 | 9.3 |
| | Aug-92 | 6.63 | 71700 | 37600 | | 60 | 24000 | 42.80 | 31.90 | 10.90 | <0.1 | <0.01 | <2.0 | <0.5 | | 15400 | 17.3 |
| | Aug-93 | 6.63 | 76400 | 49100 | | 25 | 27000 | 45.10 | 28.50 | 16.60 | <0.02 | <0.01 | 3.5 | 0.6 | | 15400 | 26.8 |
| | Aug-94 | 6.62 | 77900 | 35600 | | 26 | 28000 | 40.60 | 32.90 | 7.70 | <0.02 | <0.02 | <5.0 | 1.6 | | 22700 | 28.8 |
| | Sep-95 | 6.40 | 78800 | 149 | 1390 | 21 | 25000 | 31.10 | 32.50 | <0.05 | <0.04 | <0.01 | 25.0 | <0.5 | | 17700 | 10.3 |
| | Sep-96 | 6.38 | 73900 | 38700 | 1140 | 25 | 25300 | 30.20 | 29.00 | 1.20 | <1.0 | <20.0 | <0.5 | 2.5 | | 13200 | 8.9 |
| | Sep-97 | 6.08 | 66600 | 38500 | 1290 | 1 | 23000 | 30.70 | 28.30 | 2.40 | <2.0 | <20.0 | <1.0 | 0.7 | | 12800 | 17.8 |
| | Sep-98 | 7.12 | 72100 | 36100 | 1360 | <1 | 24000 | 31.00 | 32.00 | <0.05 | <2.0 | <2.0 | <1.0 | 1.2 | 251 | 12100 | 6.2 |
| | Sep-00 | | 55620 | 37400 | 1280 | 33 | 22700 | 31.00 | 31.50 | <0.05 | <2.0 | <20.0 | <1 | <0.5 | 235 | 12800 | <0.10 |
| | Sep-01 | | 102000 | 38900 | 1220 | 34 | 24000 | 10.00 | 0.04 | 9.96 | <20.0 | <20.0 | <1.0 | <0.5 | 334 | 12500 | <1.0 |
| | Sep-02 | 6.58 | 112700 | 39700 | 1270 | 24 | 24000 | 37.00 | 0.47 | 36.53 | <2.0 | <20.0 | 11.0 | 15.4 | 312 | 11700 | 38.9 |
| | Sep-03 | 7.60 | 96000 | 40500 | 1070 | 27 | 25290 | 40.50 | 43.20 | <0.05 | <2.0 | <20.0 | <1.0 | 3.3 | 244 | 13100 | 17.9 |
| | Sep-04 | 7.06 | 58800 | 33200 | | 63 | 22700 | 40.30 | 37.20 | 3.10 | <200 | <0.1 | <1.0 | <6 | 283 | 12500 | 12.0 |
| | Sep-05 | 6.40 | 58700 | 45200 | 2330 | 18 | 26800 | 27.00 | 31.00 | <0.05 | <0.2 | | 2 | <2 | * 7 | 200 * | <0.05 |
| | Sep-06 | 6.70 | 82700 | 39600 | 1180 | 27 | 26000 | 35.00 | 29.40 | 5.60 | <0.1 | 0.02 | 31 | <2 | 280 | 15000 | <3.00 |
| | Sep-07 | 6.60 | 85600 | 37000 | 1200 | 24 | 29000 | 34.00 | 39.90 | <0.05 | <0.1 | <0.01 | 8 | <2 | 300 | 15000 | 18.0 |
| | Oct-08 | 6.60 | 86700 | 38000 | 1160 | 26 | 25000 | 33.00 | 37.00 | <0.05 | <0.1 | 0.02 | <1 | <2 | 272 | 13000 | 12.2 |
| | Sep-09 | 6.40 | 87600 | 33000 | 1300 | 27 | 23000 | 36.00 | 40.00 | <0.05 | <0.1 | 0.02 | 2 | <2 | 201 | 12000 | <2 |
| | Sep-10 | 6.60 | 87100 | 38000 | 1200 | 25 | 24000 | 37.00 | 42.00 | <0.05 | <0.1 | <0.01 | 2 | <200 | 215 | 12600 | 10.0 |
| | Sep-11 | 6.47 | 84700 | 38000 | 1200 | 17 | 24000 | 42.00 | 32.00 | 10.00 | <0.1 | <0.1 | * 106 | <2 | 235 | 12500 | 9.0 |
| | Sep-12 | 6.54 | 83000 | 37000 | 1100 | 100 | 23000 | 58.00 | 56.00 | 2.00 | <0.10 | <0.10 | 26 | 130.0 * | 195 | 12500 | 12.0 |
| | Sep-13 | 6.82 | 87000 | 39000 | 1200 | 46 | 24000 | 35.00 | 35.00 | <0.05 | <0.5 | <0.05 | 4 | 14 | 260 | 13000 | 12.0 |
| | Sep-14 | 6.63 | 88000 | 39000 | 1200 | 32 | 25000 | 35.00 | 32.00 | 3.00 | <0.5 | <0.05 | <1 | <2 | 260 | 13000 | 13.0 |
| | Sep-15 | 6.66 | 87000 | 37000 | 1200 | 120 | 25000 | 46.00 | 52.00 | <0.05 | <0.1 | <0.05 | 16.0 | 8.0 | 300 | 13000 | 16.0 |
| | Sep-16 | 6.63 | 88000 | 37000 | 1200 | 25 | 25000 | 32.00 | 32.00 | <0.05 | <0.5 | <0.05 | 21.0 | <2.0 | 280 | 13000 | 10.0 |
| | Sep-17 | 6.73 | 88000 | 39000 | 1200 | 45 | 25000 | 34.00 | 34.00 | <0.05 | <1 | <0.01 | 18 | <2 | 280 | 13000 | 9.6 |
| | Sep-18 | 6.63 | 89000 | 39000 | 1200 | 36 | 25000 | 33.00 | 35.00 | <0.05 | <1 | <0.01 | 0 | <2 | 300 | 13000 | 12.0 |
| | Sep-19 | 6.80 | 86000 | 37000 | 1200 | 38 | 26000 | 35.00 | 34.00 | 1.00 | <0.50 | <0.050 | <20 | <2 | 290 | 12000 | <1 |
| | Sep-20 | 6.72 | 84000 | 38000 | 1300 | 48 | 24000 | 36.00 | 36.00 | <0.05 | <0.10 | <0.010 | <5 | <40 | 280 | 13000 | 0.5 |
| | Sep-21 | 6.82 | 82000 | 38000 | 1100 | 40 | 26000 | 41.00 | 35.00 | 6.00 | <0.10 | <0.010 | <5 | <2 | 270 | 13000 | 11.0 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **24-III** | Nov-85 | 7.24 | 3930 | 492 | 1000 | 816 | 1210 | 3.30 | 0.60 | 2.70 | | | | 6.8 | | 406 | |
| | Dec-85 | 7.31 | 2210 | 127 | 500 | 509 | 568 | 0.70 | 0.20 | 0.50 | | | <1.0 | 1.9 | | 266 | |
| | Dec-85 | 7.37 | 2150 | 121 | 460 | 562 | 564 | 0.70 | 0.10 | 0.60 | | | <1.0 | 2.3 | | 272 | |
| | Jul-86 | 8.30 | 2280 | 209 | | 1 | 550 | 1.00 | 0.05 | 0.95 | | | <1.0 | 5.9 | | | |
| | Sep-87 | 7.90 | 1250 | 480 | | 530 | 659 | <0.05 | <1.00 | - | | | 2.7 | 24.0 | | | |
| | Nov-87 | 7.34 | 1800 | 640 | | 800 | 740 | 0.47 | <0.01 | 0.47 | | | 3.0 | 10.0 | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 1.7 | | | | |
| | Jul-88 | 7.55 | | 127 | | 630 | 496 | <0.20 | 0.01 | - | | | 4.1 | | | | |
| | Nov-88 | | 1550 | | | 578 | | | | | | | <0.5 | 3.0 | | | |
| | Oct-89 | 7.76 | 1790 | 228 | | 606 | 389 | 0.20 | 0.05 | 0.15 | | | <2.0 | 3.5 | | 200 | |
| | Oct-90 | | 1320 | 73 | | 590 | | 0.17 | <0.05 | 0.17 | <0.2 | <0.02 | <2.0 | | | 178 | <0.08 |
| | Sep-91 | 7.53 | 1800 | 112 | | 577 | 480 | 0.33 | <0.05 | 0.33 | 0.30 | <0.01 | <2.0 | <0.7 | | 410 | <0.08 |
| | Aug-92 | 7.46 | 1500 | 72 | | 598 | 600 | 0.41 | <0.02 | 0.41 | <0.1 | <0.01 | 81.7 | <0.5 | | 150 | <0.08 |
| | Aug-93 | 7.50 | 1730 | 114 | | 620 | 560 | 0.29 | <0.01 | 0.29 | 0.11 | <0.01 | 3.8 | 0.5 | | 401 | 0.11 |
| | Aug-94 | 7.33 | 1980 | 145 | | 568 | 560 | 0.39 | <0.02 | 0.39 | <0.02 | <0.02 | <5.0 | 1.1 | | 213 | <0.10 |
| | Sep-95 | 7.52 | 1990 | 174 | 180 | 577 | 620 | 0.73 | <0.03 | 0.73 | 0.25 | 0.01 | <2.0 | <0.5 | | 184 | <0.25 |
| | Sep-96 | 7.22 | 1840 | 203 | 181 | 587 | 665 | 0.46 | <0.02 | 0.46 | 1.70 | <0.2 | <0.5 | 2.9 | | 183 | <0.1 |
| | Sep-97 | 7.30 | 1780 | 184 | 188 | 608 | 686 | 0.47 | 0.04 | 0.43 | 1.50 | <0.2 | <1.0 | 0.2 | | 184 | 0.44 |
| | Sep-98 | 7.53 | 1795 | 187 | 167 | 618 | 648 | 1.51 | 0.03 | 1.48 | 3.40 | <0.2 | <1.0 | 2.0 | 28 | 185 | 0.14 |
| | Sep-99 | | 1803 | 220 | 135 | 611 | 590 | 1.80 | 0.28 | 1.52 | 2.20 | <0.2 | <1.0 | 15.4 * | 27 | 192 | 1.34 |
| | Sep-00 | | 1476 | 198 | 124 | 594 | 548 | 0.36 | 0.03 | 0.33 | 2.00 | <0.2 | <1 | 1.2 | 26 | 178 | <0.01 |
| | Sep-01 | | 1414 | 180 | 165 | 544 | 637 | 0.39 | <0.03 | 0.39 | 1.20 | <0.2 | <1.0 | <0.5 | 25 | 163 | <0.01 |
| | Sep-02 | 7.32 | 1637 | 184 | 144 | 543 | 545 | 0.32 | 0.88 | <0.05 | 0.80 | <0.2 | <1.0 | <0.5 | 24 | 150 | <0.01 |
| | Sep-03 | 7.60 | 1750 | 206 | 126 | 506 | 521 | 0.37 | 0.10 | 0.27 | 1.10 | <0.2 | <1.0 | 0.7 | 24 | 156 | <0.01 |
| | Sep-04 | 8.08 | 1610 | 149 | | 563 | 538 | 1.20 | <0.05 | <1.20 | 2.00 | <0.1 | <1.0 | <5 | 26 | 184 | 0.28 |
| | Sep-05 | 8.11 | 1640 | 174 | 131 | 611 | 652 | 3.00 | 0.18 | 2.82 | 3.00 | | <1 | <2 | 29 | 170 | 0.45 |
| | Sep-06 | 8.00 | 1840 | 189 | 162 | 648 | 640 | 0.40 | 0.05 | 0.35 | 1.40 | 0.01 | <1 | <2 | 30 | 190 | <0.05 |
| | Sep-07 | 7.90 | 1800 | 180 | 146 | 602 | 660 | 2.00 | <0.05 | 1.98 | 0.70 | <0.01 | <1 | <2 | 30 | 180 | <0.05 |
| | Oct-08 | 8.10 | 1880 | 180 | 197 | 554 | 590 | <2 | 0.09 | <1.91 | 1.20 | 0.01 | <1 | <2 | 28 | 162 | <0.02 |
| | Sep-09 | 7.80 | 1790 | 150 | 200 | 563 | 520 | 2.00 | 0.05 | 1.95 | 2.80 | <0.01 | <1 | <2 | 26 | 139 | <0.02 |
| | Sep-10 | 7.90 | 1700 | 130 | 180 | 563 | 520 | 4.00 | 0.05 | 3.95 | 1.10 | <0.01 | <1 | <2 | 25 | 144 | <0.02 |
| | Sep-11 | 7.74 | 1700 | 120 | 200 | 564 | 560 | 5.00 | 0.08 | 4.92 | 0.70 | <0.01 | <1 | <2 | 27 | 150 | <0.02 |
| | Sep-12 | 7.98 | 1000 | 28 | 57 | 450 | 340 | <1.0 | 0.14 | <0.86 | 0.24 | <0.01 | <1 | <2 | 19 | 69 | <0.02 |
| | Sep-13 | 8.05 | 1100 | 36 | 78 | 430 | 350 | 1.70 | 0.06 | 1.64 | <0.5 | <0.05 | <1 | <2 | 21 | 95 | <0.02 |
| | Sep-14 | 7.91 | 1100 | 39 | 64 | 430 | 370 | 1.20 | 0.09 | 1.11 | 0.31 | <0.01 | <1 | <2 | 19 | 78 | <0.02 |
| | Sep-15 | 7.77 | 1500 | 110 | 160 | 510 | 550 | 0.76 | 0.07 | 0.69 | 0.33 | <0.01 | <1 | <2 | 27 | 140 | <0.02 |
| | Sep-16 | 8.08 | 1200 | 62 | 94 | 450 | 440 | 0.74 | <0.05 | 0.73 | 0.32 | <0.01 | <1 | <2 | 26 | 120 | <0.02 |
| | Sep-17 | 7.95 | 1100 | 43 | 60 | 440 | 370 | 0.30 | 0.070 | 0.23 | 0.30 | 0.02 | <10 | <2 | 22 | 87 | <0.02 |
| | Sep-18 | 7.95 | 1000 | 40 | 58 | 460 | 370 | 0.15 | <0.050 | 0.15 | 0.26 | <0.01 | <1 | <2 | 22 | 89 | <0.02 |
| | Sep-19 | 8.05 | 930 | 41 | 54 | 460 | 390 | 0.30 | <0.050 | 0.28 | 0.24 | <0.010 | <1 | <2 | 20 | 77 | <0.1 |
| | Sep-20 | 7.98 | 1000 | 40 | 52 | 440 | 340 | 0.22 | <0.050 | 0.22 | 0.19 | <0.010 | <1 | <2 | 21 | 83 | <0.02 |
| | Sep-21 | 8.09 | 880 | 31 | 32 | 400 | 320 | 0.27 | <0.050 | 0.27 | 0.17 | <0.010 | <1 | 4.0 | 17 | 55 | <0.02 |

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| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **25-I Leachate** | Oct-90 | | 3600 | 227 | | 1.00 | 1366 | 7.8 | 4.35 | 3.41 | <0.2 | <0.02 | 32.0 | | | 123 | 10.50 |
| | Sep-91 | 7.09 | 2710 | 227 | | 1210 | 1300 | 9.0 | 6.38 | 2.63 | <0.2 | <0.01 | 52.4 | 7.1 | | 110 | 2.12 |
| | Aug-92 | 6.82 | 2500 | 195 | | 1250 | 1400 | 25.7 | 4.47 | 21.23 | <0.1 | <0.01 | 18.4 | 10.0 | | 100 | 18.30 |
| | Aug-93 | 6.95 | 2710 | 184 | | 1520 | 1500 | 5.8 | 3.57 | 2.21 | 0.03 | <0.01 | | 14.0 | | 102 | 21.80 |
| | Aug-94 | 7.34 | 2630 | 165 | | 1320 | 1400 | 5.7 | 3.43 | 2.31 | <0.02 | <0.02 | | | | 87 | 23.20 |
| | Sep-95 | 6.90 | 2510 | 164 | | 1290 | 3300 | 9.3 | 5.32 | 3.96 | <0.04 | <0.01 | 15.0 | 12.0 | | 79 | 75.40 |
| | Sep-96 | 6.62 | 2321 | 116 | 1 | 1171 | 1160 | 8.0 | 6.50 | 1.50 | <0.1 | <0.2 | 68.2 | 30.1 | | 59 | 27.40 |
| | Sep-97 | 6.97 | 2180 | 13 | 2 | 1310 | 1230 | 11.7 | 6.60 | 5.10 | <0.2 | <0.2 | 25.0 | 0.6 | | 64 | 17.70 |
| | Sep-98 | 6.83 | 2058 | 107 | 2 | 1150 | 1190 | 26.1 | 6.98 | 19.12 | <0.2 | <0.2 | 25.0 | 26.4 | 26 | 68 | 0.22 |
| | Sep-99 | 7.16 | 2366 | 128 | 2 | 1340 | 1350 | 10.1 | 5.81 | 4.29 | <0.2 | <0.2 | 29.0 | 26.4 | 29 | 61 | 0.30 |
| | Sep-00 | 7.66 | 2140 | 199 | 3 | 1250 | 1220 | 14.5 | 10.30 | 4.20 | <0.2 | <0.2 | 30.0 | 57.7 | 28 | 62 | 0.03 |
| | Sep-01 | | 5910 * | 923 * | 14 | 1880 | 1270 | 304.0 * | 212.00 * | 92.00 * | <0.2 | <0.2 | <1.0 | 17.8 | 122 | 534 * | 0.19 |
| | Sep-02 | 7.65 | 3263 | 308 | 664 * | 1040 | 1420 | 47.0 | 40.20 | 6.80 | 0.60 | <0.2 | <2.0 | 4.0 | 67 | 221 | <0.10 |
| | Sep-03 | 7.40 | 2500 | 192 | 1 | 1150 | 1192 | 51.7 | 32.20 | 19.50 | <0.2 | <0.2 | 0.9 | 99.0 | 28 | 58 | 0.09 |
| | Sep-04 | 7.76 | 7100 * | 1150 * | | <1 * | 1020 | 423.0 * | 293.00 * | 130.00 * | <0.1 | <0.1 | 10.0 | 254.0 | 206 | 901 * | 0.80 |
| | Sep-05 | 7.61 | 2010 | 139 | <10 | 1160 | 1230 | 10.0 | 4.86 | 5.14 | <0.2 | | 15.0 | 50.0 | 29 | 54 | 13.00 |
| | Sep-06 | 7.50 | 2250 | 166 | <20 | 1230 | 1100 | 12.0 | 7.52 | 4.48 | <0.1 | 0.01 | 24.0 | 18.0 | 28 | 52 | 4.30 |
| | Sep-07 | 7.40 | 3030 | 190 | <1 | 1600 | 1700 | 28.0 | 24.5 | 3.50 | <0.1 | <0.01 | 19.0 | 12.0 | 45 | 97 | 0.11 |
| | Oct-08 | 7.50 | 5130 | 460 | <20 | 2340 | 1500 | 170.0 | 150.0 | 20.0 | <0.1 | <0.01 | 27.0 | 19.0 | 163 | 255 | 0.51 |
| | Sep-09 | 7.20 | 4370 | 530 | <10 | 1810 | 1500 | 92.0 | 79.0 | 13.00 | <0.1 | <0.01 | 25.0 | 15.0 | 89 | 213 | 0.29 |
| | Sep-10 | 7.40 | 3560 | 360 | <1 | 1510 | 1400 | 54.0 | 45.0 | 9.00 | <0.1 | <0.01 | 16.0 | 25.0 | 59 | 125 | 0.34 |
| | Sep-11 | 7.40 | 6690 | 540 | <1 | 3040 | 1900 | 190.0 | 190.0 | 0.00 | <1 | <0.1 | 72.0 | 42.0 | 280 | 463 | 2.25 |
| | Sep-13 | 7.43 | 5100 | 370 | <1 | 2300 | 1500 | 140.0 | 130.0 | 10.00 | <0.5 | <0.05 | 15.0 | 30.0 | 210 | 310 | 1.10 |
| | Sep-14 | 7.36 | 9600 | 1500 | <1 | 3400 | 2400 | 280.0 | 270.0 | 10.00 | <0.5 | <0.05 | <1 | 35.0 | 500 | 730 | 2.10 |
| | Sep-15 | 7.33 | 14000 | 2500 | <1 | 4700 | 2900 | 400.0 | 360.0 | 40.00 | <0.1 | 0.04 | 25.0 | 73.0 | 950 | 1200 | 7.5 |
| | Sep-16 | 7.56 | 15000 | 2400 | <10 | 6400 | 2600 | 560.0 | 410.0 | 150.00 | <0.5 | <0.05 | 20.0 | 59.0 | 1100 | 1300 | 3.3 |
| | Sep-17 | 7.46 | 11000 | 1600 | <10 | 3700 | 2000 | 330.0 | 310.0 | 20.00 | <0.5 | <0.05 | 120.0 | 78.0 | 750 | 940 | 2.7 |
| | Sep-18 | 7.36 | 15000 | 2000 | <50 | 5700 | 2800 | 440.0 | 400.0 | 40.00 | <1 | <0.01 | 0.0 | 56.0 | 1000 | 1400 | 5.0 |
| | Sep-19 | 7.88 | 15000 | 2100 | <20 | 6200 | 2900 | 390.0 | 280.0 | 110.00 | <0.10 | 0.04 | 20.0 | 72.0 | 1000 | 1500 | 4.1 |
| | Sep-20 | 7.68 | 15000 | 2000 | <50 | 5800 | 2900 | 520.0 | 450.0 | 70.00 | <1.0 | <0.10 | 24.0 | 96.0 | 1000 | 1600 | 5.6 |
| | Sep-21 | 7.64 | 17000 | 2200 | <20 | 7300 | 3000 | 710.0 | 510.0 | 200.00 | <0.50 | <0.050 | | 71.0 | 1200 | 1700 | 8.7 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **26-I** | Dec-85 | 7.60 | 4130 | 526 | 1290 | 223 | 473 | 4.20 | 4.10 | 0.10 | | | <1.0 | 2.2 | | 685 | |
| | Dec-85 | 8.10 | 4020 | 526 | 1140 | 163 | 437 | 4.00 | 4.00 | 0.00 | | | 1.0 | 1.2 | | 658 | |
| | Jul-86 | 8.16 | 3980 | 487 | | 214 | 598 | 4.20 | 3.70 | 0.50 | | | 2.0 | 3.7 | | | |
| | Sep-87 | 8.00 | 2990 | 820 | | 420 | 756 | 2.00 | | | | | 5.0 | <1.0 | | | |
| | Nov-87 | 7.78 | 2700 | 452 | | 410 | 611 | 3.51 | 1.51 | 2.00 | | | <0.1 | 4.7 | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 2.0 | | | | |
| | Jul-88 | 7.80 | 3000 | 503 | | 220 | 684 | 3.10 | 3.50 | <0.05 | | | | | | | |
| | Nov-88 | | 2340 | 588 | | 224 | 510 | | | | | | 0.5 | 4.0 | | | |
| | Oct-89 | 7.79 | 3590 | 525 | | 228 | 497 | 3.48 | 3.15 | 0.33 | | | <2.0 | 1.3 | | 550 | |
| | Oct-90 | | 4190 | 560 | | 186 | | 4.57 | 3.68 | 0.89 | <0.2 | <0.02 | <2.0 | | | 581 | 0.35 |
| | Sep-91 | 7.99 | 3330 | 485 | | 204 | 580 | 4.11 | 3.66 | 0.45 | <0.2 | <0.01 | <2.0 | <0.7 | | 710 | <0.12 |
| | Aug-92 | 7.63 | 3910 | 520 | | 220 | 690 | 5.07 | 3.40 | 1.67 | <0.1 | <0.01 | <2.0 | <0.5 | | 630 | 0.21 |
| | Aug-93 | 7.65 | 4040 | 545 | | 182 | 650 | 4.40 | 3.32 | 1.08 | 0.08 | <0.01 | <2.0 | 0.7 | | 638 | 0.88 |
| | Aug-94 | 7.70 | 3980 | 499 | | 176 | 680 | 4.10 | 3.37 | 0.73 | <0.02 | <0.02 | <1.0 | <0.3 | | 711 | 0.63 |
| | Sep-95 | 7.69 | 4000 | 525 | 1210 | 193 | 710 | 3.65 | <0.03 | 3.65 | <0.04 | <0.01 | <2.0 | 0.8 | | 657 | 0.60 |
| | Sep-96 | 7.58 | 3699 | 510 | 965 | 204 | 553 | 3.60 | 3.20 | 0.40 | <0.1 | <0.2 | <0.5 | 0.3 | | 633 | 0.50 |
| | Sep-97 | 7.45 | 3910 | 493 | 1370 | 183 | 877 | 3.77 | 3.60 | 0.17 | <0.2 | <0.2 | <1.0 | 0.6 | | 736 | 1.30 |
| | Sep-98 | 7.83 | 3853 | 499 | 1200 | 188 | 597 | 3.40 | 3.70 | <0.05 | <0.2 | <0.2 | <1.0 | 8.3 | 31 | 660 | 0.11 |
| | Sep-99 | 7.81 | 3932 | 538 | 1210 | 182 | 659 | 3.91 | 3.69 | 0.22 | <0.2 | <0.2 | <1.0 | 2.2 | 29 | 682 | 0.38 |
| | Sep-00 | 8.01 | 3441 | 515 | 1440 | 172 | 750 | 4.00 | 3.72 | 0.28 | <0.2 | <0.2 | <1.0 | 0.5 | 32 | 727 | <0.01 |
| | Sep-01 | | 3057 | 548 | 1280 | 182 | 703 | 4.45 | 3.66 | 0.79 | <0.2 | <0.2 | <1.0 | 1.5 | 30 | 696 | <0.01 |
| | Sep-02 | 7.72 | 4128 | 529 | 1350 | 181 | 662 | 5.07 | 3.69 | 1.38 | <0.2 | <0.2 | <2.0 | <0.5 | 31 | 673 | <0.01 |
| | Sep-03 | 7.50 | 4110 | 524 | 1350 | 172 | 686 | 3.81 | 3.63 | 0.18 | 0.70 | 2.20 | <1.0 | 1.8 | 33 | 676 | <0.01 |
| | Sep-04 | 7.66 | 5980 | 1030 * | | 33 | 1600 * | 5.70 | 0.97 | 4.73 | <0.1 | <0.1 | <1.0 | <5 | 14 | 943 | 0.11 |
| | Sep-05 | 7.97 | 3400 | 476 | 966 | 200 | 575 | 3.50 | 3.32 | 0.18 | <0.2 | <0.3 | <1 | 5.0 | 29 | 630 | 0.63 |
| | Sep-06 | 8.00 | 3750 | 488 | 1000 | 213 | 590 | 3.60 | 3.49 | 0.11 | <0.1 | <0.01 | <1 | <2 | 32 | 720 | 0.61 |
| | Sep-07 | 8.00 | 3880 | 520 | 1040 | 209 | 660 | 3.80 | 3.48 | 0.32 | <0.1 | <0.01 | <1 | <2 | 34 | 710 | <0.05 |
| | Oct-08 | 8.10 | 3790 | 490 | 967 | 205 | 510 | 3.90 | 3.20 | 0.70 | <0.1 | <0.01 | <1 | <2 | 31 | 618 | <0.02 |
| | Sep-09 | 7.70 | 3890 | 450 | 1100 | 216 | 590 | 3.70 | 3.20 | 0.50 | <0.1 | <0.01 | <1 | <2 | 23 | 610 | <0.2 |
| | Sep-10 | 7.90 | 3680 | 450 | 910 | 211 | 460 | 3.00 | 3.20 | <0.05 | <0.1 | <0.01 | <1 | <2 | 27 | 598 | <0.02 |
| | Sep-11 | 8.01 | 3740 | 440 | 1000 | 216 | 540 | 3.10 | 3.30 | <0.05 | <0.1 | <0.01 | <1 | <2 | 30 | 613 | <0.02 |
| | Sep-12 | 8.01 | 3500 | 430 | 760 | 240 | 460 | 3.60 | 3.60 | 0.00 | <0.1 | <0.01 | <1 | <2 | 23 | 579 | <0.2 |
| | Sep-13 | 7.90 | 3500 | 440 | 820 | 250 | 450 | 3.60 | 3.20 | 0.40 | <0.1 | <0.01 | <1 | <2 | 27 | 570 | <0.2 |
| | Sep-14 | 8.11 | 3700 | 460 | 890 | 240 | 500 | 3.80 | 3.40 | 0.40 | <0.1 | <0.01 | <1 | <2 | 29 | 630 | <0.2 |
| | Sep-15 | 7.90 | 3600 | 470 | 840 | 250 | 520 | 3.40 | 3.30 | 0.10 | <0.1 | <0.01 | <1 | <2 | 33 | 610 | <0.02 |
| | Sep-16 | 7.97 | 3600 | 450 | 830 | 240 | 510 | 3.40 | 3.30 | 0.10 | <0.1 | <0.01 | <1 | <2 | 32 | 560 | <0.02 |
| | Sep-17 | 7.89 | 3700 | 460 | 920 | 230 | 520 | 3.60 | 3.30 | 0.30 | <0.1 | <0.01 | <1 | <2 | 32 | 620 | <0.02 |
| | Sep-18 | 7.97 | 3600 | 480 | 850 | 260 | 470 | 3.10 | 3.30 | <0.05 | <0.1 | <0.01 | <1 | <2 | 30 | 590 | <0.02 |
| | Sep-19 | 8.03 | 3600 | 440 | 840 | 230 | 470 | 3.40 | 3.60 | <0.05 | <0.10 | <0.010 | <1 | <2 | 31 | 610 | <0.02 |
| | Sep-20 | 7.80 | 3400 | 470 | 910 | 240 | 500 | 3.50 | 3.40 | 0.10 | <0.10 | <0.010 | <1 | <2 | 31 | 570 | <0.02 |
| | Sep-21 | 7.92 | 3500 | 450 | 840 | 230 | 500 | 3.50 | 3.40 | 0.10 | <0.10 | <0.010 | <1 | <2 | 29 | 590 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **26-II** | Nov-85 | 9.04 | 1970 | 44 | 515 | 532 | 357 | 3.75 | 3.80 | <0.05 | | | 2.0 | 5.6 | | 213 | |
| | Dec-85 | 7.69 | 1840 | 42 | 600 | 1584 | 486 | 12.00 | 4.30 | 7.70 | | | <1.0 | 2.4 | | 192 | |
| | Dec-85 | 8.04 | 1840 | 52 | 485 | 481 | 458 | | 2.90 | | | | <1.0 | 2.1 | | 200 | |
| | Jul-86 | 8.23 | 1700 | 88 | | 386 | 424 | 2.60 | 2.35 | 0.25 | | | <1.0 | <1.0 | | | |
| | Sep-87 | 8.00 | 1280 | 500 | | 421 | 475 | 0.97 | | | | | 3.0 | 2.6 | | | |
| | Nov-87 | 7.57 | 1300 | 95 | | 880 | 710 | 2.57 | 0.57 | 2.00 | | | 0.8 | 6.0 | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 1.8 | | | | |
| | Jul-88 | 7.57 | 1190 | 39 | | 424 | 535 | 1.70 | 2.28 | <0.05 | | | | | | | |
| | Nov-88 | | 1110 | 205 | | 442 | 550 | 1.64 | 2.40 | <0.05 | | | 1.0 | 8.0 | | | |
| | Oct-89 | 7.75 | 1460 | 58 | | 442 | 431 | 2.51 | 2.28 | 0.23 | | | <2.0 | 2.8 | | 150 | |
| | Oct-90 | | 1740 | 306 | | 457 | | 2.20 | 2.33 | <0.05 | <0.2 | <0.02 | <2.0 | | | 155 | <0.08 |
| | Sep-91 | 7.81 | 1580 | 30 | | 399 | 520 | 1.42 | 0.26 | 1.16 | 0.50 | <0.01 | <2.0 | 3.9 | | 200 | <0.08 |
| | Aug-92 | 7.49 | 1580 | 35 | | 442 | 560 | 2.53 | 2.08 | 0.45 | <0.1 | <0.01 | <2.0 | 1.1 | | 190 | 0.36 |
| | Aug-93 | 7.52 | 1600 | 4 * | | 441 | 600 | 1.84 | 1.46 | 0.38 | 0.27 | <0.01 | <2.0 | 0.6 | | 170 | <0.10 |
| | Aug-94 | 7.66 | 1660 | <2.6 | | 424 | 530 | 1.53 | 1.36 | 0.17 | 0.11 | <0.02 | <1.0 | 0.3 | | 178 | 0.64 |
| | Sep-95 | 7.75 | 1880 | 37 | 514 | 447 | 520 | 2.40 | <0.03 | 2.40 | <0.04 | <0.01 | <2.0 | 6.2 | | 189 | 0.31 |
| | Sep-96 | 7.51 | 1604 | 29 | 438 | 414 | 518 | 0.63 | 0.50 | 0.13 | 1.90 | <0.2 | <0.5 | 0.8 | | 179 | <0.1 |
| | Sep-97 | 7.64 | 1470 | 27 | 425 | 429 | 517 | 0.46 | 0.17 | 0.29 | 0.80 | <0.2 | <1.0 | 0.7 | | 166 | <0.10 |
| | Sep-98 | 7.84 | 1480 | 26 | 431 | 448 | 505 | 0.68 | 0.14 | 0.54 | 1.40 | <0.2 | <1.0 | 13.1 | 29 | 168 | 0.03 |
| | Sep-99 | 8.08 | 1650 | 32 | 541 | 349 | 549 | 0.67 | 0.25 | 0.42 | 1.80 | <0.2 | <1.0 | 5.7 | 26 | 174 | 0.02 |
| | Sep-00 | 7.46 | 1379 | 30 | 428 | 467 | 504 | 1.41 | 1.40 | 0.01 | <0.2 | <0.2 | 1.0 | 7.6 | 27 | 172 | <0.01 |
| | Sep-01 | | 1244 | 25 | 464 | 486 | 532 | 2.25 | 1.52 | 0.73 | <0.2 | <0.2 | <1.0 | 6.8 | 27 | 168 | 0.03 |
| | Sep-02 | 7.38 | 1506 | 27 | 373 | 490 | 479 | 3.60 | 3.32 | 0.28 | <0.2 | 0.70 | <1.0 | 2.2 | 26 | 151 | <0.01 |
| | Sep-03 | 7.70 | 1590 | 28 | 392 | 487 | 484 | 0.43 | 0.29 | 0.14 | 0.40 | <0.2 | <1.0 | 2.3 | 27 | 159 | <0.01 |
| | Sep-04 | 8.01 | 4190 | 269 * | | 419 | 2580 * | 0.40 | <0.05 | <0.40 | <1 | <0.1 | <1.0 | <5 | 6 | 316 | 1.09 |
| | Sep-05 | 8.12 | 1480 | 22 | 337 | 527 | 504 | 2.90 | 1.82 | 1.08 | <0.2 | <0.3 | <1 | 5.0 | 30 | 180 | 0.34 |
| | Sep-06 | 7.90 | 1630 | 31 | 345 | 569 | 540 | 6.20 | 3.50 | 2.70 | <0.1 | 0.04 | 19.0 | 19.0 | 30 | 190 | 0.46 |
| | Sep-07 | 8.10 | 1580 | 26 | 394 | 444 | 550 | 2.00 | 1.12 | 0.88 | 0.50 | 0.05 | <1 | <2 | 30 | 180 | <0.05 |
| | Oct-08 | 8.10 | 1660 | 31 | 370 | 488 | 510 | 3.90 | 1.70 | 2.20 | <0.1 | 0.09 | 1.0 | 9.0 | 28 | 172 | <0.02 |
| | Sep-09 | 7.70 | 1600 | 26 | 370 | 497 | 440 | 10.00 | 4.90 | 5.10 | <0.1 | 0.02 | 24.0 | 9.0 | 26 | 140 | <0.02 |
| | Sep-10 | 7.80 | 1560 | 23 | 380 | 424 | 460 | 2.40 | 1.90 | 0.50 | 0.20 | 0.07 | <1 | <2 | 25 | 149 | <0.02 |
| | Sep-11 | 7.85 | 1540 | 24 | 360 | 477 | 470 | 2.50 | 2.80 | <0.05 | 0.20 | 0.10 | 9.0 | <2 | 27 | 155 | <0.02 |
| | Sep-12 | 8.03 | 1600 | 24 | 350 | 460 | 460 | 2.20 | 1.20 | 1.00 | 0.14 | 0.05 | <1 | <2 | 27 | 159 | <0.02 |
| | Sep-13 | 7.76 | 1600 | 25 | 360 | 440 | 460 | 2.80 | 2.00 | 0.80 | <0.1 | 0.07 | <1 | <2 | 26 | 160 | <0.02 |
| | Sep-14 | 8.08 | 1600 | 24 | 350 | 480 | 500 | 0.59 | 0.41 | 0.18 | 0.19 | 0.14 | <1 | <2 | 28 | 180 | <0.02 |
| | Sep-15 | 7.78 | 1600 | 25 | 310 | 540 | 500 | 5.70 | 5.30 | 0.40 | <0.1 | 0.02 | 44.0 | 7.0 | 32 | 170 | 0.07 |
| | Sep-16 | 7.84 | 1500 | 24 | 320 | 510 | 490 | 4.60 | 4.20 | 0.40 | <0.1 | <0.01 | 6.4 | <2 | 30 | 170 | <0.02 |
| | Sep-17 | 7.82 | 1500 | 25 | 330 | 520 | 490 | 4.30 | 3.80 | 0.50 | <0.1 | 0.14 | <10 | <2 | 30 | 170 | 0.03 |
| | Sep-18 | 7.87 | 1500 | 25 | 330 | 530 | 460 | 3.10 | 3.00 | 0.10 | <0.1 | 0.02 | <1 | <2 | 28 | 160 | <0.02 |
| | Sep-19 | 7.90 | 1500 | 25 | 260 | 530 | 450 | 5.70 | 5.70 | 0.00 | <0.10 | 0.03 | <1 | 9.0 | 29 | 170 | <0.02 |
| | Sep-20 | 7.88 | 1400 | 25 | 320 | 500 | 460 | 0.76 | 0.43 | 0.33 | 0.34 | 0.16 | <1 | 11.0 | 27 | 160 | <0.02 |
| | Sep-21 | 7.99 | 1500 | 28 | 330 | 470 | 440 | 1.60 | 1.40 | 0.20 | 0.21 | 0.44 | <1 | 16.0 | 26 | 160 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
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**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **26-III** | Nov-85 | 7.24 | 2290 | 10 | 530 | 888 | 1180 | 0.40 | 0.10 | 0.30 | | | <1.0 | <1.0 | | 112 | |
| | Dec-85 | 7.80 | 2690 | 16 | 890 | 896 | 1500 | 0.50 | 0.20 | 0.30 | | | <1.0 | <1.0 | | 132 | |
| | Dec-85 | 7.63 | 2590 | 16 | 760 | 904 | 1440 | 0.40 | 0.10 | 0.30 | | | <1.0 | 0.6 | | 130 | |
| | Jul-86 | 8.45 | 2380 | 19 | | 714 | 1243 | 0.60 | 0.05 | 0.55 | | | <1.0 | 13.3 | | | |
| | Sep-87 | 7.70 | 2150 | 575 | | 959 | 1667 | <0.05 | | | | | 5.0 | 6.2 | | | |
| | Nov-87 | 7.34 | 2000 | 100 | | 1160 | 1795 | 0.35 | <0.01 | 0.35 | | | 1.9 | 1.0 | | | |
| | Dec-87 | | | | | | | | | | | | 1.2 | | | | |
| | Dec-87 | | | | | | | | | | | | 2.3 | | | | |
| | Jul-88 | 7.77 | 1940 | 25 | | 920 | 1558 | <0.20 | <0.01 | | | | | | | | |
| | Nov-88 | | 1670 | 184 | | 837 | 1520 | 0.14 | 0.14 | 0.00 | | | 1.1 | 3.0 | | | |
| | Oct-89 | 7.89 | 2760 | 37 | | 960 | 1338 | 0.68 | 0.05 | 0.63 | | | 5.0 | 1.1 | | 125 | |
| | Oct-90 | | 2100 | 75 | | 910 | | 0.14 | <0.05 | 0.14 | <0.2 | <0.02 | <2.0 | | | 134 | <0.08 |
| | Sep-91 | 7.71 | 2720 | <1.6 | | 838 | 1500 | 0.15 | <0.05 | 0.15 | <0.2 | <0.01 | <2.0 | <0.7 | | 150 | <0.08 |
| | Aug-92 | 7.43 | 2210 | <1.6 | | 740 | 1300 | 0.13 | <0.02 | 0.13 | <0.1 | <0.01 | <2.0 | <0.5 | | 120 | <0.08 |
| | Aug-93 | 7.36 | 2430 | <2.6 | | 840 | 1400 | 0.16 | <0.01 | 0.16 | 0.09 | <0.01 | <2.0 | 0.8 | | 127 | <0.10 |
| | Aug-94 | 7.45 | 2500 | <2.6 | | 789 | 1400 | 0.14 | <0.02 | 0.14 | <0.02 | <0.02 | <1.0 | <0.3 | | 135 | <0.10 |
| | Sep-95 | 7.70 | 2730 | 20 | | 2310 * | 3200 | 0.52 | 0.08 | 0.44 | <0.04 | 0.16 | <2.0 | 2.2 | | 131 | * 330 |
| | Sep-96 | 7.32 | 2592 | 20 | 817 | 801 | 1560 | 0.29 | 0.09 | 0.20 | 0.40 | <0.2 | <0.5 | 0.4 | | 145 | 0.10 |
| | Sep-97 | 7.32 | 2420 | 23 | 869 | 832 | 1510 | 0.48 | 0.09 | 0.39 | 0.10 | <0.2 | <1.0 | 0.8 | | 131 | 0.57 |
| | Sep-98 | 7.57 | 2381 | 21 | 860 | 869 | 1480 | 0.74 | <0.02 | 0.74 | <0.2 | <0.2 | <1.0 | 2.2 | 13 | 136 | 0.02 |
| | Sep-99 | 7.63 | 2665 | 23 | 950 | 909 | 1490 | 0.82 | 0.24 | 0.58 | 0.20 | <0.2 | <1.0 | 2.1 | 11 | 143 | 0.01 |
| | Sep-00 | 8.10 | 2005 | 21 | 883 | 856 | 1400 | 0.15 | 0.05 | 0.10 | <0.2 | <0.2 | 1.0 | 0.4 | 12 | 135 | <0.01 |
| | Sep-01 | | 1769 | 21 | 823 | 942 | 1510 | 0.55 | 0.20 | 0.35 | 0.20 | <0.2 | <0.1 | <0.5 | 13 | 137 | <0.01 |
| | Sep-02 | 7.37 | 2376 | 23 | 834 | 864 | 1350 | 1.07 | 0.79 | 0.28 | <0.2 | <0.2 | <1.0 | <0.5 | 12 | 124 | <0.01 |
| | Sep-03 | 7.70 | 2450 | 22 | 849 | 832 | 1326 | 0.44 | 0.15 | 0.29 | 0.40 | <0.2 | <1.0 | 1.4 | 12 | 131 | <0.01 |
| | Sep-04 | 8.05 | 2880 | 214 * | | 415 * | 1680 | 0.70 | 0.17 | 0.53 | <0.1 | <0.1 | <1.0 | 7.0 | 8 | 233 * | 1.16 |
| | Sep-05 | 8.06 | 2210 | 22 | 757 | 835 | 1390 | 3.60 | 0.97 | 2.63 | <0.2 | <0.3 | 7.0 | 4.0 | 13 | 130 | 0.37 |
| | Sep-06 | 7.90 | 2340 | 21 | 659 | 860 | 1300 | 0.70 | 0.62 | 0.08 | 0.10 | <0.01 | <1 | <2 | 13 | 140 | <0.05 |
| | Sep-07 | 8.00 | 2260 | 20 | 601 | 791 | 1300 | 6.00 | 0.99 | 5.01 | <0.1 | 0.06 | <1 | <2 | 14 | 130 | <0.05 |
| | Oct-08 | 8.10 | 2220 | 19 | 578 | 769 | 1100 | 7.00 | 0.44 | 6.56 | 0.10 | 0.04 | <1 | 2.0 | 11 | 113 | <0.02 |
| | Sep-09 | 8.00 | 1840 | 14 | 430 | 689 | 870 | 3.00 | 0.49 | 2.51 | 0.20 | <0.01 | <1 | <2 | 9 | 90 | <0.02 |
| | Sep-10 | 7.80 | 1960 | 16 | 440 | 706 | 930 | 3.00 | 0.18 | 2.82 | <0.1 | 0.02 | <1 | <2 | 10 | 99 | <0.02 |
| | Sep-11 | 8.04 | 1890 | 16 | 450 | 722 | 970 | 3.00 | 0.13 | 2.87 | 0.10 | <0.01 | <1 | <2 | 11 | 103 | <0.02 |
| | Sep-12 | 7.62 | 2200 | 19 | 530 | 750 | 1100 | 1.70 | 0.40 | 1.30 | <0.1 | <0.01 | <1 | 4.0 | 12 | 111 | <0.02 |
| | Sep-13 | 7.65 | 2100 | 17 | 510 | 710 | 1000 | 0.84 | 0.14 | 0.70 | <0.1 | <0.01 | <1 | <2 | 11 | 100 | <0.02 |
| | Sep-14 | 8.11 | 2000 | 18 | 510 | 720 | 1100 | 2.00 | 0.10 | 1.90 | 0.16 | 0.02 | <1 | <2 | 11 | 120 | <0.02 |
| | Sep-15 | 7.88 | 2100 | 17 | 520 | 740 | 1100 | 0.31 | 0.18 | 0.13 | <0.1 | <0.01 | <1 | <2 | 12 | 120 | <0.02 |
| | Sep-16 | 7.97 | 2100 | 18 | 530 | 770 | 1200 | <0.1 | <0.05 | <0.05 | <0.1 | <0.01 | <1 | <2 | 14 | 130 | <0.02 |
| | Sep-17 | 7.93 | 2100 | 16 | 530 | 730 | 1200 | 0.30 | 0.09 | 0.21 | 0.15 | <0.01 | <1 | <2 | 12 | 120 | <0.02 |
| | Sep-18 | 7.94 | 2000 | 16 | 510 | 760 | 1100 | 0.30 | 0.17 | 0.13 | 0.22 | <0.01 | <1 | <2 | 12 | 110 | <0.02 |
| | Sep-19 | 8.09 | 1700 | 14 | 380 | 640 | 860 | 1.20 | 0.48 | 0.72 | <0.10 | <0.010 | <1 | 2.0 | 10 | 92 | 0.08 |
| | Sep-20 | 7.88 | 1700 | 15 | 390 | 680 | 890 | 0.18 | <0.050 | 0.18 | <0.10 | <0.010 | <1 | 3.0 | 11 | 93 | <0.02 |
| | Sep-21 | 7.74 | 1500 | 13 | 270 | 600 | 760 | 4.10 | 2.70 | 1.40 | <0.10 | 0.02 | 21.0 | 9.0 | 10 | 77 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **27-I** | Dec-85 | 8.51 | 9690 | 2878 | 810 | 50 | 1750 | 10.00 | 10.00 | <0.05 | | | 1.0 | 3.2 | | 1340 | |
| | Dec-85 | 7.78 | 10430 | 3220 | 840 | 98 | 2040 | | 9.80 | | | | 0.8 | 16.0 | | 1480 | |
| | Jul-86 | 7.84 | 11110 | 2195 | | 166 | 2246 | 8.80 | 8.55 | 0.25 | | | 1.6 | <1.0 | | | |
| | Sep-87 | 8.90 | 8120 | 4350 | | 210 | 2374 | 1.97 | 3.61 | <0.05 | | | 3.0 | 5.3 | | | |
| | Nov-87 | | | | | | | | | | | | 1.0 | | | | |
| | Nov-87 | | | | | | | | | | | | 2.7 | | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 4.6 | | | | |
| | Jul-88 | 7.23 | 7220 | 3593 | | 210 | 2380 | 6.70 | 7.86 | <0.05 | | | 2.2 | | | | |
| | Nov-88 | | 6970 | 3140 | | 193 | 2340 | | | | | | <0.5 | 3.0 | | | |
| | Oct-89 | 7.18 | 10800 | 3425 | | 192 | 1969 | 8.89 | 8.11 | 0.78 | | | 4.0 | 3.5 | | 1200 | |
| | Oct-90 | | 10070 | 3270 | | 192 | | 10.00 | 7.40 | 2.60 | <0.2 | <0.02 | <2.0 | | | 1400 | 6.54 |
| | Sep-91 | 7.32 | 11100 | 3340 | | 189 | 2500 | 10.10 | 7.34 | 2.76 | <0.2 | <0.01 | <2.0 | <0.7 | | 1720 | <0.08 |
| | Aug-92 | 7.09 | 10500 | 3280 | | 218 | 2500 | 11.30 | 8.87 | 2.43 | <0.1 | <0.01 | <2.0 | <0.5 | | 1490 | 3.65 |
| | Aug-93 | 7.07 | 9460 | 5150 | | 197 | 2300 | 16.50 | 6.98 | 9.52 | 0.02 | <0.01 | 15.3 | 0.8 | | 1500 | 8.06 |
| | Aug-94 | 7.21 | 11200 | 3490 | | 186 | 2400 | 9.87 | 7.92 | 1.95 | <0.02 | 0.14 | <1.0 | 0.4 | | 1820 | 6.38 |
| | Sep-95 | 7.23 | 11500 | 3430 | 918 | 188 | 2400 | 7.24 | 7.13 | 0.11 | <0.04 | 0.12 | <2.0 | 14.0 | | 1600 | 5.03 |
| | Sep-96 | 7.08 | 10730 | 3540 | 890 | 182 | 2230 | 7.70 | 7.00 | 0.70 | <0.1 | <2.0 | <0.5 | 0.4 | | 1530 | 5.40 |
| | Sep-97 | 7.09 | 9740 | 3450 | 957 | 173 | 2250 | 5.80 | 5.10 | 0.70 | <2.0 | <2.0 | <1.0 | 0.1 | | 1490 | 3.41 |
| | Sep-98 | 7.20 | 10400 | 3710 | 864 | 194 | 2110 | 6.10 | 5.60 | 0.50 | <2.0 | <0.2 | <1.0 | 7.4 | 73 | 1510 | 1.96 |
| | Sep-99 | 7.25 | 11050 | 3180 | 912 | 204 | 2400 | 6.05 | 6.18 | <0.05 | <2.0 | <0.2 | <1.0 | 4.1 | 69 | 1600 | 9.48 |
| | Sep-00 | 7.73 | 9292 | 3410 | 867 | 191 | 2160 | 7.79 | 7.84 | <0.05 | <0.2 | <0.2 | <1 | 11.7 | 69 | 1490 | 0.25 |
| | Sep-01 | | 8881 | 3270 | 842 | 195 | 2240 | 9.20 | 6.63 | 2.57 | <2.0 | <2.0 | <1.0 | <0.5 | 64 | 1520 | <0.10 |
| | Sep-02 | 7.14 | 12080 | 3550 | 873 | 209 | 2230 | 7.61 | 7.19 | 0.42 | <2.0 | <0.2 | <1.0 | <0.5 | 65 | 1460 | <0.10 |
| | Sep-03 | 7.70 | 10790 | 3410 | 888 | 182 | 2124 | 7.20 | 7.08 | 0.12 | <0.2 | <2.0 | <1.0 | <0.5 | 72 | 1490 | 0.34 |
| | Sep-04 | 7.76 | 10000 | 3160 | | 189 | 2080 | 8.20 | 8.00 | 0.20 | <0.1 | <0.1 | <1.0 | 20.0 | 70 | 1490 | 1.35 |
| | Sep-05 | 7.79 | 8780 | 3450 | 809 | 202 | 2300 | 8.00 | 7.30 | 0.70 | <0.2 | | <1 | <2 | 73 | 1600 | 5.90 |
| | Sep-06 | 7.60 | 10800 | 3230 | 843 | 183 | 2300 | 6.00 | 5.99 | 0.01 | 0.50 | 0.01 | <1 | <2 | 80 | 1700 | 4.50 |
| | Sep-07 | 7.50 | 11100 | 3400 | 825 | 182 | 2600 | 7.40 | 7.82 | <0.05 | 0.50 | 0.06 | <1 | <2 | 85 | 1800 | 0.31 |
| | Oct-08 | 7.70 | 11100 | 3400 | 792 | 191 | 2100 | 7.60 | 8.80 | <0.05 | <0.1 | 0.02 | <1 | <2 | 74 | 1440 | 0.83 |
| | Sep-09 | 7.40 | 11000 | 3200 | 810 | 199 | 2100 | 9.00 | 8.80 | 0.20 | <0.1 | <0.01 | <1 | <2 | 68 | 1490 | <0.2 |
| | Sep-10 | 7.40 | 11100 | 3400 | 810 | 187 | 2100 | 6.60 | 6.60 | 0.00 | <0.1 | <0.01 | <1 | <2 | 61 | 1440 | 2.80 |
| | Sep-11 | 7.50 | 10900 | 3200 | 810 | 189 | 2200 | 7.60 | 7.10 | 0.50 | 0.30 | 0.06 | 4.0 | <2 | 68 | 1450 | 2.60 |
| | Sep-12 | 7.07 | 11000 | 3100 | 730 | 200 | 2100 | 7.60 | 7.30 | 0.30 | <0.1 | <0.01 | <1 | <2.0 | 73 | 1470 | 7.40 |
| | Sep-13 | 7.63 | 11000 | 3100 | 800 | 190 | 2300 | 8.20 | 7.40 | 0.80 | <0.5 | <0.05 | <1 | <2 | 77 | 1600 | 2.80 |
| | Sep-14 | 7.66 | 11000 | 3200 | 830 | 190 | 2200 | 8.00 | 7.80 | 0.20 | <0.1 | <0.01 | <1 | <2 | 72 | 1500 | 0.20 |
| | Sep-15 | 7.37 | 11000 | 3400 | 810 | 190 | 2200 | 4.80 | 4.90 | <0.05 | 0.55 | 0.23 | <1 | 8.0 | 82 | 1500 | 2.10 |
| | Sep-16 | 7.57 | 11000 | 3200 | 800 | 190 | 2200 | 7.50 | 6.60 | 0.9 | 0.34 | 0.28 | <1 | 27.0 | 80 | 1500 | 0.53 |
| | Sep-17 | 7.49 | 11000 | 3200 | 820 | 190 | 2200 | 6.40 | 6.20 | 0.20 | <0.1 | 0.12 | 1.4 | 11.0 | 82 | 1500 | 0.85 |
| | Sep-18 | 7.49 | 11000 | 3300 | 830 | 220 | 2100 | 7.20 | 7.80 | <0.05 | <0.1 | <0.01 | <1 | <2 | 77 | 1500 | 2.10 |
| | Sep-19 | 7.63 | 11000 | 3200 | 780 | 190 | 2100 | 7.60 | 7.40 | 0.20 | 0.11 | 0.07 | <1 | 4.0 | 83 | 1500 | 3.00 |
| | Sep-20 | 7.46 | 11000 | 2700 | 840 | 190 | 2000 | 7.20 | 7.20 | <0.05 | <0.10 | <0.010 | <1 | 5.0 | 75 | 1400 | 0.49 |
| | Sep-21 | 7.46 | 10000 | 3300 | 760 | 190 | 2100 | 6.70 | 7.20 | <0.05 | <0.10 | <0.010 | <1 | 11.0 | 74 | 1500 | 1.70 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **27-II** | Dec-85 | 7.58 | 3460 | 795 | 350 | 175 | 643 | | 4.10 | | | | <1.0 | 4.3 | | 420 | |
| | Dec-85 | 7.51 | 3370 | 810 | 335 | 163 | 625 | | 2.70 | | | | 0.6 | 11.7 | | 420 | |
| | Jul-86 | 8.09 | 3500 | 822 | | 172 | 635 | 4.20 | 3.80 | 0.40 | | | 1.2 | 0.9 | | | |
| | Sep-87 | 9.80 | 2980 | 1355 | | 160 | 950 | 1.97 | 2.65 | <0.05 | | | 4.5 | 3.2 | | | |
| | Nov-87 | 7.68 | 2920 | 995 | | 176 | 659 | 4.73 | 3.48 | 1.25 | | | 1.9 | 7.9 | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 2.3 | | | | |
| | Jul-88 | 7.49 | 2430 | 953 | | 180 | | 3.50 | 3.48 | 0.02 | | | | | | | |
| | Nov-88 | | | 1092 | | 158 | 960 | | | | | | <0.5 | 3.0 | | | |
| | Oct-89 | 7.57 | 4280 | 1162 | | 150 | 815 | 4.97 | 4.42 | 0.55 | | | <2.0 | 0.3 | | 455 | |
| | Oct-90 | | 3710 | 963 | | 160 | | 8.02 | 3.58 | 4.44 | <0.2 | <0.02 | <2.0 | | | 452 | 0.20 |
| | Sep-91 | 7.65 | 3440 | 905 | | 145 | 820 | 3.93 | 4.18 | <0.05 | <0.2 | <0.01 | <2.0 | 2.0 | | 510 | <0.08 |
| | Aug-92 | 7.47 | 3790 | 923 | | 272 | 840 | 5.36 | 5.45 | <0.05 | <0.1 | <0.01 | <2.0 | <0.5 | | 440 | 0.68 |
| | Aug-93 | 7.39 | 3840 | 1080 | | 169 | 820 | 6.88 | 3.61 | 3.27 | 0.29 | <0.01 | <2.0 | 0.8 | | 479 | 1.12 |
| | Aug-94 | 7.43 | 3780 | 853 | | 161 | 850 | 2.10 | 1.19 | 0.91 | 0.83 | <0.02 | <1.0 | 0.3 | | 502 | 0.61 |
| | Sep-95 | 7.49 | 4080 | 1010 | 432 | 159 | 900 | 4.55 | 4.34 | 0.21 | <0.04 | <0.01 | <2.0 | 6.0 | | 533 | <0.25 |
| | Sep-96 | 7.47 | 3775 | 935 | 395 | 147 | 699 | 1.80 | 1.59 | 0.21 | 2.20 | <0.2 | <0.5 | 2.6 | | 474 | 0.50 |
| | Sep-97 | 7.33 | 3520 | 907 | 412 | 155 | 706 | 4.40 | 3.20 | 1.20 | 0.70 | <2.0 | <1.0 | 0.4 | | 452 | <0.10 |
| | Sep-98 | 7.87 | 3257 | 873 | 362 | 153 | 760 | 4.10 | 0.37 | 3.73 | 3.80 | <0.2 | <1.0 | 4.2 | 40 | 459 | 4.47 |
| | Sep-99 | 7.48 | 3732 | 920 | 419 | 191 | 811 | 3.23 | 3.09 | 0.14 | 1.20 | <2.0 | <1.0 | 1.8 | 37 | 560 | 3.75 |
| | Sep-00 | 7.82 | 2933 | 914 | 231 | 351 | 729 | 10.80 | 9.70 | 1.10 | <0.2 | <0.2 | <1 | 42.2 * | 43 | 447 | 0.21 |
| | Sep-01 | | 2656 | 981 | 226 | 266 | 718 | 18.00 | 14.80 | 3.20 | <0.2 | <0.2 | <1.0 | 7.7 | 35 | 434 | 0.35 |
| | Sep-02 | 7.12 | 3489 | 947 | 316 | 243 | 689 | 15.20 | 12.70 | 2.50 | <0.2 | <0.2 | <1.0 | 1.3 | 40 | 413 | 0.11 |
| | Sep-03 | 7.70 | 3550 | 822 | 318 | 173 | 642 | 2.93 | 2.75 | 0.18 | 3.30 | <0.2 | <1.0 | 0.8 | 38 | 442 | <0.01 |
| | Sep-04 | 8.04 | 3300 | 814 | | 194 | 625 | 4.40 | 2.45 | 1.95 | <0.1 | 0.10 | 1.0 | 7.0 | 42 | 610 | 13.20 |
| | Sep-05 | 7.77 | 3150 | 831 | 345 | 198 | 696 | 4.20 | 3.76 | 0.44 | <0.2 | | <1 | 3.0 | 42 | 550 | 2.00 |
| | Sep-06 | 7.90 | 3760 | 895 | 322 | 186 | 770 | 3.50 | 2.12 | 1.38 | 3.70 | 0.07 | 1.0 | <2 | 43 | 500 | 0.48 |
| | Sep-07 | 7.60 | 3850 | 920 | 304 | 198 | 850 | 7.50 | 4.78 | 2.72 | 1.00 | 0.25 | <1 | <2 | 46 | 540 | <0.05 |
| | Oct-08 | 7.90 | 3830 | 880 | 329 | 171 | 700 | 4.00 | 2.50 | 1.50 | 3.70 | 0.08 | <1 | <2 | 40 | 442 | <0.02 |
| | Sep-09 | 7.50 | 3800 | 910 | 370 | 199 | 710 | 5.00 | 2.80 | 2.20 | 1.00 | 0.26 | <1 | <2 | 40 | 457 | <0.02 |
| | Sep-10 | 7.50 | 3880 | 950 | 370 | 165 | 710 | 6.00 | 3.90 | 2.10 | 1.00 | 1.30 | <1 | <2 | 40 | 451 | 0.11 |
| | Sep-11 | 7.62 | 3700 | 870 | 340 | 167 | 660 | 6.00 | 3.30 | 2.70 | 0.50 | 0.03 | <1 | <2 | 37 | 420 | <0.02 |
| | Sep-12 | 7.25 | 3900 | 890 | 340 | 180 | 740 | 4.10 | 3.60 | 0.50 | 0.67 | <0.01 | <1 | <2.0 | 41 | 474 | 2.99 |
| | Sep-13 | 7.75 | 3900 | 950 | 360 | 160 | 720 | 4.20 | 4.10 | 0.10 | 0.59 | 0.04 | <1 | <2 | 42 | 460 | 0.02 |
| | Sep-14 | 7.67 | 4100 | 960 | 360 | 160 | 790 | 3.70 | 3.20 | 0.50 | 0.81 | <0.01 | <1 | <2 | 42 | 480 | <0.02 |
| | Sep-15 | 7.67 | 4100 | 1000 | 380 | 170 | 850 | 4.50 | 4.20 | 0.30 | 0.72 | 0.02 | <1 | <2 | 47 | 490 | 0.04 |
| | Sep-16 | 7.73 | 3800 | 850 | 360 | 180 | 760 | 4.00 | 4.00 | <0.05 | 0.33 | 0.08 | <1 | 15.0 | 44 | 470 | <0.02 |
| | Sep-17 | 7.76 | 3700 | 810 | 360 | 170 | 680 | 4.10 | 3.80 | 0.30 | 0.23 | 0.01 | <1 | 6.0 | 42 | 450 | <0.02 |
| | Sep-18 | 7.57 | 4100 | 1000 | 330 | 170 | 730 | 4.70 | 4.90 | <0.05 | <0.1 | <0.01 | <1 | <2 | 41 | 480 | <0.02 |
| | Sep-19 | 7.73 | 3700 | 880 | 360 | 150 | 700 | 1.60 | 1.70 | <0.05 | 0.78 | 0.02 | <1 | 9.0 | 43 | 470 | 1.20 |
| | Sep-20 | 7.53 | 4100 | 980 | 380 | 160 | 860 | 3.80 | 3.40 | 0.40 | 0.90 | 0.02 | <1 | 9.0 | 44 | 500 | <0.02 |
| | Sep-21 | 7.70 | 3700 | 810 | 300 | 160 | 740 | 2.50 | 1.90 | 0.60 | 2.40 | 0.06 | <1 | 9.0 | 40 | 470 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **27-III** | Nov-85 | 6.98 | 2790 | 540 | 300 | 592 | | 1.90 | 0.05 | 1.85 | | | <1.0 | 10.0 | | 78 | |
| | Dec-85 | 6.88 | 2810 | 585 | 270 | 386 | 1130 | 0.50 | <0.05 | 0.50 | | | <1.0 | 1.1 | | 152 | |
| | Dec-85 | 7.32 | 2740 | 558 | 273 | 483 | 1130 | 0.80 | <0.05 | 0.80 | | | <1.0 | 8.7 | | 150 | |
| | Jul-86 | 7.72 | 2410 | 430 | | 820 | 995 | 0.40 | <0.05 | 0.40 | | | <1.0 | 0.7 | | | |
| | Sep-87 | 9.40 | 2030 | 885 | | 315 | 1105 | <0.05 | | | | | | 17.0 | | | |
| | Nov-87 | | | | | | | | | | | | 2.5 | | | | |
| | Nov-87 | | | | | | | | | | | | 6.0 | | | | |
| | Dec-87 | | | | | | | | | | | | <0.1 | | | | |
| | Dec-87 | | | | | | | | | | | | 1.5 | | | | |
| | Jul-88 | 7.13 | | 502 | | 411 | | <0.20 | 0.08 | <0.12 | | | | | | | |
| | Nov-88 | | 1700 | 647 | | 369 | 1040 | 0.24 | 0.18 | 0.06 | | | <0.5 | 12.0 | | | |
| | Oct-89 | 7.13 | 2450 | 640 | | 354 | 861 | 0.35 | 0.05 | 0.30 | | | <2.0 | 0.3 | | 120 | |
| | Oct-90 | | 2690 | 526 | | 391 | | 0.20 | <0.05 | 0.20 | <0.2 | <0.02 | <2.0 | | | 156 | <0.08 |
| | Sep-91 | 7.14 | 2440 | 550 | | 356 | 1000 | 0.25 | <0.05 | 0.25 | <0.1 | <0.01 | <2.0 | 1.4 | | 160 | 1.13 |
| | Aug-92 | 7.08 | 2240 | 449 | | 392 | 1000 | 0.27 | <0.02 | 0.27 | 0.10 | <0.01 | <2.0 | <0.5 | | 140 | <0.08 |
| | Aug-93 | 7.10 | 2530 | 547 | | 357 | 1000 | 0.40 | <0.01 | 0.40 | 0.36 | <0.01 | <2.0 | 0.7 | | 155 | 0.40 |
| | Aug-94 | 6.92 | 2430 | 492 | | 294 | 1100 | 0.43 | 0.07 | 0.36 | 0.02 | <0.02 | <1.0 | 0.4 | | 155 | 19.3 |
| | Sep-95 | 7.26 | 2070 | 541 | 303 | 385 | 830 | 0.08 | <0.03 | 0.08 | 0.26 | <0.01 | <2.0 | 0.8 | | 135 | <0.25 |
| | Sep-96 | 7.17 | 2542 | 467 | 270 | 449 | 939 | 0.20 | <0.02 | 0.20 | <0.1 | <0.2 | <0.5 | 2.1 | | 201 | 0.10 |
| | Sep-97 | 7.17 | 2190 | 381 | 248 | 479 | 859 | 0.55 | 0.05 | 0.50 | 0.10 | <0.2 | <1.0 | 1.2 | | 184 | <0.10 |
| | Sep-98 | 7.37 | 1852 | 338 | 215 | 365 | 773 | 2.80 | <0.02 | 2.80 | 0.40 | <0.2 | <1.0 | 1.3 | 7 | 136 | 0.03 |
| | Sep-99 | 7.37 | 1858 | 290 | 204 | 387 | 718 | 2.32 | 0.14 | 2.18 | 0.30 | <0.2 | <1.0 | 1.9 | 5 | 130 | 0.13 |
| | Sep-00 | 7.83 | 1700 | 373 | 231 | 414 | 799 | 0.19 | 0.04 | 0.15 | 0.20 | <0.2 | <1 | <0.5 | 6 | 152 | <0.01 |
| | Sep-01 | | 1721 | 430 | 227 | 438 | 882 | 0.48 | 0.30 | 0.18 | <0.2 | <0.2 | <1.0 | <0.5 | 6 | 158 | <0.01 |
| | Sep-02 | 7.32 | 2164 | 385 | 266 | 433 | 808 | 1.74 | 1.53 | 0.21 | <0.2 | <0.2 | <1.0 | <0.5 | 7 | 149 | <0.10 |
| | Sep-02 | 7.32 | 2164 | 385 | 266 | 433 | 808 | 1.74 | 1.53 | 0.21 | <0.2 | <0.2 | <1.0 | <0.5 | 7 | 149 | <0.10 |
| | Sep-03 | 7.60 | 2280 | 365 | 279 | 440 | 765 | 0.12 | <0.03 | 0.12 | <0.2 | <0.2 | <1.0 | <0.5 | 6 | 157 | <0.01 |
| | Sep-04 | 8.02 | 1990 | 249 | | 433 | 736 | 1.70 | <0.05 | <1.70 | <0.1 | <0.1 | <1.0 | <5 | 7 | 201 | <0.11 |
| | Sep-05 | 7.78 | 2050 | 251 | 365 | 553 | 937 | 7.00 | 0.14 | 6.86 | <0.2 | | 1.0 | <2 | * 56 | 120 | 0.18 |
| | Sep-06 | 7.80 | 2160 | 233 | 322 | 555 | 860 | 0.50 | 0.26 | 0.24 | 0.40 | 0.01 | <1 | <2 | 7 | 180 | <0.05 |
| | Sep-07 | 7.70 | 1880 | 190 | 237 | 479 | 720 | 9.00 | 0.19 | 8.81 | <0.1 | <0.01 | <1 | <2 | 6 | 150 | <0.05 |
| | Oct-08 | 7.80 | 2040 | 180 | 288 | 531 | 750 | <2 | <0.05 | <2 | 0.20 | <0.01 | <1 | <2 | 6 | 155 | <0.02 |
| | Sep-09 | 7.60 | 1970 | 190 | 300 | 519 | 720 | 3.20 | <0.05 | 3.20 | <0.1 | <0.01 | <1 | <2 | 6 | 149 | <0.02 |
| | Sep-10 | 7.60 | 1880 | 170 | 240 | 515 | 670 | 2.00 | <0.05 | 1.98 | <0.1 | <0.01 | <1 | <2 | 6 | 142 | <0.02 |
| | Sep-11 | 7.68 | 1800 | 180 | 240 | 513 | 650 | <2 | <0.05 | | <0.1 | <0.01 | <1 | <2 | 6 | 133 | <0.02 |
| | Sep-12 | 7.40 | 1800 | 160 | 220 | 430 | 690 | 0.79 | 0.13 | 0.66 | <0.1 | <0.01 | <1 | <2.0 | 7 | 139 | <0.02 |
| | Sep-13 | 7.78 | 1900 | 190 | 250 | 490 | 710 | 2.10 | 0.08 | 2.02 | <0.1 | <0.01 | <1 | <2 | 6 | 140 | <0.02 |
| | Sep-14 | 7.88 | 1900 | 190 | 250 | 490 | 700 | 0.89 | <0.05 | 0.84 | <0.1 | <0.01 | <1 | <2 | 6 | 150 | <0.02 |
| | Sep-15 | 7.64 | 2000 | 230 | 240 | 520 | 840 | 0.30 | <0.05 | 0.25 | <0.1 | 0.03 | <1 | <2 | 7 | 170 | <0.02 |
| | Sep-16 | 7.63 | 2000 | 210 | 250 | 530 | 880 | 0.66 | <0.05 | 0.65 | <0.1 | <0.01 | <1 | <2 | 8 | 180 | <0.02 |
| | Sep-17 | 7.62 | 2200 | 250 | 270 | 550 | 850 | 0.13 | <0.050 | 0.11 | <0.1 | <0.01 | <1 | <2 | 8 | 170 | <0.02 |
| | Sep-18 | 7.62 | 2200 | 270 | 260 | 560 | 800 | 0.21 | 0.08 | 0.13 | <0.1 | <0.01 | <1 | <2 | 7 | 160 | <0.02 |
| | Sep-19 | 7.85 | 2100 | 230 | 250 | 540 | 810 | 0.17 | 0.09 | 0.08 | <0.10 | <0.010 | <1 | <2 | 7 | 170 | <0.02 |
| | Sep-20 | 7.65 | 2000 | 220 | 240 | 560 | 750 | 0.20 | <0.050 | 0.20 | <0.10 | <0.010 | <1 | <2 | 7 | 150 | <0.02 |
| | Sep-21 | 7.71 | 2000 | 260 | 210 | 550 | 770 | 0.13 | <0.050 | 0.13 | <0.10 | <0.010 | <1 | <2 | 7 | 150 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **28-I** | Nov-85 | 7.16 | 3240 | 311 | | 524 | 1300 | 0.60 | <0.05 | 0.60 | | | 0.4 | 4.3 | | | |
| | Jul-86 | 8.19 | 3180 | 327 | | 587 | 1303 | 0.20 | <0.05 | 0.20 | | | 0.4 | 0.8 | | | |
| | Sep-87 | 7.40 | 1970 | 545 | | 871 | 1455 | <0.05 | | | | | 5.0 | 5.9 | | | |
| | Nov-87 | 7.27 | 2190 | 194 | | 672 | 1218 | <0.05 | <0.01 | | | | 2.1 | 8.2 | | | |
| | Jul-88 | 7.11 | 1940 | 214 | | 734 | 1302 | 0.10 | | | | | 1.1 | | | | |
| | Nov-88 | | 1630 | 281 | | 576 | 1424 | 0.16 | <0.01 | 0.16 | | | <0.5 | 8.0 | | | |
| | Oct-89 | 7.20 | 3360 | 358 | | 572 | 1237 | 0.49 | 0.05 | 0.44 | | | <2.0 | 0.3 | | 185 | |
| | Oct-90 | | 3060 | 250 | | 690 | | 0.29 | <0.05 | 0.29 | <0.2 | <0.02 | <2.0 | | | 200 | 0.26 |
| | Sep-91 | 7.80 | 3520 | 325 | | 680 | 1600 | 0.49 | 0.07 | 0.42 | <0.2 | <0.01 | 5.3 | 2.0 | | 220 | <0.08 |
| | Aug-92 | 7.06 | 3000 | 309 | | 786 | 1600 | 0.53 | <0.02 | 0.53 | <0.1 | <0.01 | <2.0 | <0.5 | | 200 | 0.27 |
| | Aug-93 | 7.06 | 3260 | 502 | | 763 | 1500 | 0.62 | <0.01 | 0.62 | <0.02 | <0.01 | <2.0 | 0.8 | | 208 | 1.42 |
| | Aug-94 | 7.04 | 3030 | 221 | | 811 | 1500 | 0.53 | 0.08 | 0.45 | <0.02 | <0.02 | <5.0 | 0.5 | | 184 | 1.51 |
| | Sep-95 | 7.22 | 3120 | 246 | 940 | 760 | 1600 | 0.55 | <0.03 | 0.55 | <0.04 | <0.01 | <2.0 | 1.2 | | 181 | 0.42 |
| | Sep-96 | 6.81 | 2435 | 150 | 545 | 700 | 1010 | 1.70 | 0.13 | 1.57 | <0.1 | <0.2 | <0.5 | 3.5 | | 127 | 1.35 |
| | Sep-97 | 6.92 | 2730 | 242 | 741 | 736 | 1470 | 0.63 | 0.30 | 0.33 | <0.2 | <0.2 | <1.0 | 0.4 | | 151 | 0.80 |
| | Sep-98 | 7.29 | 2738 | 404 | 824 | 715 | 1510 | 4.10 | 0.15 | 3.95 | <0.2 | <0.2 | <1.0 | 1.2 | 31 | 156 | 0.60 |
| | Sep-99 | 7.26 | 2877 | 254 | 760 | 678 | 1450 | 0.39 | 0.12 | 0.27 | 0.20 | <0.2 | <1.0 | 1.9 | 29 | 152 | 0.41 |
| | Sep-00 | 7.75 | 2084 | 180 | 732 | 708 | 1300 | 1.24 | 0.92 | 0.32 | <0.2 | <0.2 | 1.0 | 0.9 | 29 | 139 | <0.01 |
| | Sep-01 | | 2149 | 228 | 896 | 802 | 1650 | 1.10 | 0.43 | 0.67 | <0.2 | 0.20 | <1.0 | 1.2 | 30 | 173 | <0.01 |
| | Sep-02 | 7.14 | 2694 | 182 | 874 | 728 | 1380 | 1.77 | 1.26 | 0.51 | 0.40 | <0.2 | <1.0 | <0.5 | 31 | 152 | <0.01 |
| | Sep-03 | 7.60 | 3040 | 161 | 907 | 749 | 1659 | 0.94 | 0.54 | 0.40 | 0.80 | <0.2 | <1.0 | 7.3 | 31 | 155 | 0.26 |
| | Sep-04 | 8.00 | 2510 | 106 | | 752 | 1420 | 2.30 | 0.06 | 2.24 | 0.30 | <0.1 | <1.0 | 7.0 | 35 | 173 | 0.21 |
| | Sep-05 | 7.73 | 2170 | 78 | 706 | 723 | 1280 | 5.20 | 0.40 | 4.80 | 0.70 | <0.3 | 1.0 | <2 | 29 | 110 | <0.05 |
| | Sep-06 | 7.60 | 2640 | 90 | 857 | 802 | 1400 | 1.30 | 0.68 | 0.62 | <0.1 | <0.01 | 6.0 | <2 | 30 | 140 | 1.10 |
| | Sep-07 | 7.90 | 3100 | 130 | 1020 | 797 | 1700 | 2.00 | <0.05 | 1.98 | <0.1 | <0.01 | <1 | <2 | 34 | 170 | <0.05 |
| | Oct-08 | 7.90 | 1750 | 42 | 387 | 585 | 870 | <5.00 | 0.07 | <4.93 | <0.1 | <0.01 | <1 | <2 | 18 | 59 | <0.02 |
| | Sep-09 | 7.20 | 1810 | 38 | 440 | 578 | 930 | 5.00 | 0.33 | 4.67 | <0.1 | <0.01 | 3.0 | <2 | 18 | 60 | <0.02 |
| | Sep-10 | 7.50 | 2200 | 61 | 560 | 639 | 1100 | 3.00 | 0.22 | 2.78 | <0.1 | <0.01 | <1 | <2 | 20 | 79 | 0.10 |
| | Sep-11 | 7.43 | 2430 | 68 | 750 | 629 | 1300 | 4.00 | 0.06 | 3.94 | <0.1 | <0.01 | <1 | <2 | 22 | 93 | <0.02 |
| | Sep-12 | 7.15 | 2600 | 98 | 730 | 620 | 1300 | 1.10 | 0.13 | 0.97 | <0.1 | <0.01 | <1 | <2.0 | 22 | 107 | 0.02 |
| | Sep-13 | 7.67 | 2400 | 69 | 750 | 630 | 1400 | 1.30 | <0.05 | 1.25 | <0.1 | <0.01 | <1 | <2 | 21 | 89 | 0.03 |
| | Sep-14 | 7.27 | 2200 | 58 | 630 | 590 | 1200 | 13.00 | 0.07 | 12.93 | 0.12 | <0.01 | <1 | <2 | 18 | 74 | <0.02 |
| | Sep-15 | 7.31 | 1800 | 59 | 360 | 560 | 980 | 0.47 | <0.05 | <0.42 | <0.1 | <0.01 | <1 | <2 | 16 | 63 | <0.02 |
| | Sep-16 | 7.39 | 1800 | 67 | 430 | 540 | 1000 | 0.50 | <0.05 | 0.5 | <0.1 | <0.01 | <1 | <2 | 16 | 67 | <0.02 |
| | Sep-17 | 7.41 | 2800 | 140 | 720 | 720 | 1600 | 0.32 | <0.050 | 0.30 | <0.1 | <0.01 | 1.7 | <2 | 20 | 100 | <0.02 |
| | Sep-18 | 7.47 | 2600 | 140 | 710 | 760 | 1400 | 0.64 | 0.26 | 0.38 | <0.1 | <0.01 | <1 | <2 | 20 | 99 | <0.02 |
| | Sep-19 | 7.60 | 2100 | 120 | 480 | 630 | 1200 | 0.54 | 0.13 | 0.41 | <0.10 | <0.010 | <1 | <2 | 15 | 71 | <0.1 |
| | Sep-20 | 7.74 | 2900 | 140 | 860 | 770 | 1600 | 0.34 | <0.050 | 0.34 | <0.10 | <0.010 | <1 | <2 | 22 | 110 | <0.02 |
| | Sep-21 | 7.47 | 1700 | 38 | 420 | 600 | 970 | 0.57 | <0.050 | 0.57 | <0.10 | <0.010 | <1 | <2 | 10 | 43 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **29-I** | Nov-85 | 7.52 | 747 | 4 | | 354 | 386 | 0.40 | <0.05 | 0.40 | | | 0.8 | 3.8 | | | |
| | Jul-86 | 8.62 | 834 | 4 | | 441 | 460 | 0.20 | <0.05 | 0.20 | | | 1.2 | 8.7 | | | |
| | Sep-87 | 7.80 | 710 | 505 | | 990 | 10659 | <0.05 | | | | | <1.0 | 4.7 | | | |
| | Nov-87 | 7.77 | 700 | 50 | | 740 | 552 | 0.25 | <0.01 | 0.25 | | | 0.5 | <1.0 | | | |
| | Jul-88 | 7.81 | 650 | | | 512 | 512 | <0.20 | <0.01 | <0.20 | | | | | | | |
| | Nov-88 | | 608 | | | 482 | 540 | | | | | | | 3.0 | | | |
| | Oct-89 | 7.86 | 939 | 110 | | 477 | 456 | 0.11 | 0.05 | 0.06 | | | <2.0 | 0.3 | | 11 | |
| | Oct-90 | | 975 | 8 | | 500 | | 0.08 | <0.05 | 0.08 | 0.90 | <0.02 | <2.0 | | | 13 | <0.08 |
| | Sep-91 | 7.98 | 965 | 497 | | 465 | 520 | 0.17 | <0.05 | 0.17 | 0.10 | <0.01 | <2.0 | 0.7 | | 15 | <0.08 |
| | Aug-92 | 7.66 | 897 | 27 | | 602 | 620 | 0.18 | <0.02 | 0.18 | <0.1 | <0.01 | <2.0 | <0.5 | | 17 | <0.08 |
| | Sep-05 | 8.29 | 833 | 12 | 67 | 447 | | 1.70 | <0.05 | 1.70 | 0.70 | <0.3 | <1 | <2 | 10 | 21 | <0.05 |
| | Sep-06 | 8.10 | 899 | 15 | 91 | 446 | 480 | 0.50 | 0.09 | 0.41 | 0.40 | <0.01 | <1 | 5.0 | 9 | 27 | <0.05 |
| | Sep-07 | 8.20 | 860 | 10 | 70 | 418 | 470 | 1.00 | 0.12 | 0.88 | 0.30 | 0.02 | <1 | <2 | 9 | 19 | <0.05 |
| | Oct-08 | 8.20 | 1940 * | 6 | 64 | 140 | 400 | 2.00 | 0.54 | 1.46 | 0.30 | <0.01 | 2.0 | <2 | 7 | 16 | <0.02 |
| | Sep-09 | 8.00 | 807 | 5 | 62 | 401 | 420 | 0.80 | 0.05 | 0.75 | 0.20 | 0.02 | <1 | <2 | 7 | 13 | <0.02 |
| | Sep-10 | 8.00 | 794 | 5 | 66 | 374 | 400 | 1.00 | 0.07 | 0.93 | 0.10 | <0.01 | <1 | <2 | 7 | 11 | <0.02 |
| | Sep-11 | 7.96 | 807 | 5 | 53 | 387 | 420 | 2.00 | <0.05 | 1.98 | <0.1 | <0.01 | <1 | <2 | 7 | 14 | <0.02 |
| | Sep-12 | 7.71 | 860 | 10 | 56 | 390 | 440 | 0.82 | <0.05 | 0.80 | 0.17 | <0.01 | <1 | <2.0 | 8 | 10 | <0.02 |
| | Sep-13 | 8.12 | 820 | 11 | 55 | 390 | 450 | 0.86 | 0.09 | 0.77 | <0.1 | 0.01 | <1 | <2 | 8 | 16 | <0.02 |
| | Sep-14 | 7.88 | 770 | 9 | 58 | 350 | 410 | 0.62 | <0.05 | 0.62 | <0.1 | <0.01 | <1 | <2 | 7 | 11 | <0.02 |
| | Sep-15 | 7.96 | 840 | 17 | 60 | 390 | 500 | 0.35 | 0.07 | 0.28 | <0.1 | <0.01 | <1 | 3.0 | 8 | 15 | <0.02 |
| | Sep-16 | 8.11 | 880 | 13 | 56 | 430 | 500 | 0.54 | <0.05 | 0.53 | <0.1 | <0.01 | <1 | <2 | 8 | 16 | <0.02 |
| | Sep-17 | 7.98 | 850 | 11 | 57 | 420 | 480 | 0.14 | <0.050 | 0.12 | 0.12 | <0.01 | <1 | <2 | 8 | 15 | <0.02 |
| | Sep-18 | 7.94 | 820 | 10 | 56 | 410 | 430 | 0.23 | <0.050 | 0.23 | 0.19 | <0.01 | <1 | <2 | 7 | 14 | <0.02 |
| | Sep-19 | 8.06 | 660 | 9 | 40 | 390 | 410 | 0.31 | 0.08 | 0.23 | <0.10 | <0.010 | <1 | <2 | 6 | 12 | <0.1 |
| | Sep-20 | 7.98 | 770 | 7 | 48 | 380 | 440 | 0.26 | <0.050 | 0.26 | <0.10 | <0.010 | <1 | 5.0 | 7 | 13 | <0.02 |
| | Sep-21 | 7.91 | 700 | 6 | 49 | 340 | 380 | 0.40 | <0.050 | 0.40 | 0.12 | <0.010 | <1 | <2 | 5 | 9 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

## TABLE C-2
## GROUNDWATER GENERAL CHEMISTRY RESULTS
## BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **30-I** | Nov-85 | 6.94 | 2060 | 10 | | 630 | 1040 | 5.00 | <0.05 | 5.00 | | | 0.6 | 8.9 | | | |
| | Jul-86 | 8.32 | 1740 | 16 | | 382 | 867 | 1.60 | 0.05 | 1.55 | | | <1.0 | 21.6 | | | |
| | Sep-87 | 7.24 | 1420 | 380 | | 926 | 1231 | 0.41 | | | | | 2.0 | 11.0 | | | |
| | Nov-87 | 7.24 | 1380 | 19 | | 448 | 682 | 1.05 | 0.12 | 0.93 | | | 1.3 | 10.9 | | | |
| | Jul-88 | 7.21 | 1280 | | | 596 | 1004 | | | | | | 0.8 | | | | |
| | Nov-88 | | 1240 | 29 | | 561 | 1918 | 1.00 | | | | | <0.5 | 2.0 | | | |
| | Oct-89 | 7.65 | 1920 | 30 | | 564 | 740 | 0.57 | 0.42 | 0.15 | | | <2.0 | 0.5 | | 51 | |
| | Oct-90 | | 989 | 6.8 | | 405 | | 0.18 | 0.07 | 0.11 | 0.70 | <0.02 | 2.0 | | | 40 | <0.08 |
| | Sep-91 | 7.48 | 1160 | 5.4 | | 380 | 520 | 0.13 | <0.05 | 0.13 | <0.2 | <0.01 | 2.1 | 4.7 | | 41 | <0.08 |
| | Aug-92 | 7.39 | 1010 | <1.6 | | 426 | 530 | 0.43 | 0.21 | 0.22 | <0.1 | <0.01 | <2.0 | <0.5 | | 37 | <0.08 |
| | Aug-93 | 7.55 | 930 | <2.6 | | 401 | 460 | 0.68 | 0.31 | 0.37 | 0.11 | <0.01 | <2.0 | 8.0 | | 33 | 0.11 |
| | Aug-94 | 7.97 | 1020 | <2.6 | | 434 | 510 | 0.57 | 0.36 | 0.21 | <0.02 | <0.02 | <1.0 | 0.5 | | 29 | 0.17 |
| | Sep-95 | 7.45 | 1130 | <2.6 | 236 | 483 | 610 | 0.51 | 0.23 | 0.28 | <0.04 | <0.01 | <2.0 | 3.5 | | 37 | 0.51 |
| | Sep-97 | 7.31 | 888 | 7 | 153 | 437 | 470 | 0.80 | 0.28 | 0.52 | 0.20 | <0.20 | <1.0 | 2.6 | | 33 | 0.15 |
| | Sep-98 | 7.63 | 947 | 6 | 125 | 454 | 501 | 1.15 | 0.34 | 0.81 | <0.2 | <0.2 | <1.0 | 2.8 | 15 | 33 | 0.03 |
| | Sep-99 | 7.51 | 1299 | 9 | 208 | 582 | 682 | 0.45 | 0.34 | 0.11 | 0.70 | <0.2 | <1.0 | 2.7 | 17 | 50 | 0.51 |
| | Sep-00 | 7.82 | 1207 | 9 | 270 | 602 | 719 | 0.40 | 0.36 | 0.04 | <0.2 | <0.2 | <1 | 0.9 | 21 | 50 | <0.01 |
| | Sep-01 | | 1169 | 10 | 301 | 648 | 814 | 2.55 | 1.82 | 0.73 | <0.2 | <0.2 | <1.0 | 1.8 | 25 | 57 | <0.01 |
| | Sep-02 | 7.25 | 1088 | 12 | 75 | 589 | 513 | 1.22 | 0.91 | 0.31 | <0.2 | <0.2 | <1.0 | 1.3 | 13 | 44 | <0.01 |
| | Sep-03 | 7.60 | 1227 | 12 | 109 | 600 | 619 | 2.74 | 1.73 | 1.01 | <0.2 | <0.2 | * 20 | 4.1 | 19 | 51 | 0.13 |
| | Sep-04 | 8.12 | 763 | 7 | | 423 | 376 | 6.10 | 0.22 | 5.88 | <0.1 | <0.1 | <1.0 | 12.0 | 10 | 35 | 0.51 |
| | Sep-05 | 8.04 | 1020 | 9 | 70 | 596 | 527 | 1.50 | 0.43 | 1.07 | <0.2 | <0.3 | <1 | <2 | 17 | 49 | 1.30 |
| | Sep-06 | 8.00 | 973 | 10 | 44 | 558 | 490 | 0.30 | 0.14 | 0.16 | <0.1 | <0.01 | <1 | <2 | 12 | 39 | 2.40 |
| | Sep-07 | 7.80 | 960 | 9 | 44 | 508 | 480 | 2.00 | 0.06 | 1.94 | <0.1 | 0.01 | <1 | <2 | 12 | 30 | <0.05 |
| | Oct-08 | 8.10 | 929 | 6 | 46 | 487 | 440 | <2.00 | 0.20 | <1.80 | <0.1 | <0.01 | <1 | 5.0 | 11 | 29 | <0.02 |
| | Sep-09 | 7.40 | 1200 | 9 | 76 | 617 | 560 | 2.00 | 0.19 | 1.81 | <0.1 | <0.01 | <1 | 3.0 | 15 | 39 | <0.02 |
| | Sep-10 | 7.60 | 1440 | 13 | 160 | 665 | 700 | 2.00 | 0.20 | 1.80 | <0.1 | <0.01 | <1 | 5.0 | 14 | 44 | 0.07 |
| | Sep-11 | 7.34 | 1240 | 11 | 44 | 657 | 630 | 3.00 | 0.59 | 2.41 | <0.1 | <0.01 | <1 | 5.0 | 14 | 35 | <0.02 |
| | Sep-12 | 7.25 | 1100 | 16 | 58 | 520 | 570 | 0.87 | 0.24 | 0.63 | <0.1 | <0.01 | <1 | 8.0 | 12 | 27 | 0.55 |
| | Sep-13 | 7.65 | 1200 | 16 | 53 | 590 | 640 | 1.60 | 0.19 | 1.41 | <0.1 | <0.01 | <1 | 13.0 | 10 | 27 | 0.58 |
| | Sep-14 | 7.41 | 1100 | 14 | 43 | 590 | 620 | 2.20 | 0.15 | 2.05 | <0.1 | <0.01 | <1 | <2 | 10 | 27 | 0.36 |
| | Sep-15 | 7.37 | 1500 | 16 | 160 | 730 | 820 | 0.48 | 0.23 | 0.25 | <0.1 | 0.02 | <1 | 3.0 | 15 | 42 | 0.18 |
| | Sep-17 | 7.31 | 1300 | 14 | 4 | 730 | 670 | 0.67 | 0.51 | 0.16 | <0.1 | <0.01 | <10 | 9.0 | 11 | 31 | 3.50 |
| | Sep-18 | 7.45 | 1100 | 14 | 22 | 630 | 570 | 0.26 | 0.12 | 0.14 | <0.1 | <0.01 | <1 | 6.0 | 11 | 26 | <0.02 |
| | Sep-19 | 7.67 | 880 | 15 | 19 | 560 | 560 | 0.41 | 0.28 | 0.13 | <0.10 | <0.010 | <1 | 4.0 | 9 | 22 | <0.1 |
| | Sep-20 | 7.38 | 1100 | 20 | 27 | 590 | 590 | 0.38 | 0.23 | 0.15 | <0.10 | <0.010 | <1 | <2 | 12 | 23 | <0.02 |
| | Sep-21 | 7.67 | 1300 | 18 | 36 | 770 | 680 | 0.42 | 0.20 | 0.22 | <0.10 | <0.010 | <1 | <2 | 12 | 32 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **31-I** | Sep-91 | 7.31 | 864 | <1.6 | | 403 | 420 | 0.32 | <0.05 | 0.32 | <0.2 | 0.12 | <2.0 | <0.7 | | 28 | 0.18 |
| | Aug-92 | 7.41 | 698 | 17.4 | | 431 | 520 | 1.95 | <0.02 | >1.93 | <0.1 | 0.04 | <2.0 | | | 35 | <0.08 |
| | Aug-94 | 7.53 | 964 | 4.7 | | 438 | 490 | 1.00 | 0.19 | 0.81 | 0.22 | 0.02 | <2.0 | | | 32 | 0.38 |
| | Sep-06 | 7.70 | 1420 | 15.0 | 77 | 832 | 790 | 10.00 | 0.26 | 9.74 | <0.1 | <0.01 | <1 | 2.0 | 8 | 59 | 2.40 |
| | Sep-07 | 7.80 | 1290 | 13.0 | 75 | 669 | 690 | 5.00 | 0.23 | 4.77 | <0.1 | <0.01 | <1 | <2 | 7 | 43 | <0.05 |
| | Oct-08 | 7.90 | 1260 | 13.0 | 157 | 569 | 660 | <5.00 | 0.73 | <4.27 | <0.1 | <0.01 | <1 | <2 | 6 | 35 | <0.02 |
| | Sep-09 | 7.60 | 1150 | 12.0 | 120 | 538 | 580 | 10.00 | 0.37 | 9.63 | 0.60 | 0.03 | 0.0 | <2 | 6 | 32 | <0.02 |
| | Sep-10 | 7.80 | 1210 | 12.0 | 140 | 542 | 600 | 4.00 | 0.21 | 3.79 | 0.30 | 0.02 | <1 | 3.0 | 6 | 31 | <0.02 |
| | Sep-11 | 7.46 | 1130 | 12.0 | 130 | 506 | 590 | 25.00 | 0.09 | 24.91 | 0.20 | <0.01 | <1 | <2 | 6 | 33 | <0.02 |
| | Sep-12 | 7.52 | 1200 | 14.0 | 140 | 480 | 660 | 4.30 | 0.11 | 4.19 | 0.10 | <0.01 | <1 | <2.0 | 8 | 36 | <0.02 |
| | Sep-13 | 7.57 | 1300 | 14.0 | 140 | 570 | 710 | 2.70 | <0.05 | 2.65 | <0.1 | <0.01 | <1 | <2 | 7 | 37 | <0.02 |
| | Sep-14 | 7.52 | 1300 | 16.0 | 89 | 620 | 680 | 9.80 | 0.11 | 9.690 | <0.1 | <0.01 | <1 | <2 | 7 | 37 | <0.02 |
| | Sep-15 | 7.30 | 1400 | 19.0 | 180 | 630 | 840 | 0.37 | 0.10 | 0.27 | <0.1 | <0.01 | <1 | <2 | 7 | 41 | 0.05 |
| | Sep-16 | | | | | | | 0.39 | <0.05 | 0.38 | | | | <2 | | | |
| | Sep-18 | 7.56 | 1500 | 37.0 | 150 | 710 | 780 | | | | <0.1 | <0.01 | <1 | | 8 | 45 | 0.03 |
| | Sep-19 | 7.45 | 1300 | 29.0 | 21 | 690 | 690 | 0.30 | 0.06 | 0.24 | <0.10 | <0.010 | <1 | 4.0 | 6 | 36 | <0.1 |
| | Sep-21 | 7.83 | 1300 | 33.0 | 43 | 740 | 700 | 0.19 | <0.050 | 0.19 | <0.10 | <0.010 | <1 | <2 | 7 | 33 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **32-I** | Sep-87 | 7.30 | 2590 | 800 | | 460 | 833 | 0.40 | | | | | 3.0 | 13.0 | | | |
| | Nov-87 | 7.36 | 2900 | 840 | | 540 | 1065 | 2.08 | <0.01 | 2.08 | | | 6.5 | 3.0 | | | |
| | Nov-88 | | 1700 | | | 428 | 905 | 0.25 | | | | | | 2.0 | | | |
| | Oct-89 | 7.35 | 4300 | 732 | | 396 | 1045 | 1.64 | 1.06 | 0.58 | | | <2.0 | 0.3 | | 340 | |
| | Oct-90 | | 7150 | 339 | | <1 | 993 | 0.30 | 0.10 | 0.20 | <0.2 | <0.02 | 2.0 | | | 215 | <0.08 |
| | Sep-91 | 7.26 | 3330 | 492 | | 409 | 1100 | 1.19 | <0.05 | 1.19 | <0.2 | <0.01 | 12.3 | <0.7 | | 350 | <0.12 |
| | Aug-92 | 7.12 | 3160 | 520 | | 433 | 1200 | 0.78 | 0.34 | 0.44 | <0.1 | <0.01 | <2.0 | <0.5 | | 310 | <0.08 |
| | Aug-93 | 7.26 | 3280 | 520 | | 438 | 1200 | 0.76 | 0.20 | 0.56 | 0.03 | <0.01 | <2.0 | <0.3 | | 313 | <0.10 |
| | Aug-94 | 7.45 | 3280 | 411 | | 445 | 1200 | 0.49 | 0.29 | 0.20 | <0.02 | <0.02 | <5.0 | 0.3 | | 329 | <0.10 |
| | Sep-95 | 7.39 | 3440 | 497 | 951 | 432 | 1200 | 0.87 | 0.46 | 0.41 | <0.04 | <0.01 | <2.0 | <0.5 | | 332 | <0.25 |
| | Sep-96 | 7.42 | 2865 | 306 | 632 | 510 | 1030 | 0.26 | 0.07 | 0.19 | <0.1 | <0.2 | <0.5 | 2.7 | | 280 | 0.20 |
| | Sep-97 | 7.08 | 2490 | 295 | 648 | 476 | 1040 | 0.09 | 0.12 | <0.05 | <0.2 | <0.2 | <1.0 | 0.3 | | 235 | <0.10 |
| | Sep-98 | 7.43 | 2408 | 342 | 641 | 495 | 1130 | 0.15 | 0.02 | 0.13 | <0.2 | <0.2 | <1.0 | 0.8 | 23 | 280 | 0.03 |
| | Sep-99 | | 2482 | 239 | 600 | 494 | 992 | 0.16 | 0.02 | 0.14 | <0.2 | <0.2 | <1.0 | 1.5 | 19 | 223 | 0.02 |
| | Sep-00 | 7.77 | 2254 | 369 | 710 | 517 | 1100 | 0.16 | 0.03 | 0.13 | <0.2 | <0.2 | <1 | 0.4 | 20 | 247 | <0.01 |
| | Sep-01 | | 2071 | 340 | 644 | 524 | 1080 | 0.61 | 0.07 | 0.54 | <0.2 | <0.2 | <1.0 | <0.5 | 19 | 248 | <0.01 |
| | Sep-02 | 7.25 | 2604 | 314 | 678 | 500 | 976 | 0.17 | <0.03 | 0.17 | <0.2 | <0.2 | <1.0 | <0.5 | 19 | 223 | <0.01 |
| | Sep-03 | 7.70 | 2530 | 241 | 570 | 532 | 888 | 0.10 | <0.03 | 0.10 | <0.2 | <0.2 | <1.0 | <0.5 | 18 | 200 | <0.01 |
| | Sep-04 | 8.04 | 2360 | 125 | | 548 | 979 | 0.30 | <0.05 | <0.30 | <0.1 | <0.1 | <1.0 | <3 | 25 | 272 | 0.41 |
| | Sep-05 | 8.07 | 2120 | 196 | 562 | 498 | 925 | 0.40 | <0.05 | 0.40 | <0.2 | <0.3 | <1 | <2 | 21 | 220 | <0.05 |
| | Sep-06 | 7.90 | 2300 | 193 | 484 | 589 | 950 | 0.40 | <0.05 | 0.40 | <0.1 | <0.01 | <1 | <2 | 22 | 230 | <0.05 |
| | Sep-07 | 8.00 | 2340 | 190 | 523 | 529 | 900 | 0.80 | 0.20 | 0.60 | <0.1 | <0.01 | <1 | <2 | 20 | 200 | <0.05 |
| | Oct-08 | 8.10 | 2560 | 220 | 579 | 521 | 920 | 1.80 | 0.21 | 1.59 | <0.1 | <0.01 | <1 | 7 | 20 | 219 | <0.02 |
| | Sep-09 | 7.80 | 2380 | 180 | 540 | 521 | 800 | 0.50 | <0.05 | 0.50 | 0.10 | <0.01 | <1 | <2 | 19 | 195 | <0.02 |
| | Sep-10 | 7.70 | 2330 | 200 | 500 | 501 | 780 | 0.50 | <0.05 | 0.48 | <0.1 | <0.01 | <1 | <2 | 18 | 196 | <0.02 |
| | Sep-11 | 8.07 | 2190 | 180 | 480 | 494 | 770 | 1.80 | 0.10 | 1.70 | 0.40 | <0.01 | <1 | 3 | 20 | 193 | <0.02 |
| | Sep-12 | 7.60 | 2100 | 140 | 430 | 490 | 710 | 0.56 | 0.14 | 0.42 | <0.1 | <0.01 | <1 | <2.0 | 18 | 181 | <0.02 |
| | Sep-13 | 7.73 | 2000 | 130 | 410 | 500 | 730 | 0.42 | <0.05 | 0.37 | <0.1 | <0.01 | <1 | <2 | 18 | 170 | <0.02 |
| | Sep-14 | 7.70 | 2100 | 140 | 430 | 500 | 750 | 0.56 | <0.05 | 0.56 | <0.1 | <0.01 | <1 | <2 | 17 | 170 | <0.02 |
| | Sep-15 | 7.69 | 2100 | 130 | 420 | 500 | 830 | 0.38 | <0.05 | 0.33 | <0.1 | <0.01 | <1 | <2 | 20 | 190 | <0.02 |
| | Sep-16 | 8.01 | 2000 | 130 | 400 | 500 | 830 | 0.27 | <0.05 | 0.26 | <0.1 | <0.01 | <1 | <2 | 21 | 180 | <0.02 |
| | Sep-17 | 7.79 | 2100 | 140 | 440 | 510 | 840 | 0.12 | <0.050 | 0.10 | <0.1 | <0.01 | <1 | <2 | 21 | 180 | <0.02 |
| | Sep-18 | 7.70 | 2200 | 160 | 490 | 520 | 820 | <0.10 | <0.050 | <0.10 | <0.1 | <0.01 | <1 | <2 | 19 | 190 | <0.02 |
| | Sep-19 | 8.12 | 2400 | 190 | 450 | 520 | 820 | 0.20 | 0.08 | 0.12 | 0.19 | <0.010 | <1 | <2 | 18 | 230 | <0.02 |
| | Sep-20 | 7.74 | 2300 | 220 | 470 | 500 | 830 | 0.14 | <0.050 | 0.14 | <0.10 | <0.010 | <1 | <2 | 21 | 210 | <0.02 |
| | Sep-21 | 7.89 | 2100 | 160 | 420 | 500 | 770 | 0.16 | <0.050 | 0.16 | <0.10 | <0.010 | <1 | <2 | 19 | 190 | <0.02 |

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **32-II** | Sep-87 | 7.00 | 2180 | 530 | | 384 | 1744 | <0.10 | | | | | 12.0 | 10.0 | | | |
| | Nov-87 | 7.23 | 2100 | 350 | | 720 | 1045 | 0.19 | <0.01 | 0.19 | | | 2.7 | 5.0 | | | |
| | Jul-88 | 7.12 | 1870 | 353 | | 464 | 1210 | <0.20 | <0.01 | | | | 1.9 | | | | |
| | Nov-88 | | 1830 | 274 | | 432 | 982 | 0.12 | <0.01 | 0.12 | | | 2.0 | 2.0 | | | |
| | Oct-89 | 7.24 | 2990 | 349 | | 440 | 907 | 0.21 | 0.05 | 0.16 | | | <2.0 | 3.0 | | 190 | |
| | Oct-90 | | 8750 | 432 | | <1 | 1088 | 0.22 | 0.10 | 0.12 | <0.2 | <0.02 | 2.0 | | | 264 | <0.08 |
| | Sep-91 | 7.28 | 2890 | 311 | | 444 | 1100 | 0.27 | <0.05 | 0.27 | <0.2 | <0.01 | 7.1 | 1.5 | | 260 | <0.08 |
| | Aug-92 | 7.12 | 3180 | 495 | | 453 | 1300 | 0.28 | <0.02 | >0.26 | <0.1 | <0.01 | <2.0 | <0.5 | | 300 | <0.08 |
| | Aug-93 | 7.17 | 3360 | 610 | | 452 | 1300 | 0.45 | <0.01 | 0.45 | 0.03 | <0.01 | <2.0 | 0.7 | | 311 | <0.10 |
| | Aug-94 | 7.31 | 3260 | 429 | | 447 | 1200 | 0.24 | <0.02 | 0.24 | <0.02 | <0.02 | <5.0 | <0.3 | | 312 | <0.10 |
| | Sep-95 | 7.27 | 3060 | 379 | 843 | 460 | 1200 | 0.38 | <0.03 | 0.38 | <0.04 | <0.01 | <2.0 | <0.5 | | 273 | <0.25 |
| | Sep-96 | 7.10 | 3277 | 431 | 784 | 449 | 1250 | 0.14 | <0.02 | 0.14 | <0.1 | <0.2 | <0.5 | 6.0 | | 298 | 0.20 |
| | Sep-97 | 7.07 | 2830 | 384 | 744 | 470 | 1130 | 0.16 | 0.06 | 0.10 | <0.2 | <0.2 | <1.0 | 0.4 | | 270 | <0.10 |
| | Sep-98 | 7.40 | 2768 | 394 | 742 | 489 | 1110 | 0.12 | 0.05 | 0.07 | <0.2 | <0.2 | <1.0 | 1.0 | 24 | 277 | 0.02 |
| | Sep-99 | | 2796 | 317 | 698 | 533 | 1080 | 0.17 | 0.06 | 0.11 | <0.2 | <0.2 | <1.0 | 0.8 | 21 | 279 | <0.01 |
| | Sep-00 | 7.78 | 2440 | 441 | 725 | 485 | 1160 | 0.16 | 0.07 | 0.09 | <0.2 | <0.2 | 1.0 | 0.4 | 23 | 278 | <0.01 |
| | Sep-01 | | 2266 | 427 | 710 | 452 | 1160 | 0.30 | 0.03 | 0.27 | <0.2 | <0.2 | <1.0 | <0.5 | 22 | 284 | <0.01 |
| | Sep-02 | 7.37 | 2963 | 408 | 770 | 479 | 1110 | 0.21 | <0.03 | 0.21 | <0.2 | <0.2 | <1.0 | <0.5 | 22 | 258 | <0.10 |
| | Sep-03 | 7.80 | 3620 | 480 | 971 | 468 | 1198 | 0.28 | 0.05 | 0.23 | <0.2 | <0.2 | <1.0 | 1.5 | 25 | 323 | <0.01 |
| | Sep-04 | 8.02 | 3250 | 434 | | 494 | 1290 | 0.50 | 0.06 | 0.44 | <0.1 | <0.1 | <1.0 | <3 | 31 | 405 | 0.39 |
| | Sep-05 | 7.86 | 2560 | 298 | 744 | 516 | 999 | 4.00 | 0.16 | 3.84 | <0.2 | <0.3 | <1 | <2 | 24 | 320 | <0.05 |
| | Sep-06 | 7.90 | 3250 | 363 | 741 | 532 | 1300 | 1.10 | 0.19 | 0.91 | <0.1 | <0.01 | <1 | <2 | 27 | 360 | 0.14 |
| | Sep-07 | 7.90 | 3250 | 370 | 794 | 479 | 1200 | 1.80 | 0.40 | 1.40 | <0.1 | 0.02 | 3.0 | <2 | 25 | 300 | <0.05 |
| | Oct-08 | 8.00 | 2970 | 330 | 638 | 492 | 1000 | 1.90 | <0.05 | 1.90 | <0.1 | <0.01 | <1 | <2 | 23 | 257 | <0.02 |
| | Sep-09 | 7.70 | 2890 | 300 | 650 | 490 | 930 | 2.40 | 0.07 | 2.33 | <0.1 | <0.01 | 2.0 | <2 | 22 | 241 | <0.02 |
| | Sep-10 | 7.80 | 2670 | 250 | 550 | 480 | 860 | 2.00 | 0.06 | 1.94 | <0.1 | <0.01 | <1 | <2 | 21 | 231 | <0.02 |
| | Sep-11 | 7.74 | 2520 | 220 | 550 | 485 | 870 | 3.00 | <0.05 | 2.98 | <0.1 | <0.01 | <1 | <2 | 22 | 235 | <0.02 |
| | Sep-12 | 7.82 | 2400 | 180 | 490 | 480 | 750 | 0.54 | 0.14 | 0.40 | <0.1 | <0.01 | <1 | <2.0 | 20 | 214 | <0.02 |
| | Sep-13 | 7.68 | 2400 | 210 | 520 | 480 | 810 | 1.70 | 0.09 | 1.62 | <0.1 | <0.01 | <1 | <2 | 20 | 210 | <0.02 |
| | Sep-14 | 7.70 | 2500 | 210 | 510 | 490 | 850 | 2.30 | 0.09 | 2.21 | <0.1 | <0.01 | <1 | <2 | 20 | 220 | <0.02 |
| | Sep-15 | 7.66 | 2500 | 220 | 490 | 480 | 950 | 0.35 | 0.10 | 0.25 | <0.1 | <0.01 | <1 | <2 | 23 | 240 | <0.02 |
| | Sep-16 | 7.78 | 2400 | 190 | 500 | 490 | 940 | 0.66 | <0.05 | 0.65 | <0.1 | <0.01 | <1 | <2 | 25 | 240 | <0.02 |
| | Sep-17 | 7.64 | 2500 | 200 | 530 | 490 | 920 | 0.24 | 0.08 | 0.16 | <0.1 | <0.01 | <1 | <2 | 24 | 230 | <0.02 |
| | Sep-18 | 7.59 | 2600 | 260 | 530 | 500 | 890 | 0.17 | 0.09 | 0.08 | <0.1 | <0.01 | <1 | <2 | 23 | 230 | <0.02 |
| | Sep-19 | 7.90 | 2700 | 310 | 510 | 470 | 940 | 0.26 | 0.13 | 0.13 | <0.10 | <0.010 | <1 | <2 | 22 | 260 | <0.02 |
| | Sep-20 | 7.66 | 2600 | 270 | 510 | 470 | 940 | 0.24 | <0.050 | 0.24 | 0.20 | <0.010 | <1 | <2 | 23 | 250 | <0.02 |
| | Sep-21 | 7.91 | 2300 | 260 | 490 | 470 | 860 | 0.23 | 0.05 | 0.18 | <0.10 | <0.010 | <1 | <2 | 21 | 230 | <0.02 |

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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **32-III** | Sep-87 | 7.10 | 2090 | 820 | | 412 | 988 | 0.20 | | | | | <1.0 | 16.0 | | | |
| | Nov-87 | 7.26 | 1900 | 300 | | 700 | 986 | 0.61 | <0.01 | 0.61 | | | <0.1 | 6.0 | | | |
| | Jul-88 | 7.22 | 1779 | 272 | | 484 | 1060 | <0.20 | | | | | 0.2 | | | | |
| | Nov-88 | | 1680 | 230 | | 460 | 912 | 0.48 | | | | | <0.5 | 2.0 | | | |
| | Oct-89 | 7.49 | 2790 | 295 | | 466 | 765 | 0.41 | 0.11 | 0.30 | | | 1.0 | 0.3 | | 175 | |
| | Oct-90 | | 8680 | 329 | | 1 | 1166 | 0.53 | 0.24 | 0.29 | <0.2 | <0.02 | 2.0 | | | 255 | <0.08 |
| | Sep-91 | 7.11 | 2960 | 322 | | 465 | 1100 | 0.27 | <0.05 | 0.27 | <0.2 | <0.01 | 4.0 | 1.0 | | 270 | 0.13 |
| | Aug-92 | 7.20 | 2890 | 394 | | 457 | 1100 | 0.61 | 0.10 | 0.51 | <0.1 | <0.01 | <2.0 | 1.2 | | 300 | <0.08 |
| | Aug-93 | 7.20 | 3080 | 515 | | 480 | 1100 | 0.63 | 0.18 | 0.45 | 0.05 | <0.01 | <2.0 | 1.0 | | 290 | 0.27 |
| | Aug-94 | 7.40 | 2970 | 361 | | 450 | 1100 | 0.63 | 0.26 | 0.37 | <0.02 | <0.02 | <5.0 | 0.4 | | 294 | 0.16 |
| | Sep-95 | 7.28 | 3000 | 361 | 810 | 464 | 1100 | 0.69 | 0.34 | 0.35 | <0.04 | <0.01 | <2.0 | 2.2 | | 277 | <0.25 |
| | Sep-96 | 7.14 | 3020 | 395 | 668 | 471 | 1060 | 0.60 | 0.54 | 0.06 | <0.1 | <0.2 | 1.4 | 3.5 | | 281 | 3.00 |
| | Sep-97 | 7.29 | 2680 | 374 | 646 | 464 | 938 | 3.60 | 3.00 | 0.60 | <0.2 | <0.2 | <1.0 | 0.6 | | 304 | 1.61 |
| | Sep-98 | 7.65 | 2688 | 398 | 660 | 458 | 895 | 1.23 | 0.75 | 0.48 | 0.20 | <0.2 | <1.0 | 5.2 | 29 | 311 | 0.08 |
| | Sep-99 | | 2750 | 350 | 658 | 408 | 853 | 1.33 | 1.04 | 0.29 | 0.20 | <0.2 | <1.0 | 6.6 | 29 | 327 | 2.26 |
| | Sep-00 | 7.56 | 2227 | 343 | 517 | 568 | 765 | 8.40 | 7.80 | 0.60 | <0.2 | <0.2 | <1 | 8.7 | 36 | 318 | <0.01 |
| | Sep-01 | | 2130 | 414 | 248 * | 844 * | 811 | 9.60 | 8.57 | 1.03 | <0.2 | <0.2 | 1.0 | 34.6 | 35 | 320 | 0.07 |
| | Sep-02 | 7.57 | 2756 | 376 | 453 | 646 | 880 | 7.00 | 6.05 | 0.95 | <0.2 | <0.2 | <1.0 | 1.1 | 35 | 294 | <0.10 |
| | Sep-03 | 7.80 | 2910 | 318 | 523 | 628 | 754 | 4.76 | 3.36 | 1.40 | <0.2 | <0.2 | <1.0 | 40 | 45 | 301 | 0.06 |
| | Sep-04 | 8.12 | 2590 | 283 | | 729 | 831 | 11.70 | 7.30 | 4.40 | <0.1 | <0.1 | <1.0 | 62 | 49 | 350 | 0.48 |
| | Sep-05 | 7.99 | 2300 | 276 | 491 | 540 | 770 | 13.30 | 1.49 | 11.81 | <0.2 | <0.3 | 43.0 | 44 | 27 | 270 | 3.60 |
| | Sep-06 | 7.90 | 2580 | 273 | 490 | 549 | 840 | 4.00 | 1.41 | 2.59 | <0.1 | 0.02 | <1 | 87 | 30 | 280 | 0.79 |
| | Sep-07 | 8.00 | 2610 | 270 | 540 | 463 | 830 | 2.00 | 0.49 | 1.51 | <0.1 | <0.01 | 2.0 | <2 | 28 | 270 | <0.05 |
| | Oct-08 | 7.80 | 2560 | 270 | 477 | 549 | 790 | 21.00 | 3.10 | 17.90 | <0.1 | <0.01 | 52.0 | <2 | 29 | 259 | <0.02 |
| | Sep-09 | 7.80 | 2630 | 260 | 420 | 614 | 740 | 15.00 | 6.30 | 8.70 | <0.1 | <0.01 | 152.0 | 290 | 25 | 238 | <0.02 |
| | Sep-10 | 7.70 | 2570 | 250 | 480 | 472 | 760 | 16.00 | 1.50 | 14.50 | 0.20 | 0.01 | 310.0 | <2 | 26 | 251 | <0.02 |
| | Sep-11 | 7.68 | 2420 | 220 | 490 | 476 | 740 | 7.00 | 1.20 | 5.80 | <0.1 | <0.01 | 52.0 | <2 | 26 | 246 | 0.18 |
| | Sep-12 | 7.80 | 2200 | 150 | 410 | 500 | 700 | 2.00 | 0.52 | 1.48 | <0.1 | <0.10 | 1.4 | <2 | 21 | 200 | 0.60 |
| | Sep-13 | 7.75 | 2300 | 210 | 420 | 460 | 620 | 1.30 | 0.57 | 0.73 | <0.1 | <0.01 | <1 | <2 | 25 | 240 | 0.03 |
| | Sep-14 | 7.68 | 2400 | 230 | 420 | 470 | 690 | 5.40 | 0.64 | 4.76 | <0.1 | <0.01 | <1 | <2 | 25 | 240 | 0.03 |
| | Sep-15 | 7.75 | 2200 | 180 | 410 | 460 | 670 | 0.46 | 0.16 | 0.30 | <0.1 | 0.03 | <1 | <2 | 26 | 240 | <0.02 |
| | Sep-16 | 7.95 | 2100 | 140 | 390 | 520 | 780 | 0.79 | 0.38 | 0.41 | 0.13 | 0.02 | <1 | <2 | 25 | 210 | <0.02 |
| | Sep-17 | 7.68 | 2100 | 170 | 340 | 500 | 650 | 2.20 | 2.00 | 0.20 | 0.11 | 1.54 | <10 | <2 | 25 | 230 | 0.46 |
| | Sep-18 | 7.74 | 2200 | 190 | 400 | 510 | 740 | 0.53 | 0.45 | 0.08 | <0.1 | <0.01 | <1 | <2 | 23 | 210 | <0.02 |
| | Sep-19 | 8.32 | 2000 | 150 | 380 | 460 | 620 | 0.22 | 0.09 | 0.13 | <0.10 | <0.010 | <1 | 4.0 | 23 | 210 | <0.02 |
| | Sep-20 | 7.67 | 2200 | 200 | 380 | 470 | 720 | 0.77 | 0.62 | 0.15 | <0.10 | <0.010 | <1 | 6.0 | 26 | 220 | <0.02 |
| | Sep-21 | 7.82 | 2200 | 220 | 350 | 490 | 690 | 2.00 | 1.50 | 0.50 | <0.10 | 0.03 | <1 | 12.0 | 25 | 220 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **33-I** | Jul-88 | 7.51 | 2160 | 268 | | 982 | 952 | <0.20 | <0.01 | | | | <0.5 | | | | |
| | Nov-88 | | 1680 | 321 | | 918 | 860 | 0.47 | 0.17 | 0.30 | | | | 3.0 | | | |
| | Oct-89 | 6.83 | 2530 | 286 | | 954 | 786 | 0.32 | 0.05 | 0.27 | | | | 0.3 | | 220 | |
| | Oct-90 | | 2370 | 251 | | 840 | | 0.76 | <0.05 | 0.76 | <0.2 | <0.02 | <2.0 | | | 251 | 0.79 |
| | Sep-91 | 7.15 | 2890 | 267 | | 989 | 1100 | 0.70 | <0.05 | 0.70 | <0.2 | <0.01 | 2.8 | 1.0 | | 270 | <0.08 |
| | Aug-92 | 6.74 | 2170 | 238 | | 986 | 1000 | 0.80 | <0.02 | 0.80 | <0.1 | <0.01 | <2.0 | 1.2 | | 220 | 0.60 |
| | Aug-93 | 6.88 | 2610 | 221 | | 1080 | 1000 | 1.11 | 0.02 | 1.09 | 0.03 | <0.01 | 6.6 | 0.3 | | 211 | 1.38 |
| | Aug-94 | 6.79 | 2670 | 212 | | 1090 | 1100 | 1.35 | 0.07 | 1.28 | <0.02 | <0.02 | 3.0 | 0.7 | | 243 | 2.82 |
| | Sep-05 | 7.59 | 2470 | 218 | 578 | 801 | 1280 | 1.00 | 0.68 | 0.32 | 1.60 | | <1 | <2 | 24 | 230 | 0.97 |
| | Oct-08 | 7.90 | 2620 | 190 | 515 | 717 | 1100 | 2.60 | 2.50 | 0.10 | 0.10 | <0.01 | <1 | <2 | 20 | 197 | <0.02 |
| | Sep-09 | 7.30 | 2630 | 250 | 40 | 1120 | 900 | 1.70 | 0.26 | 1.44 | <0.1 | <0.01 | <1 | 8.0 | 29 | 214 | <0.02 |
| | Sep-10 | 7.40 | 2720 | 260 | 39 | 1110 | 900 | 2.80 | 0.72 | 2.08 | 0.50 | 0.04 | 15.0 | 6.0 | 26 | 186 | 0.02 |
| | Sep-11 | 7.17 | 2850 | 270 | 39 | 1150 | 990 | 2.00 | 0.28 | 1.72 | <0.1 | <0.01 | 5.0 | 6.0 | 28 | 211 | <0.02 |
| | Sep-12 | 7.21 | 2900 | 290 | 51 | 1100 | 1000 | 3.20 | 0.43 | 2.77 | 0.25 | <0.01 | <1 | 5.0 | 32 | 232 | 0.06 |
| | Sep-13 | 7.43 | 2900 | 290 | 54 | 1200 | 1100 | 2.20 | 0.46 | 1.74 | <0.1 | <0.01 | <1 | <2 | 34 | 250 | 0.44 |
| | Sep-14 | 7.16 | 3000 | 300 | 59 | 1200 | 1100 | 1.90 | 0.36 | 1.54 | <0.1 | <0.01 | <1 | <2 | 32 | 250 | 0.16 |
| | Sep-15 | 7.36 | 3200 | 350 | 53 | 1200 | 1300 | 1.50 | 0.35 | 1.15 | <0.1 | <0.01 | <2 | 3.0 | 36 | 290 | 0.02 |
| | Sep-16 | 7.59 | 3300 | 380 | 74 | 1300 | 1300 | 2.20 | 0.38 | 1.82 | 0.54 | <0.01 | <1 | 2.0 | 38 | 290 | 0.03 |
| | Sep-17 | 7.68 | 3300 | 360 | 75 | 1300 | 1300 | 1.50 | 0.41 | 1.09 | 0.25 | <0.01 | 13.0 | 4.0 | 36 | 280 | 0.02 |
| | Sep-18 | 7.16 | 3400 | 410 | 94 | 1400 | 1200 | 1.50 | 0.50 | 1.00 | 0.22 | <0.01 | 1.9 | 4.0 | 35 | 290 | 0.04 |
| | Sep-19 | 7.54 | 3300 | 370 | 86 | 1200 | 1300 | 1.80 | 0.82 | 0.98 | <0.10 | <0.010 | <1 | 4.0 | 35 | 290 | 0.98 |
| | Sep-20 | 7.64 | 3300 | 370 | 140 | 1300 | 1300 | 1.70 | 0.42 | 1.28 | 0.17 | <0.010 | 1.6 | 8.0 | 37 | 300 | 0.06 |
| | Sep-21 | 7.35 | 3400 | 390 | 130 | 1300 | 1200 | 1.60 | 0.66 | 0.94 | 0.23 | 0.03 | 1.9 | 9.0 | 33 | 290 | 0.03 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **34-I** | Sep-87 | 7.00 | 2600 | 450 | | 413 | 1454 | 0.40 | | | | | <1.0 | 10.0 | | | |
| | Nov-87 | 7.21 | 2600 | 350 | | 740 | 1459 | 1.02 | <0.01 | 1.02 | | | <0.1 | 2.0 | | | |
| | Jul-88 | 7.59 | 2570 | 289 | | 575 | 1584 | <0.20 | 0.25 | - | | | <0.5 | | | | |
| | Nov-88 | | 2180 | 409 | | 500 | 1400 | 0.98 | | | | | 1.4 | 3.0 | | | |
| | Oct-89 | 6.93 | 3110 | 1700 | | 561 | 1062 | 1.54 | 1.48 | 0.06 | | | <2.0 | 0.3 | | 230 | |
| | Oct-90 | | 2270 | 234 | | 640 | | 0.69 | 0.31 | 0.38 | <0.2 | <0.02 | <2.0 | | | 208 | 0.49 |
| | Sep-91 | 7.90 | 26600 * | 210 | | 638 | 1100 | 0.45 | 0.35 | 0.10 | <0.2 | <0.01 | 6.9 | 1.9 | | 220 | 0.22 |
| | Aug-92 | 7.02 | 2510 | 368 | | 673 | 1100 | 0.71 | 0.19 | 0.52 | <0.1 | <0.01 | <2.0 | <0.5 | | 200 | 0.10 |
| | Aug-93 | 7.06 | 2710 | 216 | | 657 | 1200 | 0.55 | 0.19 | 0.36 | 0.04 | <0.01 | 2.8 | 0.3 | | 216 | 0.78 |
| | Aug-94 | 6.96 | 2760 | 4 | | 668 | 1300 | 0.61 | 0.22 | 0.39 | <0.02 | <0.02 | 2.0 | 0.8 | | 228 | 2.50 |
| | Sep-95 | 7.06 | 2760 | 215 | 727 | 639 | 1800 | 0.97 | 0.53 | 0.44 | 0.17 | 0.02 | 9.7 | 3.6 | | 202 | 0.81 |
| | Oct-96 | 7.04 | 2547 | 195 | 635 | 685 | 321 | 0.59 | 0.23 | 0.36 | 0.10 | <0.2 | <0.5 | 1.0 | | 212 | 0.60 |
| | Sep-99 | 7.29 | 1811 | 131 | 377 | 467 | 791 | 1.28 | 1.24 | 0.04 | <0.2 | <0.2 | 2.0 | 2.8 | 9 | 110 | 0.76 |
| | Sep-00 | 7.96 | 1261 | 110 | 275 | 419 | 543 | 4.03 | 2.97 | 1.06 | <0.2 | <0.2 | <1.0 | 9.8 | 12 | 125 | <0.01 |
| | Sep-01 | | 3710 | 285 | 1350 * | 590 | 2070 | 0.65 | <0.03 | 0.65 | <0.2 | <0.2 | <1.0 | <0.5 | 5 | 225 | <0.01 |
| | Sep-02 | 7.36 | 727 | 49 | 104 | 207 | 248 | 0.83 | 0.88 | <0.05 | 3.2 | <0.2 | <1.0 | <0.5 | 7 | 53 | <0.01 |
| | Sep-03 | 7.70 | 2140 | 164 | 440 | 530 | 800 | 1.30 | 1.04 | 0.26 | 0.3 | <0.2 | <1.0 | 6.0 | 16 | 148 | <0.01 |
| | Sep-04 | 7.91 | 2260 | 158 | | 769 | 993 | 2.40 | 1.02 | 1.38 | 0.2 | <0.1 | <1.0 | 7.0 | 17 | 188 | 0.16 |
| | Sep-06 | 7.60 | 2660 | 202 | 468 | 849 | 1200 | 1.00 | 0.81 | 0.19 | 0.2 | <0.01 | <1 | <2 | 22 | 220 | * 8.3 |
| | Sep-07 | 7.70 | 2590 | 190 | 464 | 794 | 1200 | 0.90 | 0.35 | 0.55 | <0.1 | <0.01 | <1 | <2 | 22 | 210 | <0.05 |
| | Sep-09 | 7.70 | 2370 | 180 | 390 | 722 | 870 | 1.40 | 0.36 | 1.04 | 0.1 | <0.01 | <1 | <2 | 18 | 165 | <0.02 |
| | Sep-10 | 7.60 | 2520 | 190 | 450 | 728 | 980 | 0.90 | 0.27 | 0.63 | <0.1 | <0.01 | <1 | <2 | 19 | 168 | <0.02 |
| | Sep-11 | 7.38 | 2450 | 160 | 450 | 724 | 990 | 0.80 | 0.19 | 0.61 | <0.1 | <0.01 | <1 | <2 | 18 | 159 | <0.02 |
| | Sep-12 | 7.27 | 2300 | 130 | 440 | 590 | 970 | 0.83 | 0.32 | 0.51 | <0.10 | <0.01 | <1 | <2.0 | 19 | 167 | 0.15 |
| | Sep-13 | 7.77 | 1900 | 120 | 320 | 600 | 800 | 0.56 | 0.09 | 0.47 | <0.5 | <0.05 | <1 | <2 | 18 | 130 | <0.02 |
| | Sep-14 | 7.85 | 1900 | 100 | 310 | 600 | 750 | 0.60 | 0.22 | 0.38 | <0.1 | <0.01 | <1 | <2 | 16 | 130 | <0.02 |
| | Sep-15 | 7.59 | 2100 | 130 | 450 | 540 | 960 | 0.59 | <0.05 | 0.58 | 0.11 | <0.01 | <1 | <2 | 20 | 160 | <0.02 |
| | Sep-16 | 7.86 | 2100 | 110 | 410 | 610 | 920 | 0.72 | 0.14 | 0.58 | <0.1 | <0.01 | <1 | <2 | 21 | 140 | <0.02 |
| | Sep-17 | 7.63 | 1900 | 120 | 370 | 590 | 880 | 0.35 | 0.13 | 0.22 | <0.1 | <0.01 | <10 | <2 | 20 | 140 | <0.02 |
| | Sep-18 | 7.69 | 1800 | 110 | 310 | 590 | 760 | 0.22 | 0.18 | 0.04 | 0.11 | <0.01 | <1 | <2 | 19 | 120 | <0.02 |
| | Sep-19 | 8.07 | 1600 | 99 | 330 | 450 | 670 | 0.29 | <0.050 | 0.27 | 0.22 | <0.010 | <1 | <2 | 17 | 120 | <0.02 |
| | Sep-20 | 7.92 | 1700 | 90 | 330 | 530 | 780 | 0.37 | <0.050 | 0.37 | <0.10 | <0.010 | <1 | <2 | 21 | 130 | <0.02 |
| | Sep-21 | 7.91 | 1700 | 96 | 320 | 510 | 720 | 0.30 | <0.050 | 0.30 | 0.18 | <0.010 | <1 | <2 | 18 | 110 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **35-I** | Nov-98 | 7.97 | 1667 | 323 | 176 | 100 | 357 | 1.71 | 1.56 | 0.2 | <0.2 | <0.2 | | | 21 | 185 | <0.03 |
| | Dec-98 | 7.98 | 1994 | 569 | 164 | 87 | 344 | 1.32 | 1.13 | 0.19 | <0.2 | <0.2 | | | 18 | 259 | <0.03 |
| | Dec-98 | 8.08 | 5652 | 1830 | 362 | 135 | 929 | 3.10 | 2.60 | 0.50 | 0.2 | <2 | | | 43 | 945 | <0.03 |
| | Sep-01 | | 2373 | 345 | 932 | 299 | 635 | 3.25 | 2.73 | 0.52 | <0.2 | <0.2 | <1.0 | 1.9 | 27 | 482 | <0.01 |
| | Sep-02 | 7.47 | 122000 * | 40000 * | 1730 | 44 | 22100 * | 32.20 * | 2.89 | 29.31 | <2.0 | <20.0 | 2.0 | <0.5 | 289 | 14500 * | <1.00 |
| | Sep-03 | 7.60 | 6290 | 1990 | 386 | 164 | 1252 | 1.30 | 1.04 | 0.26 | 2.4 | <2.0 | 1.0 | 1.4 | 15 | 902 | <0.10 |
| | Sep-04 | 7.58 | 6070 | 1290 | | 30 | 2420 | 2.80 | 1.32 | 1.48 | <10 | 0.3 | <1.0 | <5 | 24 | 694 | 0.42 |
| | Sep-05 | 7.58 | 22900 | 10700 | 690 | 195 | | 10.40 | 8.90 | 1.50 | <0.2 | <0.3 | 1.0 | <2 | 120 | 7900 * | <5 |
| **35-I R** | Oct-10 | 6.80 | 130000 | 69000 | 660 | 42 | 45000 | 45.00 | 45.00 | 0.00 | <0.1 | <0.01 | 4.0 | <2 | 312 | 20800 | <2 |
| | May-11 | 6.38 | 144000 | 78000 | 750 | 26 | 53000 | 47.00 | 47.00 | 0.00 | <0.1 | <0.01 | <1 | <2 | 360 | 23000 | <10 |
| | Sep-11 | 6.47 | >100000 | 69000 | 810 | 18 | 47000 | 46.00 | 40.00 | 6.00 | <0.1 | <0.01 | 50.0 | <2 | 287 | 20700 | 10.00 |
| | Sep-12 | 6.91 | 98000 | 45000 | 1100 | 36 | 28000 | 32.00 | 28.00 | 4.00 | <0.10 | <0.10 | 18.0 | <2.0 | 156 | 14200 | <2 |
| | Sep-13 | 6.75 | 96000 | 44000 | 1200 | 35 | 29000 | 33.00 | 27.00 | 6.00 | <0.1 | <0.01 | <1 | <2 | 230 | 15000 | <2 |
| | Sep-14 | 6.79 | >100000 | 62000 | 1000 | 40 | 47000 | 47.00 | 39.00 | 8.00 | <0.5 | <0.01 | <1 | <2 | 350 | 23000 | 4.30 |
| | Sep-15 | 6.81 | >100000 | 48000 | 1200 | 42 | 31000 | 30.00 | 25.00 | 5.00 | <0.1 | <0.1 | 6.4 | <2 | 280 | 15000 | <0.2 |
| | Sep-16 | 6.97 | 92000 | 40000 | 1200 | 40 | 26000 | 25.00 | 28.00 | <0.05 | <1.0 | <0.10 | 1.2 | <2.0 | 250 | 13000 | <0.2 |
| | Sep-17 | 6.93 | 92000 | 40000 | 1200 | 43 | 30000 | 28.00 | 26.00 | 2.00 | <0.5 | <0.050 | <1 | <2 | 260 | 15000 | <0.2 |
| | Sep-18 | 6.56 | 96000 | 42000 | 1100 | 28 | 27000 | 30.00 | 28.00 | 2.00 | <1.0 | <0.10 | 4.3 | <2 | 260 | 13000 | <0.2 |
| | Sep-19 | 6.95 | 99000 | 45000 | 1100 | 35 | 32000 | 35.00 | 31.00 | 4.00 | <0.10 | <0.050 | 5.6 | <2 | 300 | 15000 | <0.2 |
| | Sep-20 | 6.38 | 100000 | 54000 | 1200 | 34 | 37000 | 35.00 | 34.00 | 1.00 | <0.50 | <0.050 | <2 | <20 | 310 | 17000 | 5.20 |
| | Sep-21 | 6.79 | >100000 | 72000 | 810 | 44 | 51000 | 42.00 | 39.00 | 3.00 | <0.10 | <0.010 | 8.4 | <2 | 350 | 22000 | <2 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

Borehole Location BH35 was replaced by BH35R in 2011, and Borehole Location BH35 was decommissioned in 2013.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **35-II** | Nov-98 | 7.69 | 7612 | 2440 | 535 | 133 | 1929 | 6.40 | 6.30 | 0.10 | <0.2 | <2.0 | | | 58 | 1020 | 2.08 |
| | Dec-98 | 7.67 | 7815 | 2740 | 586 | 141 | 1727 | 7.60 | 6.60 | 1.00 | <0.2 | <2.0 | | | 57 | 954 | 1.49 |
| | Dec-98 | 7.57 | 8321 | 2790 | 600 | 126 | 2123 | 6.90 | 6.80 | 0.10 | <0.2 | <2 | | | 60 | 1150 | 2.49 |
| | Sep-01 | | 1459 * | 24 * | 568 | 634 | 907 * | 1.30 | 1.01 | 0.29 | 0.3 | <0.2 | <1.0 | 0.7 | 22 | 155 * | <0.1 |
| | Sep-02 | 7.51 | 8115 | 2530 | 559 | 159 | 1880 | 6.60 | <0.03 | 6.60 | <0.2 | <2.0 | <1.0 | <0.5 | 61 | 983 | <0.10 |
| | Sep-03 | 7.70 | 11220 | 3870 | 641 | 122 | 2542 | 7.65 | 7.60 | 0.05 | 0.9 | <2.0 | <1.0 | 0.6 | 74 | 1300 | <0.10 |
| | Sep-04 | 7.91 | 5080 | 890 | | 105 | 2380 | 32.40 * | 0.53 | 31.87 * | <10 | 0.3 | <1.0 | 6.0 | * 7.6 | 522 * | 0.75 |
| | Sep-05 | 7.88 | 9380 | 3520 | 595 | 129 | | 8.80 | 8.15 | 0.65 | <0.2 | <0.3 | <1 | <2 | 78 | 1600 | 4.50 |
| | Sep-06 | 7.60 | 11700 | 3640 | 622 | 131 | 2900 | 9.00 | 8.73 | 0.27 | 0.6 | 0.0 | <1 | <2 | 77 | 1500 | 3.50 |
| | Sep-07 | 7.70 | 12100 | 3700 | 618 | 126 | 3000 | 9.00 | 10.30 | <0.05 | 0.1 | <0.01 | <1 | <2 | 77 | 1500 | <0.05 |
| | Oct-08 | 7.80 | 12300 | 3800 | 611 | 120 | 2800 | 9.00 | 10.00 | <0.05 | 0.5 | <0.01 | <1 | <2 | 79 | 1390 | 0.30 |
| | Sep-09 | 7.40 | 12100 | 3700 | 660 | 122 | 2800 | 8.30 | 9.30 | <0.05 | 0.5 | <0.01 | <1 | <2 | 67 | 1360 | <0.2 |
| | Sep-10 | 7.50 | 12000 | 3700 | 600 | 122 | 2800 | 8.80 | 9.60 | <0.05 | 0.1 | <0.01 | <1 | <2 | 69 | 1380 | <0.2 |
| **35-II R** | Oct-10 | 7.70 | 6250 | 1700 | 370 | 242 | 1100 | 12.00 | 6.20 | 5.80 | <0.1 | <0.01 | <1 | <2 | 53 | 814 | <0.02 |
| | May-11 | 7.78 | 6320 | 1800 | 370 | 243 | 1300 | 9.00 | 6.60 | 2.40 | <0.1 | <0.01 | <1 | <2 | 57 | 740 | <0.1 |
| | Sep-11 | 7.76 | 5970 | 1600 | 380 | 241 | 1200 | 6.40 | 6.20 | 0.20 | <0.1 | <0.01 | 2.0 | <2 | 53 | 738 | <0.02 |
| | Sep-12 | 7.71 | 6300 | 1600 | 340 | 250 | 1200 | 6.00 | 6.30 | <0.05 | <0.1 | <0.01 | <1 | <2.0 | 38 | 728 | 2.00 |
| | Sep-13 | 7.56 | 6200 | 1800 | 380 | 240 | 1200 | 6.00 | 5.80 | 0.20 | <0.1 | <0.01 | <1 | <2 | 51 | 740 | 0.30 |
| | Sep-14 | 7.86 | 6500 | 1700 | 380 | 240 | 1300 | 5.10 | 6.20 | <0.05 | <0.1 | <0.01 | <1 | <2 | 54 | 830 | 0.90 |
| | Sep-15 | 7.68 | 6300 | 1800 | 380 | 260 | 1300 | 6.00 | 5.90 | 0.10 | <0.1 | 0.02 | <1 | <2 | 62 | 770 | 0.54 |
| | Sep-16 | 7.65 | 6100 | 1600 | 370 | 250 | 1200 | 5.90 | 5.80 | 0.10 | 0.16 | 0.03 | <1 | <2 | 58 | 760 | 0.05 |
| | Sep-17 | 7.64 | 6400 | 1700 | 380 | 260 | 1300 | 5.90 | 5.20 | 0.70 | 0.33 | 0.06 | <1 | 5.0 | 62 | 750 | 0.20 |
| | Sep-18 | 7.70 | 6600 | 1900 | 440 | 210 | 1300 | 5.40 | 5.20 | 0.20 | 0.56 | 0.13 | <1 | <2 | 57 | 810 | 0.02 |
| | Sep-19 | 7.83 | 6100 | 1600 | 360 | 240 | 1200 | 4.10 | 4.10 | 0.00 | 1.53 | 0.21 | <1 | 4.0 | 60 | 790 | 0.80 |
| | Sep-20 | 7.58 | 5900 | 1500 | 400 | 260 | 1300 | 5.40 | 5.80 | <0.05 | <0.10 | <0.010 | <1 | 11.0 | 61 | 710 | 0.33 |
| | Sep-21 | 7.68 | 5900 | 1600 | 370 | 260 | 1200 | 6.20 | 5.80 | 0.40 | <0.10 | <0.010 | <1 | <2 | 55 | 740 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

Borehole Location BH35 was replaced by BH35R in 2011, and Borehole Location BH35 was decommissioned in 2013.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **35-III** | Nov-98 | 7.88 | 2914 | 524 | 469 | 162 | 723 | 3.70 | 3.40 | 0.30 | <0.2 | <0.2 | | | 61 | 358 | <0.03 |
| | Dec-98 | 7.90 | 3031 | 728 | 624 | 157 | 760 | 4.00 | 3.50 | 0.50 | <0.2 | <0.2 | | | 58 | 376 | <0.03 |
| | Dec-98 | 7.87 | 3301 | 694 | 660 | 146 | 808 | 3.80 | 3.60 | 0.20 | <0.2 | <2 | | | 54 | 394 | <0.03 |
| | Sep-01 | | 2184 | 243 | 983 | 631 | 1210 | 1.55 | 1.19 | 0.36 | <0.2 | <0.2 | <1.0 | 1.2 | 19 | 355 | <0.01 |
| | Sep-02 | 7.61 | 3259 | 708 | 578 | 173 | 843 | 2.98 | 3.78 | <0.05 | 0.8 | 2.3 | <1.0 | 0.8 | 38 | 385 | <0.10 |
| | Sep-03 | 7.80 | 3320 | 685 | 580 | 186 | 782 | 3.04 | 2.99 | 0.05 | 2.9 | <0.2 | <1.0 | 3.8 | 36 | 373 | <0.01 |
| | Oct-04 | 7.89 | 3720 | 994 | 743 | 180 | 846 | 5.60 | 2.18 | 3.42 | <1 | <0.1 | <1.0 | <4 | | 560 | |
| | Sep-05 | 7.83 | 3680 | 837 | 842 | 176 | 1170 | 6.00 | 3.02 | 2.98 | <0.2 | | <1 | <2 | 39 | 520 | <0.5 |
| | Sep-06 | 7.90 | 4220 | 846 | 699 | 218 | 910 | 2.00 | 1.84 | 0.16 | 0.2 | 0.1 | <1 | 5.0 | 38 | 530 | <0.30 |
| | Sep-07 | 7.70 | 3800 | 810 | 579 | 182 | 1000 | 4.00 | 2.79 | 1.21 | 0.8 | 0.4 | <1 | 4.0 | 40 | 510 | <0.05 |
| | Oct-08 | 7.80 | 3410 | 700 | 406 | 191 | 670 | 9.00 | 1.60 | 7.40 | 0.7 | 0.4 | <1 | 7.0 | 34 | 443 | <0.02 |
| | Sep-09 | 7.70 | 3200 | 660 | 390 | 196 | 710 | 3.00 | 2.20 | 0.80 | 0.7 | 0.2 | <1 | <2 | 28 | 411 | <0.2 |
| | Sep-10 | 7.80 | 3460 | 780 | 400 | 192 | 640 | 8.00 | 2.60 | 5.40 | 1.2 | 0.4 | <1 | 6.0 | 32 | 383 | <0.02 |
| **35-III R** | Oct-10 | 7.90 | 3070 | 670 | 360 | 193 | 640 | 9.00 | 3.70 | 5.30 | <0.1 | <0.01 | <1 | <2 | 37 | 322 | <0.02 |
| | May-11 | 7.85 | 3350 | 700 | 460 | 184 | 830 | 5.00 | 3.80 | 1.20 | 0.1 | 0.10 | <1 | <2 | 40 | 370 | <0.1 |
| | Sep-11 | 7.85 | 3690 | 730 | 650 | 160 | 970 | 3.00 | 3.70 | <0.05 | 0.6 | 0.04 | 3.0 | <2 | 43 | 398 | <0.02 |
| | Sep-12 | 7.80 | 3700 | 710 | 530 | 160 | 900 | 4.30 | 4.20 | 0.10 | 0.9 | 0.05 | <1 | <2.0 | 22 | 377 | 0.20 |
| | Sep-13 | 7.74 | 3900 | 800 | 660 | 150 | 950 | 3.70 | 3.70 | 0.00 | <0.1 | 0.02 | <1 | <2 | 42 | 380 | <0.02 |
| | Sep-14 | 7.90 | 4100 | 790 | 660 | 160 | 1000 | 3.60 | 3.90 | <0.05 | <0.1 | 0.0 | <1 | <2 | 41 | 430 | 0.30 |
| | Sep-15 | 7.72 | 3900 | 790 | 610 | 160 | 1100 | 4.00 | 3.90 | 0.10 | <0.1 | 0.04 | <1 | <2 | 47 | 410 | <0.02 |
| | Sep-16 | 7.84 | 3900 | 760 | 610 | 160 | 970 | 4.40 | 4.30 | 0.10 | <0.1 | 0.01 | <1 | <2 | 44 | 400 | <0.02 |
| | Sep-17 | 7.77 | 4000 | 790 | 630 | 170 | 1100 | 4.30 | 4.00 | 0.30 | 0.11 | <0.01 | <1 | 4.0 | 47 | 410 | <0.02 |
| | Sep-18 | 7.72 | 4100 | 860 | 720 | 160 | 1100 | 4.10 | 3.90 | 0.20 | 0.19 | 0.07 | <1 | <2 | 44 | 420 | <0.02 |
| | Sep-19 | 7.81 | 4100 | 830 | 680 | 140 | 1100 | 3.40 | 3.00 | 0.40 | 0.64 | 0.01 | <1 | 5.0 | 47 | 450 | 0.05 |
| | Sep-20 | 7.68 | 4000 | 810 | 710 | 160 | 1100 | 4.50 | 4.10 | 0.40 | <0.10 | 0.02 | <1 | 29.0 | 45 | 410 | <0.02 |
| | Sep-21 | 7.73 | 3400 | 690 | 470 | 180 | 890 | 4.00 | 3.70 | 0.30 | 0.11 | 0.07 | <1 | 15.0 | 39 | 380 | <0.02 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

Borehole Location BH35 was replaced by BH35R in 2011, and Borehole Location BH35 was decommissioned in 2013.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **35-IV** | Nov-98 | 7.88 | 7293 | 813 | 4250 | 385 | 3872 | 0.87 | 0.31 | 0.56 | 0.8 | <0.2 | | | 41 | 652 | 0.18 |
| | Dec-98 | 7.78 | 7550 | 828 | 4470 | 398 | 4221 | 1.14 | 0.09 | 1.05 | <0.2 | <0.2 | | | 41 | 697 | 0.16 |
| | Dec-98 | 7.59 | 7883 | 761 | 4720 | 363 | 4415 | 0.26 | 0.06 | 0.20 | <0.2 | <2 | | | 50 | 731 | 0.09 |
| | Sep-01 | | 1973 * | 192 * | 842 * | 545 | 966 * | 2.15 | 1.70 | 0.45 | 0.5 | <0.2 | <1.0 | 0.8 | 22 | 312 | <0.01 |
| | Sep-02 | 7.33 | 8814 | 1220 | 3860 | 418 | 5090 | 0.22 | 1.86 | <0.05 | <0.2 | <2.0 | <1.0 | <0.5 | 24 | 713 | <0.10 |
| | Sep-03 | 7.60 | 8480 | 1040 | 4960 | 449 | 5070 | 0.22 | 0.03 | 0.19 | 3.8 | <2.0 | <1.0 | 2.7 | 36 | 738 | <0.10 |
| | Oct-04 | 7.76 | 7490 | 1120 | 4860 | 506 | 4540 | 5.80 | 0.38 | 5.42 | <1 | <0.1 | 1.0 | <4 | | 610 | |
| | Sep-05 | 7.91 | 7360 | 1080 | 3600 | 470 | | 2.60 | 0.12 | 2.48 | <0.2 | <0.3 | <1 | <2 | 29 | 900 | 2.30 |
| | Sep-06 | 7.70 | 9680 | 1390 | 3610 | 469 | 5500 | 0.30 | 0.14 | 0.16 | <0.1 | <0.01 | <1 | <2 | 28 | 920 | 0.42 |
| | Sep-07 | 7.80 | 9280 | 1200 | 3950 | 434 | 5500 | 2.00 | 0.10 | 1.90 | <0.1 | <0.01 | <1 | <2 | 29 | 910 | <0.25 |
| | Oct-08 | 7.90 | 9560 | 1500 | 4010 | 420 | 4300 | 3.00 | 0.05 | 2.95 | <0.1 | <0.01 | <1 | <2 | 23 | 817 | <0.2 |
| | Sep-09 | 7.70 | 9670 | 1600 | 4000 | 429 | 4300 | 4.00 | 0.25 | 3.75 | <0.1 | <0.01 | <1 | <2 | 17 | 880 | <0.2 |
| | Sep-10 | 7.60 | 9180 | 1900 | 2300 | 345 | 3200 | 4.00 | 0.11 | 3.89 | <0.1 | <0.01 | <1 | <2 | 24 | 973 | <0.2 |
| **35-IVR** | Oct-10 | 7.80 | 4070 | 190 | 1500 | 638 | 1500 | 3.00 | 0.10 | 2.90 | <0.1 | <0.01 | <1 | <2 | 37 | 398 | <0.02 |
| | May-11 | 7.77 | 4350 | 190 | 1800 | 562 | 1800 | 2.00 | 0.08 | 1.92 | 0.1 | <0.01 | <1 | <2 | 21 | 470 | <0.1 |
| | Sep-11 | 7.82 | 3990 | 180 | 1700 | 591 | 1800 | <2.00 | <0.05 | <1.95 | 0.2 | <0.01 | <1 | <2 | 22 | 396 | <0.02 |
| | Sep-12 | 7.50 | 4000 | 170 | 1500 | 580 | 1500 | <0.50 | 0.14 | <0.05 | <0.1 | <0.01 | <1 | <2.0 | 17 | 388 | <0.2 |
| | Sep-13 | 7.64 | 4000 | 170 | 1500 | 620 | 1600 | 0.58 | 0.11 | 0.47 | <0.1 | <0.01 | <1 | <2 | 19 | 390 | <0.2 |
| | Sep-14 | 7.95 | 4200 | 170 | 1800 | 560 | 1700 | 3.30 | 0.05 | 3.25 | <0.1 | <0.01 | <1 | <2 | 19 | 430 | <0.2 |
| | Sep-15 | 7.74 | 4100 | 180 | 1500 | 560 | 1900 | 0.44 | <0.05 | 0.43 | <0.1 | <0.01 | <1 | <2 | 21 | 410 | <0.02 |
| | Sep-16 | 7.91 | 3900 | 170 | 1600 | 590 | 1700 | <0.10 | <0.05 | <0.05 | <0.1 | <0.01 | <1.0 | <2.0 | 23 | 400 | <0.02 |
| | Sep-17 | 7.80 | 3800 | 160 | 1400 | 590 | 1600 | <0.10 | <0.050 | <0.10 | 0.14 | <0.01 | <1 | <2 | 23 | 370 | <0.02 |
| | Sep-18 | 7.85 | 3700 | 170 | 1500 | 560 | 1500 | 0.15 | 0.06 | 0.10 | 0.16 | <0.01 | <1 | <2 | 19 | 360 | <0.02 |
| | Sep-19 | 7.89 | 3700 | 160 | 1500 | 500 | 1600 | 0.24 | <0.050 | 0.22 | 0.17 | <0.010 | <1 | <2 | 14 | 390 | <0.02 |
| | Sep-20 | 7.96 | 3800 | 160 | 1600 | 590 | 1600 | 0.15 | 0.06 | 0.09 | 0.11 | <0.010 | <1 | 2.0 | 23 | 380 | <0.02 |
| | Sep-21 | 7.81 | 3800 | 170 | 1500 | 580 | 1600 | 0.21 | 0.06 | 0.15 | <0.10 | <0.010 | <1 | <2 | 20 | 400 | <0.02 |

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3) Blank indicates parameter not analysed.

Borehole Location BH35 was replaced by BH35R in 2011, and Borehole Location BH35 was decommissioned in 2013.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **36-I** | Sep-21 | 7.27 | 3600 | 320 | <1.0 | 1700 | 1100 | 91 | 86 | | <0.10 | <0.010 | 4.5 | 32 | | 260 | 0.14 |
| **Leachate** | | | | | | | | | | | | | | | | | |
| **37-I** | Sep-19 | 7.60 | 16000 | 2500 | 41 | 5600 | 1300 | 870 | 600 | 270 | <0.10 | 0.03 | 20.0 | 76 | 810 | 1500 | 4.00 |
| **Leachate** | Sep-20 | 7.63 | 16000 | 2800 | <20 | 4900 | 1300 | 930 | 880 | 50 | <0.10 | 0.03 | 17.0 | 67 | 870 | 1600 | 3.80 |
| | Sep-21 | 7.59 | 15000 | 2500 | <20 | 5100 | 1200 | 950 | 740 | 210 | <0.50 | <0.050 | 19.0 | >230 | 710 | 1400 | 3.30 |
| **38-I** | Oct-08 | 7.50 | 8250 | 1800 | 1570 | 654 | 2300 | 64.0 | 3.7 | 60.30 | 0.7 | 0.0 | <1 | <2 | 79 | 982 | <0.02 |
| | Sep-09 | 7.40 | 10400 | 2700 | 1600 | 565 | 2500 | 22.0 | 2.2 | 19.80 | 0.4 | <0.01 | <1 | <2 | 82 | 1360 | <0.2 |
| | Sep-10 | 7.40 | 9420 | 2200 | 1300 | 563 | 2200 | 36.0 | 3.5 | 32.50 | 1.0 | <0.01 | <1 | <2 | 69 | 1130 | 0.20 |
| | Sep-11 | 7.35 | 7180 | 1600 | 980 | 479 | 1700 | 19.0 | 3.0 | 16.00 | 0.4 | <0.01 | <1 | <2 | 61 | 924 | <0.02 |
| | Sep-12 | 7.29 | 9300 | 2300 | 960 | 340 | 2000 | 6.2 | 2.3 | 3.90 | <0.10 | <0.01 | <1 | <2.0 | 64 | 1280 | <0.02 |
| | Sep-13 | 7.56 | 7100 | 1600 | 930 | 510 | 1900 | 6.7 | 2.1 | 4.60 | <0.1 | <0.01 | <1 | <2 | 55 | 910 | 0.30 |
| | Sep-14 | 7.37 | 7100 | 1700 | 840 | 430 | 1800 | 5.9 | 2.0 | 3.90 | <0.1 | <0.01 | <1 | <2 | 48 | 890 | 0.02 |
| | Sep-15 | 7.31 | 8100 | 1800 | 1100 | 530 | 2100 | 3.4 | 2.7 | 0.70 | <0.1 | <0.01 | <1 | <2 | 63 | 940 | 0.07 |
| | Sep-17 | 7.48 | 8100 | 1700 | 1200 | 590 | 2200 | 3.1 | 2.4 | 0.70 | 0.2 | <0.01 | <10 | <2 | 66 | 880 | 0.04 |
| | Sep-18 | 7.30 | 15000 | 4400 | 1100 | 350 | 3000 | 6.2 | 6.6 | <0.05 | <0.1 | 0.016 | 0.0052 | <2 | 92 | 2100 | 0.57 |
| | Sep-19 | 7.41 | 12000 | 3400 | 1300 | 520 | 3100 | 5.9 | 5.2 | 0.70 | <0.10 | <0.010 | 7.50 | 7.0 | 88 | 1700 | <0.5 |
| **39-I** | Sep-21 | 7.72 | 13000 | 1400 | <20 | 5500 | 1500 | 800 | 660 | 140 | <0.50 | <0.050 | 0.026 | 170 | 600 | 1200 | 4.40 |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
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3) Blank indicates parameter not analysed.

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**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **5-I** | Sep-03 | 7.80 | 13540 | 3450 | 2460 | 74 | 2062 | 7.99 | 7.50 | 0.49 | | | <1.0 | 0.6 | 54 | 2080 | |
| **BP** | Jan-04 | 7.41 | 14260 | 3570 | 2730 | 60 | 2225 | 7.82 | 7.50 | 0.32 | | | <1.0 | <0.5 | 60 | 2430 | |
| | Oct-04 | 7.22 | 22600 | 11000 | 2410 | 48 | 5590 | 14.50 | 13.40 | 1.10 | | | <1.0 | <4 | 90 | 4570 | |
| | Oct-05 | 7.48 | 18900 | 6480 | 2490 | 52 | 4680 | 14.00 | 10.60 | 3.40 | | | <1.0 | <3 | 94 | 4520 | |
| | Apr-06 | 7.60 | 15100 | 3270 | 1940 | 56 | 2800 | 8.00 | 9.28 | - | | | <1.0 | <2 | 73 | 3100 | |
| | Sep-06 | 7.60 | 16700 | 4710 | 2820 | 54 | 3000 | 9.00 | 8.97 | 0.03 | | | 1.0 | <2 | 78 | 3500 | |
| | May-07 | 7.60 | 14400 | 3200 | 2910 | 52 | 2300 | 8.60 | 9.52 | - | | | * 55 | <2 | 68 | 2800 | |
| | Sep-07 | 7.50 | 14400 | 3400 | 2970 | 48 | 2100 | 8.40 | 9.46 | - | | | <1 | <2 | 62 | 2650 | |
| | May-08 | 7.50 | 14300 | 3100 | 3090 | 47 | 2200 | 7.70 | 8.10 | - | | | <1 | <2 | 68 | 2740 | |
| | Oct-08 | 7.50 | 14200 | 3100 | 3110 | 45 | 2100 | 7.40 | 8.50 | - | | | <1 | <2 | 61 | 2540 | |
| | Apr-09 | 6.80 | 13800 | 3200 | 3200 | 53 | 1800 | 8.60 | 8.50 | 0.10 | | | <1 | <2 | 66 | 2250 | |
| | Sep-09 | 7.20 | 13900 | 3100 | 3200 | 48 | 1900 | 8.10 | 8.10 | 0.00 | | | <1 | <2 | 59 | 2310 | |
| | Sep-10 | 7.60 | 13900 | 3300 | 3000 | 47 | 2000 | 9.00 | 8.50 | 0.50 | | | <1 | <2 | 57 | 2440 | |
| | Apr-10 | 7.50 | 14300 | 3300 | 3200 | 48 | 2100 | 9.90 | 10.00 | - | | | <1 | <2 | 57 | 2700 | |
| | Apr-11 | 7.51 | 13900 | 3200 | 2900 | 51 | 2000 | 12.00 | 8.40 | 3.60 | | | <1 | <2 | 72 | 2460 | |
| | Sep-11 | 7.67 | 10400 | 2100 | 2200 | 62 | 1200 | 6.60 | 7.40 | - | | | 4.0 | <2 | 47 | 1850 | |
| | Apr-12 | 7.51 | 12000 | 2600 | 2600 | 58 | 1600 | 9.90 | 6.90 | 3.00 | | | 4.9 | <2.0 | 54 | 2120 | |
| | Sep-12 | 7.32 | 8500 | 1500 | 1900 | 74 | 800 | 4.40 | 4.90 | - | | | <1 | <2.0 | 40 | 1550 | |
| | Apr-13 | 7.66 | 8300 | 1500 | 1700 | 73 | 740 | 5.10 | 5.40 | - | | | <1 | <2 | 42 | 1500 | |
| | Sep-13 | 7.78 | 8300 | 1600 | 2100 | 72 | 780 | 5.20 | 4.80 | 0.40 | | | <1 | <2 | 42 | 1600 | |
| | Sep-14 | 7.78 | 8400 | 1500 | 2100 | 71 | 780 | 5.10 | 5.20 | - | | | <1 | <2 | 41 | 1600 | |
| | Sep-15 | 7.44 | 9600 | 1900 | 2600 | 68 | 1100 | 6.10 | 5.70 | 0.40 | | | <1 | <2 | 51 | 1800 | |
| | Sep-16 | 7.50 | 11000 | 2300 | 2800 | 56 | 1500 | 6.60 | 6.70 | <0.05 | <0.1 | <0.01 | <1 | <2 | | | |
| | Apr-17 | 7.58 | 13000 | 2900 | 2700 | 56 | 1600 | 6.70 | 7.30 | <0.05 | <0.1 | 0.01 | <1 | <2.0 | 67 | 2200 | 0.83 |
| | Sep-17 | 7.48 | 12000 | 2600 | 2900 | 68 | 1600 | 6.90 | 7.10 | <0.05 | <0.1 | <0.01 | <1 | <2.0 | 62 | 2200 | |
| | May-18 | 7.56 | 12000 | 2700 | 3000 | 57 | 1500 | 6.70 | 7.40 | <0.05 | <0.1 | <0.01 | <1 | <2 | 62 | 2200 | |
| | Sep-18 | 7.50 | 12000 | 2600 | 2800 | 56 | 1600 | 7.70 | 7.10 | 0.60 | | | <1 | <2 | 63 | 2300 | |
| | Apr-19 | 7.57 | 13000 | 2900 | 2900 | 52 | 2100 | 6.80 | 7.20 | <0.05 | <0.10 | <0.010 | <1 | <2 | 66 | 2500 | 1.10 |
| | Sep-19 | 7.56 | 12000 | 2800 | 2900 | 51 | 1700 | 6.90 | 7.70 | <0.05 | <0.10 | <0.010 | <1 | <2 | 58 | 2200 | <0.5 |
| | Apr-20 | 7.50 | 13000 | 2700 | 3000 | 50 | 1800 | 7.80 | 7.60 | 0.20 | | | <1 | <2 | 70 | 2300 | |
| | Sep-20 | 7.20 | 13000 | 2700 | 2800 | 52 | 1700 | 7.70 | 7.50 | 0.20 | | | <1 | <2 | 66 | 2300 | |
| | Apr-21 | 7.34 | 12000 | 2800 | 3100 | 49 | 1800 | 6.70 | 6.30 | 0.50 | 0.50 | 0.05 | <1 | 6.0 | 56 | 2200 | <0.5 |
| | Sep-21 | 7.47 | 13000 | 2800 | 3000 | 50 | 1800 | 8.20 | 7.50 | 0.70 | | | <1 | <2 | 63 | 2300 | |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.
4) BP - Indicates Bayview Park reference borehole location

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| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **5-II** | Sep-03 | 8.18 | 3362 | 324 | 1550 | 115 | 240 | 5.12 | 4.33 | 0.79 | | | <1.0 | <0.5 | 33 | 755 | |
| **BP** | Jan-04 | 7.93 | 3654 | 248 | 1550 | 117 | 244 | 3.58 | 3.84 | - | | | <1.0 | 4.6 | 30 | 765 | |
| | Oct-04 | 8.13 | 3790 | 365 | 1700 | 112 | 257 | 6.00 | 3.60 | 2.40 | | | <1.0 | <4 | 28 | 975 | |
| | Oct-05 | 8.10 | 3790 | 162 | 1770 | 116 | 232 | 2.90 | 2.57 | 0.33 | | 0.10 | <1.0 | 4.0 | 26 | 860 | |
| | Apr-06 | 7.90 | 4020 | 148 | 1570 | 108 | 310 | 3.10 | 2.72 | 0.38 | | | <1.0 | <2 | 30 | 950 | |
| | Sep-06 | 8.10 | 4240 | 152 | 1820 | 113 | 270 | 2.70 | 2.67 | 0.03 | | | <1.0 | <2 | 27 | 850 | |
| | May-07 | 8.00 | 4320 | 150 | 1780 | 108 | 280 | 3.10 | 3.08 | 0.02 | | | <1 | 12.0 | 27 | 860 | |
| | Sep-07 | 8.00 | 4190 | 150 | 1810 | 103 | 250 | 3.20 | 3.00 | 0.20 | | | <1 | 9.0 | 24 | 807 | |
| | May-08 | 7.90 | 4200 | 150 | 1740 | 100 | 260 | 2.30 | 1.40 | 0.90 | | | <1 | 7.0 | 26 | 879 | |
| | Oct-08 | 8.00 | 4170 | 150 | 1660 | 102 | 260 | 2.60 | 2.40 | 0.20 | | | <1 | 9.0 | 26 | 804 | |
| | Apr-09 | 7.40 | 4320 | 190 | 1800 | 119 | 240 | 4.60 | 3.10 | 1.50 | | | <1 | <2 | 27 | 819 | |
| | Sep-09 | 7.60 | 4300 | 170 | 1900 | 111 | 250 | 4.00 | 3.10 | 0.90 | | | <1 | <2 | 26 | 755 | |
| | Sep-10 | 8.00 | 4310 | 180 | 1700 | 105 | 260 | 3.50 | 2.70 | 0.80 | | | <1 | 8.0 | 25 | 819 | |
| | Apr-10 | 8.00 | 4340 | 200 | 1900 | 110 | 270 | 4.00 | 2.80 | 1.20 | | | 1.0 | 8.0 | 26 | 906 | |
| | Apr-11 | 7.95 | 4460 | 190 | 1700 | 106 | 290 | 5.00 | 3.00 | 2.00 | | | <1 | <2 | 32 | 893 | |
| | Sep-11 | 7.99 | 4570 | 210 | 1700 | 106 | 280 | 6.00 | 3.50 | 2.50 | | | <1 | <2 | 28 | 896 | |
| | Apr-12 | 7.76 | 4200 | 150 | 1600 | 100 | 240 | 2.20 | 1.90 | 0.30 | | | <1 | 10.0 | 24 | 838 | |
| | Sep-12 | 7.60 | 4200 | 150 | 1600 | 110 | 250 | 3.20 | 2.40 | 0.80 | | | <1 | 11.0 | 33 | 822 | |
| | Apr-13 | 7.95 | 4500 | 210 | 1600 | 110 | 260 | 4.00 | 3.20 | 0.80 | | | <1 | <2 | 27 | 890 | |
| | Sep-13 | 7.88 | 4200 | 140 | 1800 | 100 | 260 | 2.90 | 2.60 | 0.30 | | | <1 | <2 | 26 | 880 | |
| | Sep-14 | 7.87 | 4600 | 140 | 1800 | 110 | 280 | 3.30 | 3.10 | 0.20 | | | <1 | 15.0 | 26 | 920 | |
| | Sep-15 | 7.56 | 4200 | 150 | 1800 | 100 | 260 | 2.60 | 2.40 | 0.20 | | | <1 | 10.0 | 27 | 880 | |
| | Sep-16 | 7.95 | 4600 | 230 | 1800 | 110 | 310 | 3.10 | 3.10 | <0.05 | 0.74 | 0.38 | <1.0 | 6.0 | | | |
| | Apr-17 | 8.01 | 4600 | 210 | 1800 | 120 | 280 | 3.00 | 2.80 | 0.20 | 0.91 | 0.29 | <1 | <2.0 | 30 | 890 | <0.50 |
| | Sep-17 | 7.79 | 4300 | 180 | 1800 | 110 | 300 | 1.70 | 1.30 | 0.40 | 2.47 | 0.11 | <10 | 5.0 | 30 | 900 | |
| | May-18 | 7.91 | 4400 | 210 | 1600 | 110 | 300 | 2.40 | 2.40 | <0.05 | 1.09 | 0.36 | <1 | 8.0 | 27 | 880 | |
| | Sep-18 | 7.91 | 4900 | 330 | 1800 | 110 | 300 | 3.30 | 3.20 | 0.10 | | | <1 | 14.0 | 29 | 980 | |
| | Apr-19 | 7.89 | 4400 | 210 | 1700 | 100 | 260 | 0.44 | 0.64 | <0.05 | 2.39 | 0.09 | <1 | 5.0 | 24 | 850 | <0.5 |
| | Sep-19 | 7.91 | 4400 | 220 | 1700 | 110 | 270 | 1.50 | 1.50 | <0.05 | 1.91 | 0.14 | <1 | 10.0 | 26 | 860 | <0.1 |
| | Apr-20 | 7.70 | 4700 | 290 | 1700 | 120 | 300 | 1.50 | 1.50 | <0.05 | | | <1 | 11.0 | 29 | 970 | |
| | Sep-20 | 7.75 | 4500 | 290 | 1700 | 110 | 290 | 2.00 | 2.00 | <0.05 | | | <1 | 9.0 | 30 | 870 | |
| | Apr-21 | 7.71 | 4400 | 260 | 1700 | 110 | 280 | 0.71 | 0.60 | 0.11 | 3.33 | 0.14 | <1 | 5.0 | 26 | 890 | <0.5 |
| | Sep-21 | 7.79 | 4500 | 310 | 1800 | 120 | 290 | 1.30 | 1.50 | <0.05 | | | <1 | 11.0 | 27 | 930 | |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **5-III** | Sep-03 | 7.87 | 4675 | 42 | 2950 | 79 | 1706 | 3.48 | 2.84 | 0.64 | | | <1.0 | <0.5 | 31 | 600 | |
| **BP** | Jan-04 | 7.73 | 4913 | 49 | 3100 | 80 | 1693 | 3.36 | 3.21 | 0.15 | | | <1.0 | <0.5 | 35 | 682 | |
| | Oct-04 | 7.88 | 4520 | 51 | 3380 | 63 | 1920 | 22.70 | 3.07 | 19.63 | | | <1.0 | <4 | 36 | 738 | |
| | Oct-05 | 7.82 | 4540 | 51 | 3100 | 72 | 1480 | 7.00 | 2.85 | 4.15 | | | <1.0 | <3 | 33 | 745 | |
| | Apr-06 | 7.80 | 5280 | 54 | 3060 | 67 | 1900 | 2.60 | 2.22 | 0.38 | | | <1.0 | <2 | 39 | 770 | |
| | Sep-06 | 7.70 | 5270 | 57 | 3220 | 64 | 1900 | 7.00 | 2.63 | 4.37 | | | <1.0 | <2 | 38 | 760 | |
| | May-07 | 7.60 | 5380 | 55 | 2830 | 58 | 100 * | 2.00 | 0.71 | 1.29 | | | <1 | 3.0 | * 1.5 | 10 * | |
| | Sep-07 | 7.70 | 5370 | 57 | 3410 | 62 | 1900 | 8.00 | 2.25 | 5.75 | | | <1 | <2 | 35 | 716 | |
| | May-08 | 7.70 | 5370 | 51 | 3290 | 59 | 1900 | 3.00 | 0.50 | 2.50 | | | <1 | <2 | 26 | 776 | |
| | Oct-08 | 7.80 | 5350 | 51 | 3080 | 60 | 1900 | 5.00 | 1.90 | 3.10 | | | <1 | 5.0 | 37 | 711 | |
| | Apr-09 | 6.70 | 5390 | 52 | 3100 | 66 | 1700 | 3.40 | 1.50 | 1.90 | | | <1 | <2 | 35 | 671 | |
| | Sep-09 | 7.30 | 5360 | 50 | 3400 | 67 | 1700 | 31.00 | 2.00 | 29.00 | | | <1 | <2 | 32 | 625 | |
| | Sep-10 | 7.70 | 5400 | 45 | 3200 | 60 | 1800 | 4.00 | 1.60 | 2.40 | | | <1 | 3.0 | 32 | 683 | |
| | Apr-10 | 7.70 | 5420 | 45 | 3400 | 61 | 1900 | 4.00 | 1.10 | 2.90 | | | 1.0 | <2 | 30 | 738 | |
| | Apr-11 | 7.54 | 5430 | 45 | 3100 | 60 | 2000 | 5.00 | 1.10 | 3.90 | | | <1 | <2 | 35 | 696 | |
| | Sep-11 | 7.62 | 5480 | 44 | 3100 | 62 | 1800 | 4.00 | 1.50 | 2.50 | | | 1.0 | <2 | 37 | 676 | |
| | Apr-12 | 7.54 | 5400 | 44 | 3100 | 58 | 1800 | <0.5 | 0.16 | <0.34 | | | <1 | <2.0 | 35 | 683 | |
| | Sep-12 | 7.05 | 5300 | 42 | 3100 | 59 | 1900 | 2.50 | 1.50 | 1.00 | | | <1 | 2.0 | 37 | 683 | |
| | Apr-13 | 7.58 | 5400 | 44 | 3100 | 59 | 1900 | 2.70 | 1.50 | 1.20 | | | <1 | <2 | 31 | 660 | |
| | Sep-13 | 7.67 | 5300 | 45 | 3200 | 62 | 1900 | 2.00 | 1.30 | 0.70 | | | <1 | <2 | 34 | 710 | |
| | Sep-14 | 7.60 | 5400 | 45 | 3300 | 64 | 1900 | 3.80 | 1.30 | 2.50 | | | <1 | 2.0 | 34 | 700 | |
| | Sep-15 | 7.14 | 5300 | 46 | 3300 | 65 | 2000 | 1.50 | 1.20 | 0.30 | | | <1 | 4.0 | 40 | 690 | |
| | Sep-16 | 7.53 | 5300 | 46 | 3200 | 66 | 2000 | 1.60 | 1.30 | 0.30 | 1.15 | 0.69 | <1 | 4.0 | | | |
| | Apr-17 | 7.66 | 5500 | 47 | 3200 | 64 | 1900 | 1.00 | 0.89 | 0.11 | 1.69 | 0.40 | <1 | 4.0 | 39 | 680 | <0.10 |
| | Sep-17 | 7.69 | 5300 | 47 | 3300 | 66 | 2000 | 1.50 | 1.20 | 0.30 | 1.36 | 0.23 | <10 | <2.0 | 38 | 720 | |
| | May-18 | 7.57 | 5400 | 45 | 3100 | 61 | 2100 | 1.50 | 1.10 | 0.40 | 0.95 | 0.25 | <1 | <2 | 35 | 690 | |
| | Sep-18 | 7.50 | 5500 | 47 | 3300 | 64 | 2000 | 1.10 | 0.62 | 0.48 | | | <1 | <2 | 34 | 690 | |
| | Apr-19 | 7.73 | 5400 | 44 | 3200 | 65 | 2000 | 1.20 | 0.59 | 0.61 | 2.03 | 0.06 | <1 | 5.0 | 36 | 670 | <0.1 |
| | Sep-19 | 7.73 | 5400 | 46 | 3200 | 63 | 2000 | 1.50 | 0.91 | 0.59 | 1.22 | 0.03 | <1 | 6.0 | 35 | 660 | <0.1 |
| | Apr-20 | 7.50 | 5500 | 45 | 3200 | 63 | 2000 | 1.10 | 0.72 | 0.38 | | | <1 | 10.0 | 40 | 710 | |
| | Sep-20 | 7.55 | 5300 | 47 | 3100 | 66 | 1900 | 1.70 | 1.30 | 0.40 | | | <1 | 8.0 | 39 | 670 | |
| | Apr-21 | 7.62 | 5300 | 49 | 3500 | 65 | 1900 | 1.00 | 0.67 | 0.33 | 1.84 | 0.06 | <1 | 6.0 | 34 | 680 | <0.1 |
| | Sep-21 | 7.66 | 5200 | 47 | 3300 | 67 | 2000 | 1.60 | 1.10 | 0.50 | | | <1 | 11.0 | 34 | 680 | |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.
4) BP - Indicates Bayview Park reference borehole location

**TABLE C-2**
**GROUNDWATER GENERAL CHEMISTRY RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | DATE | pH | SPEC. COND. | CHLORIDE | SULPHATE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN (as N) | AMMONIA (as N) | ORGANIC NITROGEN | NITRATE (as N) | NITRITE (as N) | PHENOLICS | BOD | POTASSIUM | SODIUM | IRON |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L |
| **ODWQS** | | 6.5-8.5 | | 250 | 500 | 30-500 | 80-100 | | | 0.15 | 10.0 | 1.0 | | | | 200 | 0.3 |
| **5-IV** | Sep-03 | 7.71 | 7341 | 221 | 5810 | 759 | 5844 | 0.42 | 0.29 | 0.13 | | | <1.0 | <0.5 | 30 | 420 | |
| **BP** | Jan-04 | 7.29 | 8058 | 301 | 6060 | 753 | 6102 | 0.49 | 0.20 | 0.29 | | | <5.0 | <0.5 | 24 | 534 | |
| | Oct-04 | 7.77 | 7510 | 328 | 6580 | 804 | 6850 | 2.80 | 0.28 | 2.52 | | | <1.0 | <4 | 23 | 641 | |
| | Oct-05 | 7.87 | 7120 | 344 | 6150 | 809 | 6470 | 9.00 | 0.23 | 8.77 | | <0.1 | <1.0 | <2 | 25 | 700 | |
| | Apr-06 | 7.80 | 8350 | 332 | 3630 | 789 | 7000 | 0.50 | 0.15 | 0.35 | | | <1.0 | <2 | 20 | 590 | |
| | Sep-06 | 7.90 | 9040 | 325 | 5730 | 846 | 6400 | 3.00 | 0.14 | 2.86 | | | <1.0 | <2 | 21 | 550 | |
| | May-07 | 8.00 | 9100 | 340 | 5430 | 752 | 6600 | 1.00 | 0.08 | 0.92 | | | <1 | 2.0 | 19 | 560 | |
| | Sep-07 | 7.70 | 9030 | 330 | 6010 | 761 | 5900 | 1.10 | 0.12 | 0.98 | | | <1 | <2 | 19 | 482 | |
| | May-08 | 7.70 | 9070 | 320 | 6590 | 725 | 6600 | 6.00 | 0.07 | 5.93 | | | <1 | <2 | 21 | 518 | |
| | Oct-08 | 8.00 | 8990 | 340 | 5910 | 756 | 6200 | 2.00 | <0.05 | 1.98 | | | <1 | <2 | 16 | 500 | |
| | Apr-09 | 7.50 | 8950 | 330 | 6200 | 715 | 5800 | 3.00 | 0.09 | 2.91 | | | <1 | <2 | 17 | 480 | |
| | Sep-09 | 7.60 | 8950 | 320 | 6400 | 760 | 5700 | 1.00 | 0.06 | 0.94 | | | <1 | <2 | 18 | 442 | |
| | Sep-10 | 7.60 | 9020 | 330 | 6000 | 728 | 6400 | 1.00 | <0.05 | 0.98 | | | <1 | <2 | 17 | 499 | |
| | Apr-10 | 7.70 | 9040 | 340 | 6400 | 711 | 6400 | 3.00 | <0.05 | 2.98 | | | <1 | <2 | | 533 | |
| | Apr-11 | 7.59 | 9090 | 340 | 5900 | 704 | 6200 | <5.00 | 0.05 | <4.95 | | | <1 | <2 | 16 | 487 | |
| | Sep-11 | 7.36 | 9190 | 330 | 5900 | 722 | 6200 | 5.00 | <0.05 | 4.98 | | | <1 | <2 | 17 | 490 | |
| | Apr-12 | 7.53 | 8800 | 310 | 5800 | 740 | 6400 | 1.50 | <0.05 | 1.48 | | | <1 | <2.0 | 18 | 491 | |
| | Sep-12 | 7.34 | 8900 | 320 | 5800 | 740 | 6000 | 1.00 | <0.05 | 0.98 | | | <1 | <2.0 | 27 | 476 | |
| | Apr-13 | 7.64 | 8800 | 330 | 5500 | 710 | 6200 | 1.10 | 0.06 | 1.04 | | | <1 | <2 | 17 | 500 | |
| | Sep-13 | 7.58 | 8900 | 350 | 6200 | 730 | 6300 | 0.71 | <0.05 | 0.66 | | | <1 | <2 | 18 | 510 | |
| | Sep-14 | 7.55 | 9200 | 350 | 5500 | 720 | 6400 | 0.74 | <0.05 | 0.69 | | | <1 | <2 | 17 | 500 | |
| | Sep-15 | 7.38 | 9000 | 390 | 6200 | 720 | 6300 | <0.50 | <0.05 | 0.49 | | | <1 | <2 | 19 | 510 | |
| | Sep-16 | 7.51 | 9000 | 390 | 6100 | 740 | 6700 | <0.10 | <0.05 | <0.05 | <0.1 | <0.01 | <1 | <2 | | | |
| | Apr-17 | 7.65 | 9300 | 390 | 6200 | 720 | 6300 | 0.11 | <0.050 | 0.09 | <0.1 | <0.01 | <1 | <2.0 | 17 | 560 | <0.10 |
| | Sep-17 | 7.68 | 8900 | 390 | 6100 | 750 | 6500 | 0.34 | <0.050 | 0.32 | <0.1 | <0.01 | <10 | <2.0 | 20 | 530 | |
| | May-18 | 7.75 | 9100 | 400 | 5600 | 720 | 6000 | 0.12 | 0.13 | <0.05 | <0.1 | <0.01 | <1 | <2 | 17 | 500 | |
| | Sep-18 | 7.61 | 9100 | 410 | 6000 | 760 | 6400 | 0.40 | 0.06 | 0.34 | | | <1 | <2 | 19 | 520 | |
| | Apr-19 | 7.75 | 9100 | 430 | 5900 | 700 | 6300 | <0.10 | <0.050 | <0.10 | <0.10 | <0.010 | <1 | <2 | 19 | 570 | <0.1 |
| | Sep-19 | 7.58 | 9000 | 420 | 5800 | 730 | 6500 | <0.10 | 0.09 | <0.05 | <0.10 | <0.010 | <1 | <2 | 18 | 500 | <0.1 |
| | Apr-20 | 7.14 | 9200 | 430 | 5900 | 720 | 6200 | 0.10 | <0.050 | 0.08 | | | <1 | <2 | 20 | 510 | |
| | Sep-20 | 7.53 | 8900 | 440 | 5700 | 740 | 6300 | 0.25 | <0.050 | 0.23 | | | <1 | <2 | 21 | 500 | |
| | Apr-21 | 7.50 | 9100 | 460 | 6200 | 720 | 6500 | 0.10 | 0.11 | <0.05 | <0.10 | <0.010 | <1 | <2 | 17 | 500 | <0.1 |
| | Sep-21 | 7.38 | 8600 | 460 | 5900 | 740 | 6400 | 0.69 | <0.050 | 0.69 | | | <1 | <2 | 19 | 520 | |

NOTES: 1) * - Indicates associated value is suspected to be anomalous.
2) ODWQS - Ontario Drinking Water Quality Standards (2006)
3) Blank indicates parameter not analysed.
4) BP - Indicates Bayview Park reference borehole location

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 14-I | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Oct-96 | Sep-98 | Sep-99 | Sep-00 | Sep-01 | Sep-02 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | <0.1 |
| **1,1,1-Trichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 2.8 | <0.6 | 1.6 | <0.6 | <0.6 | 0.4 | 0.3 | <0.2 | 0.3 | <0.2 | 0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.1 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.1 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <5.4 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | 4.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | <5.0 |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | <0.2 |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Toluene** | **24** | * <0.5 | <0.5 | <0.5 | 0.4 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | 0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 14-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | 0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <15.0 | <10.0 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <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 |
| **Chloromethane** | | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | <0.5 | | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5.0 | <15.0 | <5.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5.0 | <10.0 | <5.0 | <5.0 | <5 | | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 14-I | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 14-II | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Oct-96 | Sep-98 | Sep-99 | Sep-00 | Sep-01 | Sep-02 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | <0.1 |
| **1,1,1-Trichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | 1.6 | 2.4 | <1.0 | 3.6 | 5.4 | 5.2 | 6.5 | 4.8 | 4.1 | 4.7 | 4.2 | 3.5 | 0.2 | 3.2 | <0.2 | 3.0 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | 0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.4 | <0.2 | 0.6 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.2 | <0.2 | 0.6 | <0.2 | 0.4 | 0.4 | <0.1 | 0.3 | <0.1 | 0.4 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | 0.3 | 0.4 | <0.2 | 0.7 | <0.2 | 1.3 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 3.5 | <2.3 | <2.3 | <2.3 | <2.3 | 2.6 | 2.7 | <0.5 | 1.7 | <0.5 | 2.0 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.8 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <6.7 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | * <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | | | | 1.3 | 1.5 | 0.3 | 1.5 | <0.2 | 2.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | 4.0 | <2.0 | <2.0 | 5.2 | 10.9 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | 2.5 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | 1.8 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | 7.6 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | <5.0 |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | <0.2 |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | 5.7 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Toluene** | **24** | * <0.5 | <0.5 | * <0.5 | 5.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.1 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.1 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | 1.7 | 0.5 | <0.5 | *0.3 | <0.2 | 0.4 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 14-II | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **1,1-Dichloroethane** | | 2.8 | 2.7 | 2.0 | 2.0 | 1.5 | 1.6 | 1.8 | 1.3 | 1.6 | 0.9 | 1.6 | 1.3 | 1.2 | 1.3 | 1.4 | 1.5 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |
| **1,2-Dibromoethane** | | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.5 | | | | <0.20 | <0.50 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloropropane** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **1,4-Dichlorobenzene** | **1** | 0.6 | 0.8 | 0.4 | 0.9 | 0.9 | 1.1 | 0.9 | 1.2 | 1.3 | 1.1 | 1.4 | 1.6 | 1.5 | 2.2 | 2.6 | 2.2 |
| **Acetone** | | <10.0 | <15.0 | <10.0 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <25 | <10 | <20 | <10 | <10 | <25 |
| **Benzene** | **5 **** | 0.3 | <0.5 | 0.3 | 0.3 | 0.4 | 0.4 | 0.5 | 0.4 | 0.6 | 0.5 | 0.7 | 0.69 | 0.62 | 0.79 | 0.89 | 0.99 |
| **Bromodichloromethane** | | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **Bromomethane** | | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <1.0 | <0.50 | <0.50 | <1.3 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |
| **Chlorobenzene** | **30** | 1.1 | 1.8 | 1.3 | 2.2 | 2.5 | 3.0 | 4.4 | 3.7 | 4.8 | 4.1 | 5.3 | 6 | 5.4 | 6.9 | 7.5 | 6.5 |
| **Chloroethane** | | 2.0 | <1.0 | | | | 1.4 | 1.8 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |
| **Chloromethane** | | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | 2.5 | 2.8 | 2.5 | 3.1 | 3.1 | 3.5 | 4.7 | 4.1 | 4.7 | 4.1 | 5.6 | 5.6 | 5.7 | 5.8 | 6.5 | 6.7 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **Dichlorodifluoromethane** | | | | | | | | | | <0.5 | | <1.3 | <0.5 | <1.0 | <0.50 | <0.50 | <1.3 |
| **Dichloromethane** | **50 **** | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <1.0 | <0.50 | <0.50 | <1.3 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.2 | <0.10 | <0.10 | <0.25 |
| **Hexane** | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <1.0 | <0.50 | <0.50 | <1.3 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.2 | <0.10 | <0.10 | <0.25 |
| **Methyl ethyl ketone** | | <5.0 | <15.0 | <5.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <13 | <5 | <10 | <5.0 | <5.0 | <13 |
| **Methyl Isobutyl Ketone** | | <5.0 | <10.0 | <5.0 | <5.0 | <5 | | <5 | <5 | <5 | <5.0 | <13 | <5 | <10 | <5.0 | <5.0 | <13 |
| **Methyl t-Butyl Ether** | | *0.1 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **o-Xylene** | **300 ***** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.2 | <0.10 | <0.10 | <0.25 |
| **Styrene** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.4 | <0.20 | <0.20 | <0.50 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |
| **Toluene** | **24** | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **trans-1,2-Dichloroethylene** | | 0.1 | <1.0 | <0.1 | <0.1 | <0.1 | 0.1 | 0.1 | <0.1 | 0.2 | 0.1 | <0.25 | 0.23 | <0.20 | 0.26 | 0.32 | 0.33 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **Trichloroethylene** | **5 **** | 0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | 0.15 | <0.20 | 0.23 | 0.28 | 0.27 |
| **Trichlorofluoromethane** | | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <0.5 | <0.2 | <0.40 | <0.20 | <0.20 | <0.50 |
| **Vinyl Chloride** | **2 **** | 0.3 | <0.2 | 0.5 | 0.9 | 0.7 | 1.0 | 1.7 | <2 | 2.5 | 1.5 | 2.6 | 3.5 | 2.6 | 3.4 | 3.9 | 3.8 |
| **Xylenes - total** | | | | | | | | | | | | <0.25 | <0.1 | <0.20 | <0.10 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 14-II | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | 1.5 | 1.7 | 0.99 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | 0.16 | 0.18 | 0.15 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | 4.5 | 3.8 | 4.9 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | 1.2 | 1.1 | 0.72 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | 9.2 | 7.3 | 8.7 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | 7.9 | 9.7 | 6.9 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | 0.43 | 0.43 | 0.31 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | 0.27 | 0.19 | 0.12 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | 5.1 | 4.5 | 3.6 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 15-I | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Dec-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 2.5 | <0.6 | 0.8 | <0.6 | <0.6 | 0.3 | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | 0.3 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | 0.3 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | 1.0 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | <0.5 | <0.5 | 0.6 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 15-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | 0.1 | 0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.4 | <0.2 | <0.2 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | 0.19 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | <1 | | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <10 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <10 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 14.0 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.4 | | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 15-I | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | 0.44 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | 0.17 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | 0.34 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | 0.17 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 15-II | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Dec-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | 0.6 | <0.5 | <0.5 | 0.9 | 0.5 | <0.2 | 0.4 | 1.3 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <0.2 | 3.6 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | *0.4 | <0.5 |
| **Chloroform** | | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | 0.7 | 0.3 | <0.2 | 0.5 | 1.8 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | 2.1 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | 1.0 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | 4.3 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | 2.3 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | <0.5 | <0.5 | * <0.5 | 3.2 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | 0.6 | <0.3 | <0.3 | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 15-II | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | 1.4 | 1.7 | 0.9 | 0.2 | 0.9 | 0.5 | 0.9 | 0.6 | 0.2 | 0.2 | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | | <0.4 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | 0.5 | <0.1 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | 0.1 | <0.5 | <0.1 | <0.2 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | 0.1 | 0.3 | 0.6 | <0.1 | <0.4 | 0.2 | 0.5 | 0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <15.0 | <10 | <20.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | 0.4 | 0.3 | <0.5 | 0.1 | 0.4 | 0.2 | 0.5 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | 0.2 | 0.6 | <0.5 | <0.1 | 1.0 | 0.5 | 1.5 | 1.0 | 0.2 | 0.2 | 0.1 | 0.3 | 0.5 | 0.1 | <0.10 | <0.10 |
| **Chloroethane** | | 0.7 | 1.3 | <1.0 | | | | 0.5 | 0.3 | | | | | | | | |
| **Chloroform** | | <0.1 | <0.2 | <0.2 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | 2.1 | 2.5 | <1.0 | 0.3 | 1.5 | 0.9 | 1.6 | 0.8 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.1 | 0.1 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | <0.5 | | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | nd | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | nd | <0.5 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | nd | 1.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | nd | <15.0 | <5 | <10.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5.0 | nd | <10.0 | <5 | <10.0 | <5 | | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | *0.1 | <2.0 | <0.2 | <0.4 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | nd | 0.7 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Styrene** | | <0.1 | nd | 0.5 | <0.1 | <0.2 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | nd | 1.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | 0.2 | nd | 1.0 | <0.2 | 10.0 | <0.2 | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | 0.2 | 0.2 | <1.0 | <0.1 | <0.2 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | nd | <0.14 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | 0.1 | 0.1 | 0.9 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | nd | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | 0.3 | 0.5 | <0.2 | <0.2 | <0.4 | <0.2 | 0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 15-II | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <1.0 | <4.0 | <0.20 | <0.50 |
| 1,1,1-Trichloroethane | | <0.50 | <2.0 | <0.10 | <0.25 |
| 1,1,2,2-Tetrachloroethane | | <1.0 | <4.0 | <0.20 | <0.50 |
| 1,1,2-Trichloroethane | | <1.0 | <4.0 | <0.20 | <0.50 |
| 1,1-Dichloroethane | | <0.50 | <2.0 | <0.10 | <0.25 |
| 1,1-Dichloroethylene | 14 ** | <0.50 | <2.0 | <0.10 | <0.25 |
| 1,2-Dibromoethane | | <1.0 | <4.0 | <0.20 | <0.50 |
| 1,2-Dichlorobenzene | 3 | <1.0 | <4.0 | <0.20 | <0.50 |
| 1,2-Dichloroethane | 5 ** | <1.0 | <4.0 | <0.20 | <0.50 |
| 1,2-Dichloropropane | | <0.50 | <2.0 | <0.10 | <0.25 |
| 1,3-Dichlorobenzene | | <1.0 | <4.0 | <0.20 | <0.50 |
| 1,4-Dichlorobenzene | 1 | <1.0 | <4.0 | <0.20 | <0.50 |
| Acetone | | <50 | <200 | <10 | <25 |
| Benzene | 5 ** | <0.50 | <2.0 | <0.10 | <0.25 |
| Bromodichloromethane | | <0.50 | <2.0 | <0.10 | <0.25 |
| Bromoform | | <1.0 | <4.0 | <0.20 | <0.50 |
| Bromomethane | | <2.5 | <10 | <0.50 | <1.3 |
| Carbon Tetrachloride | 5 ** | <0.50 | <2.0 | <0.10 | <0.25 |
| Chlorobenzene | 30 | <0.50 | <2.0 | 0.2 | <0.25 |
| Chloroethane | | | | | |
| Chloroform | | <0.50 | <2.0 | <0.10 | <0.25 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.50 | <2.0 | 0.1 | <0.25 |
| Cis-1,3-Dichloropropene | | <1.0 | <4.0 | <0.20 | <0.50 |
| Dibromochloromethane | | <1.0 | <4.0 | <0.20 | <0.50 |
| Dichlorodifluoromethane | | <2.5 | <10 | <0.50 | <1.3 |
| Dichloromethane | 50 ** | <2.5 | <10 | <0.50 | <1.3 |
| Ethyl benzene | 2.4 | <0.50 | <2.0 | <0.10 | <0.25 |
| Hexane | | <2.5 | <10 | <0.50 | <1.3 |
| m/p-Xylenes | 300 *** | <0.50 | <2.0 | <0.10 | <0.25 |
| Methyl ethyl ketone | | <25 | <100 | <5.0 | <13 |
| Methyl Isobutyl Ketone | | <25 | <100 | <5.0 | <13 |
| Methyl t-Butyl Ether | | <1.0 | <4.0 | <0.20 | <0.50 |
| o-Xylene | 300 *** | <0.50 | <2.0 | <0.10 | <0.25 |
| Styrene | | <1.0 | <4.0 | <0.20 | <0.50 |
| Tetrachloroethylene | 30 ** | <0.50 | <2.0 | <0.10 | <0.25 |
| Toluene | 24 | <1.0 | <4.0 | <0.20 | <0.50 |
| trans-1,2-Dichloroethylene | | <0.50 | <2.0 | <0.10 | <0.25 |
| trans-1,3-Dichloropropene | | <1.0 | <4.0 | <0.20 | <0.50 |
| Trichloroethylene | 5 ** | <0.50 | <2.0 | <0.10 | <0.25 |
| Trichlorofluoromethane | | <1.0 | <4.0 | <0.20 | <0.50 |
| Vinyl Chloride | 2 ** | <1.0 | <4.0 | <0.20 | <0.50 |
| Xylenes - total | | <0.50 | <2.0 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 15.7 | 1.3 | 2.6 | 2.0 | 2.7 | 8.4 | 7.6 | 15.0 | 7.5 | 14.0 | 2.5 | 19.5 | 8.0 | 18.2 | 19.6 | 16.1 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | 0.6 | 0.2 | 0.4 | 0.5 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 2.1 | <1.0 | <1.0 | <1.0 | <1.0 | 1.5 | <0.4 | 2.2 | <0.4 | 2.1 | <0.2 | <0.2 | <0.2 | 0.2 | 0.2 | <0.2 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.5 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 |
| **Benzene** | **5 **** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | <1.0 | <1.0 | 2.6 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | 1.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | 0.5 | 3.6 | 2.1 | 2.9 | 1.1 | 3.6 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Mar-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,1-Trichloroethane** | | 23.4 | 10.4 | 19.0 | 34.1 | 21.0 | 12.0 | 17.0 | 23.0 | 9.5 | 15.0 | 9.4 | 7.8 | 5.6 | 13 | 4 | 10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.8 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.8 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1-Dichloroethane** | | 0.4 | <0.4 | 0.5 | 0.8 | 0.5 | 0.3 | 0.2 | 0.3 | 0.4 | 0.5 | <0.5 | <0.5 | 0.16 | 0.23 | <0.10 | <0.25 |
| **1,1-Dichloroethylene** | **14 **** | 0.2 | <0.4 | <0.5 | 0.2 | 0.6 | 0.1 | 0.1 | 0.1 | <0.1 | 0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,2-Dibromoethane** | | <0.2 | <0.8 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <1.0 | <1 | | | | <0.50 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.4 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloropropane** | | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.4 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.4 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Acetone** | | <10.0 | <40.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <50 | <50 | <10 | <10 | <10 | <25 |
| **Benzene** | **5 **** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromodichloromethane** | | <0.1 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromoform** | | <0.2 | <0.8 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Bromomethane** | | <0.5 | <2.0 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | <2.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Chlorobenzene** | **30** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloroethane** | | <0.2 | <0.8 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.1 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloromethane** | | <0.5 | <2.0 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.4 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.8 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dibromochloromethane** | | <0.2 | <0.8 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dichlorodifluoromethane** | | | | | | | | | | | <0.5 | | <2.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Dichloromethane** | **50 **** | <1.0 | <2.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | <2.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Hexane** | | | | | | | | | | | <0.5 | <0.5 | <2.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Methyl ethyl ketone** | | 5.7 | <20.0 | <15.0 | 5.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <25 | <25 | <5 | <5.0 | <5.0 | <13 |
| **Methyl Isobutyl Ketone** | | <5.0 | <20.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <25 | <25 | <5 | <5.0 | <5.0 | <13 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.8 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **o-Xylene** | **300 ***** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Styrene** | | 0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.2 | <0.20 | <0.50 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Toluene** | **24** | 3.9 | <0.8 | <0.5 | 3.5 | 1.4 | <0.2 | 0.4 | <0.2 | 0.3 | 0.5 | <1.0 | <1 | 0.59 | <0.20 | 0.24 | <0.50 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.4 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.8 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Trichlorofluoromethane** | | <0.2 | <0.8 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.8 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Xylenes - total** | | | | | | | | | | | | | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-I | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <1.0 | <0.40 | <1.0 | <0.50 |
| 1,1,1-Trichloroethane | | 11 | 10 | 10 | 11 |
| 1,1,2,2-Tetrachloroethane | | <1.0 | <0.40 | <1.0 | <0.50 |
| 1,1,2-Trichloroethane | | <1.0 | <0.40 | <1.0 | <0.50 |
| 1,1-Dichloroethane | | <0.50 | <0.20 | <0.50 | <0.25 |
| 1,1-Dichloroethylene | 14 ** | <0.50 | <0.20 | <0.50 | <0.25 |
| 1,2-Dibromoethane | | <1.0 | <0.40 | <1.0 | <0.50 |
| 1,2-Dichlorobenzene | 3 | <1.0 | <0.40 | <1.0 | <0.50 |
| 1,2-Dichloroethane | 5 ** | <1.0 | <0.40 | <1.0 | <0.50 |
| 1,2-Dichloropropane | | <0.50 | <0.20 | <0.50 | <0.25 |
| 1,3-Dichlorobenzene | | <1.0 | <0.40 | <1.0 | <0.50 |
| 1,4-Dichlorobenzene | 1 | <1.0 | <0.40 | <1.0 | <0.50 |
| Acetone | | <50 | <20 | <50 | <25 |
| Benzene | 5 ** | <0.50 | <0.20 | <0.50 | <0.25 |
| Bromodichloromethane | | <0.50 | <0.20 | <0.50 | <0.25 |
| Bromoform | | <1.0 | <0.40 | <1.0 | <0.50 |
| Bromomethane | | <2.5 | <1.0 | <2.5 | <1.3 |
| Carbon Tetrachloride | 5 ** | <0.50 | <0.20 | <0.50 | <0.25 |
| Chlorobenzene | 30 | <0.50 | <0.20 | <0.50 | <0.25 |
| Chloroethane | | | | | |
| Chloroform | | <0.50 | <0.20 | <0.50 | <0.25 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.50 | <0.20 | <0.50 | <0.25 |
| Cis-1,3-Dichloropropene | | <1.0 | <0.40 | <1.0 | <0.50 |
| Dibromochloromethane | | <1.0 | <0.40 | <1.0 | <0.50 |
| Dichlorodifluoromethane | | <2.5 | <1.0 | <2.5 | <1.3 |
| Dichloromethane | 50 ** | <2.5 | <1.0 | <2.5 | <1.3 |
| Ethyl benzene | 2.4 | <0.50 | <0.20 | <0.50 | <0.25 |
| Hexane | | <2.5 | <1.0 | <2.5 | <1.3 |
| m/p-Xylenes | 300 *** | <0.50 | <0.20 | <0.50 | <0.25 |
| Methyl ethyl ketone | | <25 | <10 | <25 | <13 |
| Methyl Isobutyl Ketone | | <25 | <10 | <25 | <13 |
| Methyl t-Butyl Ether | | <1.0 | <0.40 | <1.0 | <0.50 |
| o-Xylene | 300 *** | <0.50 | <0.20 | <0.50 | <0.25 |
| Styrene | | <1.0 | <0.40 | <1.0 | <0.50 |
| Tetrachloroethylene | 30 ** | <0.50 | <0.20 | <0.50 | <0.25 |
| Toluene | 24 | <1.0 | <0.40 | <1.0 | <0.50 |
| trans-1,2-Dichloroethylene | | <0.50 | <0.20 | <0.50 | <0.25 |
| trans-1,3-Dichloropropene | | <1.0 | <0.40 | <1.0 | <0.50 |
| Trichloroethylene | 5 ** | <0.50 | <0.20 | <0.50 | <0.25 |
| Trichlorofluoromethane | | <1.0 | <0.40 | <1.0 | <0.50 |
| Vinyl Chloride | 2 ** | <1.0 | <0.40 | <1.0 | <0.50 |
| Xylenes - total | | <0.50 | <0.20 | <0.50 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-II | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 4.2 | 2.7 | 3.1 | <1.0 | 3.7 | 3.2 | 3.8 | 2.7 | 17.0 | 2.9 | 10.2 | 9.9 | 5.5 | 8.9 | 6.5 | 5.8 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | 0.2 | <0.2 | * 0.1 | 0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.6 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 |
| **Benzene** | **5 **** | * <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | 0.7 | <0.5 | 0.9 | * <0.5 | 1.3 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | 0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | 5.3 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-II | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Mar-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,1-Trichloroethane** | | 7.7 | 8.6 | 5.9 | 8.0 | 9.5 | 8.7 | 6.2 | 5.9 | 3.1 | 4.7 | 3.4 | 5.7 | 3.8 | 6.2 | 0.96 | 1.2 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1-Dichloroethane** | | 0.2 | 0.1 | <0.4 | 0.3 | 0.2 | 0.1 | <0.1 | 0.1 | 0.5 | 0.5 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <0.1 | 0.3 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <1.0 | <1 | | | | <0.50 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Acetone** | | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <20 | <10 | <50 | <50 | <10 | <10 | <10 | <25 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2 | <0.5 | <2.5 | <2.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dichlorodifluoromethane** | | | | | | | | | | | <0.5 | | <2.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Dichloromethane** | **50 **** | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <2.5 | <2.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Hexane** | | | | | | | | | | | <0.5 | <0.5 | <2.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <10 | <5 | <25 | <25 | <5 | <5.0 | <5.0 | <13 |
| **Methyl Isobutyl Ketone** | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <10 | <5 | <25 | <25 | <5 | <5.0 | <5.0 | <13 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.2 | <0.20 | <0.50 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | 0.3 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <1.0 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Xylenes - total** | | | | | | | | | | | | | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-II | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <1.0 | <0.40 | <0.20 | <0.50 |
| 1,1,1-Trichloroethane | | 3.1 | 3.6 | 4.4 | 5.6 |
| 1,1,2,2-Tetrachloroethane | | <1.0 | <0.40 | <0.20 | <0.50 |
| 1,1,2-Trichloroethane | | <1.0 | <0.40 | <0.20 | <0.50 |
| 1,1-Dichloroethane | | <0.50 | <0.20 | 0.12 | <0.25 |
| 1,1-Dichloroethylene | 14 ** | <0.50 | <0.20 | <0.10 | <0.25 |
| 1,2-Dibromoethane | | <1.0 | <0.40 | <0.20 | <0.50 |
| 1,2-Dichlorobenzene | 3 | <1.0 | <0.40 | <0.20 | <0.50 |
| 1,2-Dichloroethane | 5 ** | <1.0 | <0.40 | <0.20 | <0.50 |
| 1,2-Dichloropropane | | <0.50 | <0.20 | <0.10 | <0.25 |
| 1,3-Dichlorobenzene | | <1.0 | <0.40 | <0.20 | <0.50 |
| 1,4-Dichlorobenzene | 1 | <1.0 | <0.40 | <0.20 | <0.50 |
| Acetone | | <50 | <20 | <10 | <25 |
| Benzene | 5 ** | <0.50 | <0.20 | <0.10 | <0.25 |
| Bromodichloromethane | | <0.50 | <0.20 | <0.10 | <0.25 |
| Bromoform | | <1.0 | <0.40 | <0.20 | <0.50 |
| Bromomethane | | <2.5 | <1.0 | <0.50 | <1.3 |
| Carbon Tetrachloride | 5 ** | <0.50 | <0.20 | <0.10 | <0.25 |
| Chlorobenzene | 30 | <0.50 | <0.20 | <0.10 | <0.25 |
| Chloroethane | | | | | |
| Chloroform | | <0.50 | <0.20 | <0.10 | <0.25 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.50 | <0.20 | <0.10 | <0.25 |
| Cis-1,3-Dichloropropene | | <1.0 | <0.40 | <0.20 | <0.50 |
| Dibromochloromethane | | <1.0 | <0.40 | <0.20 | <0.50 |
| Dichlorodifluoromethane | | <2.5 | <1.0 | <0.50 | <1.3 |
| Dichloromethane | 50 ** | <2.5 | <1.0 | <0.50 | <1.3 |
| Ethyl benzene | 2.4 | <0.50 | <0.20 | <0.10 | <0.25 |
| Hexane | | <2.5 | <1.0 | <0.50 | <1.3 |
| m/p-Xylenes | 300 *** | <0.50 | <0.20 | <0.10 | <0.25 |
| Methyl ethyl ketone | | <25 | <10 | <5.0 | <13 |
| Methyl Isobutyl Ketone | | <25 | <10 | <5.0 | <13 |
| Methyl t-Butyl Ether | | <1.0 | <0.40 | <0.20 | <0.50 |
| o-Xylene | 300 *** | <0.50 | <0.20 | <0.10 | <0.25 |
| Styrene | | <1.0 | <0.40 | <0.20 | <0.50 |
| Tetrachloroethylene | 30 ** | <0.50 | <0.20 | <0.10 | <0.25 |
| Toluene | 24 | <1.0 | <0.40 | <0.20 | <0.50 |
| trans-1,2-Dichloroethylene | | <0.50 | <0.20 | <0.10 | <0.25 |
| trans-1,3-Dichloropropene | | <1.0 | <0.40 | <0.20 | <0.50 |
| Trichloroethylene | 5 ** | <0.50 | <0.20 | <0.10 | <0.25 |
| Trichlorofluoromethane | | <1.0 | <0.40 | <0.20 | <0.50 |
| Vinyl Chloride | 2 ** | <1.0 | <0.40 | <0.20 | <0.50 |
| Xylenes - total | | <0.50 | <0.20 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-III | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 9.2 | 11.2 | 8.0 | 5.1 | 2.3 | 3.3 | 2.6 | 2.9 | <0.6 | 0.9 | 3.1 | 0.9 | 0.9 | 0.9 | 1.6 | 1.9 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | 4.2 | 3.7 | <1.0 | 3.0 | 2.8 | 3.0 | 3.3 | 2.8 | <0.5 | 3.6 | 9.1 | 1.8 | 1.5 | 2.4 | 4 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 2.8 | 2.7 | 3.9 | 1.9 | 1.2 | 0.9 | <0.4 | 0.7 | <0.4 | <0.4 | 0.6 | <0.2 | <0.2 | 0.2 | 0.4 | 0.3 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 3.5 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 |
| **Benzene** | **5 **** | 0.6 | <0.5 | <0.5 | 0.6 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | 0.5 | <0.1 | <0.1 | <0.1 | 0.2 | 0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | 1.4 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | 8.6 | 32.3 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | 0.4 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | 8.8 | <0.5 | 3.3 | 6.6 | 0.7 | 3.0 | 3.3 | 4.3 | 1.6 | <0.4 | 10.8 | 0.6 | 0.4 | 1.3 | 2.9 | 1.9 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-III | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Mar-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,1-Trichloroethane** | | 1.0 | 1.2 | 0.9 | 0.6 | 0.7 | 0.8 | 1.0 | 0.5 | 1.1 | 1.6 | 1.4 | 2.1 | 1.4 | 0.4 | 1.7 | 1 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1-Dichloroethane** | | 1.9 | 2.2 | 1.6 | 1.4 | 1.4 | 1.2 | 1.9 | 1.1 | 3.1 | 2.4 | 1.6 | 2.3 | 1.7 | 0.63 | 2 | 1.6 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | 0.1 | <0.5 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | 0.2 | 0.2 | 0.1 | <0.5 | 0.1 | <0.10 | 0.16 | <0.25 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <1 | | | | <0.50 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Acetone** | | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <50 | <10 | <10 | <10 | <25 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | 0.1 | 0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dichlorodifluoromethane** | | | | | | | | | | | <0.5 | | <2.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Dichloromethane** | **50 **** | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Hexane** | | | | | | | | | | | <0.5 | <0.5 | <2.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | 11.0 | <5 | 22.0 | 22.0 | 19.0 | <25 | 15 | <5.0 | 8.7 | <13 |
| **Methyl Isobutyl Ketone** | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5.0 | <25 | <5 | <5.0 | <5.0 | <13 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.20 | <0.50 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Toluene** | **24** | <0.2 | 0.2 | <0.5 | <0.2 | <0.2 | 0.3 | 1.8 | <0.2 | 5.4 | 2.8 | 2.6 | 2.3 | 1.6 | <0.20 | 1.3 | <0.50 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Xylenes - total** | | | | | | | | | | | | | <0.5 | <0.1 | <0.10 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-III | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <1.0 | <1.0 | <0.20 | <0.50 |
| 1,1,1-Trichloroethane | | 0.92 | 1.1 | 1 | 0.92 |
| 1,1,2,2-Tetrachloroethane | | <1.0 | <1.0 | <0.20 | <0.50 |
| 1,1,2-Trichloroethane | | <1.0 | <1.0 | <0.20 | <0.50 |
| 1,1-Dichloroethane | | 1.2 | 1.3 | 1.3 | 1.1 |
| 1,1-Dichloroethylene | 14 ** | <0.50 | <0.50 | <0.10 | <0.25 |
| 1,2-Dibromoethane | | <1.0 | <1.0 | <0.20 | <0.50 |
| 1,2-Dichlorobenzene | 3 | <1.0 | <1.0 | <0.20 | <0.50 |
| 1,2-Dichloroethane | 5 ** | <1.0 | <1.0 | <0.20 | <0.50 |
| 1,2-Dichloropropane | | <0.50 | <0.50 | <0.10 | <0.25 |
| 1,3-Dichlorobenzene | | <1.0 | <1.0 | <0.20 | <0.50 |
| 1,4-Dichlorobenzene | 1 | <1.0 | <1.0 | <0.20 | <0.50 |
| Acetone | | <50 | <50 | <10 | <25 |
| Benzene | 5 ** | <0.50 | <0.50 | <0.10 | <0.25 |
| Bromodichloromethane | | <0.50 | <0.50 | <0.10 | <0.25 |
| Bromoform | | <1.0 | <1.0 | <0.20 | <0.50 |
| Bromomethane | | <2.5 | <2.5 | <0.50 | <1.3 |
| Carbon Tetrachloride | 5 ** | <0.50 | <0.50 | <0.10 | <0.25 |
| Chlorobenzene | 30 | <0.50 | <0.50 | <0.10 | <0.25 |
| Chloroethane | | | | | |
| Chloroform | | <0.50 | <0.50 | <0.10 | <0.25 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.50 | <0.50 | <0.10 | <0.25 |
| Cis-1,3-Dichloropropene | | <1.0 | <1.0 | <0.20 | <0.50 |
| Dibromochloromethane | | <1.0 | <1.0 | <0.20 | <0.50 |
| Dichlorodifluoromethane | | <2.5 | <2.5 | <0.50 | <1.3 |
| Dichloromethane | 50 ** | <2.5 | <2.5 | <0.50 | <1.3 |
| Ethyl benzene | 2.4 | <0.50 | <0.50 | <0.10 | <0.25 |
| Hexane | | <2.5 | <2.5 | <0.50 | <1.3 |
| m/p-Xylenes | 300 *** | <0.50 | <0.50 | <0.10 | <0.25 |
| Methyl ethyl ketone | | <25 | <25 | <5.0 | <13 |
| Methyl Isobutyl Ketone | | <25 | <25 | <5.0 | <13 |
| Methyl t-Butyl Ether | | <1.0 | <1.0 | <0.20 | <0.50 |
| o-Xylene | 300 *** | <0.50 | <0.50 | <0.10 | <0.25 |
| Styrene | | <1.0 | <1.0 | <0.20 | <0.50 |
| Tetrachloroethylene | 30 ** | <0.50 | <0.50 | <0.10 | <0.25 |
| Toluene | 24 | <1.0 | 1.5 | 0.41 | 1.3 |
| trans-1,2-Dichloroethylene | | <0.50 | <0.50 | <0.10 | <0.25 |
| trans-1,3-Dichloropropene | | <1.0 | <1.0 | <0.20 | <0.50 |
| Trichloroethylene | 5 ** | <0.50 | <0.50 | <0.10 | <0.25 |
| Trichlorofluoromethane | | <1.0 | <1.0 | <0.20 | <0.50 |
| Vinyl Chloride | 2 ** | <1.0 | <1.0 | <0.20 | <0.50 |
| Xylenes - total | | <0.50 | <0.50 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-IV | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | 1.0 | <1.0 | <1.0 | 1.2 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | 0.7 | 0.3 | 0.2 | 0.2 | 0.4 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 |
| **Benzene** | **5 **** | * <0.5 | <0.5 | <0.5 | 0.6 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.3 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | 7.7 | <1.0 | 5.4 | 7.9 | 6.5 | <1.0 | <1.0 | | | | 0.3 | 0.3 | 0.4 | 0.6 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | 7.7 | <2.0 | <2.0 | 8.7 | <2.0 | <2.0 | <2.0 | | | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | * <0.5 | <0.5 | 0.9 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.3 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | 11.2 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | <0.5 | <0.5 | 0.6 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.4 |
| **trans-1,2-Dichloroethylene** | | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.4 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | 4.8 | <1.0 | 3.3 | 4.8 | 2.5 | 0.8 | <0.3 | 0.4 | <0.3 | 0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | 2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-IV | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Mar-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,1-Trichloroethane** | | <0.1 | 0.2 | <0.5 | <0.1 | <0.1 | 0.1 | 0.2 | <0.1 | 0.1 | 0.1 | 0.1 | 0.1 | 0.12 | <0.10 | 0.13 | <0.25 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.1 | 0.1 | <0.1 | 0.11 | 0.1 | 0.16 | <0.25 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.50 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Acetone** | | <10.0 | <10.0 | <15.0 | <10 | <10.0 | 11.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <25 |
| **Benzene** | **5 **** | 0.1 | 0.1 | <0.5 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.1 | 0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Dichlorodifluoromethane** | | | | | | | | | | | <0.5 | | <0.5 | <0.5 | <0.50 | <0.50 | <1.3 |
| **Dichloromethane** | **50 **** | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Hexane** | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <1.3 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <13 |
| **Methyl Isobutyl Ketone** | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <13 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.25 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.50 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | 0.21 | <0.50 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.50 |
| **Xylenes - total** | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 16-IV | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | 0.12 | <0.10 | 0.15 | 0.12 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | 0.12 | <0.10 | 0.12 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 18-I R | | | 18-II | | | | | | | 18-II R | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| **1,1,1,2-Tetrachloroethane** | | <0.20 | <0.20 | <0.20 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.10 | <0.10 | <0.10 | <0.1 | 0.2 | <0.1 | 0.18 | 0.11 | 0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.10 | <0.10 | <0.10 | <0.1 | 0.1 | 0.12 | 0.22 | 0.14 | 0.14 | 0.13 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.20 | <0.20 | <0.20 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.10 | 0.11 | 0.41 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | 0.34 | <0.10 | 0.36 | <0.10 | 0.16 |
| **Bromodichloromethane** | | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.50 | <0.50 | <0.50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | | | | | | | | | | | | | | | |
| **Chloroform** | | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | | | | | | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | <0.50 | <0.50 | <0.50 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <0.50 | <0.50 | <0.50 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | <0.50 | <0.50 | <0.50 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | 0.13 | <0.10 | 0.11 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5.0 | <5.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.20 | <0.20 | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | 0.24 | <0.20 | 0.24 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.10 | <0.10 | <0.10 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.20 | <0.20 | <0.20 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.20 | <0.20 | <0.20 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | <0.10 | <0.10 | <0.10 | | | | <0.1 | <0.1 | <0.10 | <0.10 | 0.13 | <0.10 | 0.11 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 18-III R | | | | |
|---|---|---|---|---|---|---|
| | | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | 0.3 | <0.10 | 0.31 | <0.10 | 0.39 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 | 0.11 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | 0.25 | <0.20 | 0.2 | <0.20 | 0.27 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 | 0.11 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 21-I | | | | | | | 21-I R | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.2 | <3 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.2 | <3 | 0.59 | 0.35 | 0.11 | 0.52 | 0.54 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | 0.4 | <3 | <0.1 | <0.25 | 0.15 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | | <5 | <0.2 | <0.5 | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <20 | <300 | <10 | <25 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <1 | <10 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | | | | | | | | |
| Chloroform | | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | | | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | <10 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <1 | <10 | <0.5 | <1.3 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <10 | <100 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <10 | <100 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | 15 | 180 | 0.29 | <0.5 | <0.2 | <0.20 | 0.44 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.2 | <3 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.4 | <5 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | | | | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 21-II | | | | 21-II R | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-10 | Sep-11 | Sep-12 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.1 | <0.1 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | 0.1 | 0.6 | 0.3 | 0.13 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | 0.4 | 0.2 | 0.22 | 0.52 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | | <0.2 | <0.2 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | 11 | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | 0.12 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | | | | | |
| Chloroform | | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | <0.5 | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | | <0.2 | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | | | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 21-III | | | | | | | 21-III R | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.5 | 0.3 | 0.34 | 0.28 | 0.34 | 0.24 | 0.3 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <50 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <3 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | | | | | | | | |
| Chloroform | | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | | | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <3 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.5 | 0.1 | 0.16 | 0.15 | 0.19 | 0.13 | 0.17 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <30 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <30 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | 49 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | 0.21 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | | | | 0.15 | 0.19 | 0.13 | 0.17 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 22-I | | | | | | 22-I R | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| **1,1,1,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | 0.9 | 0.36 | 1.5 | <1 | 0.77 | 0.41 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | 0.29 | 0.13 | <1 | <0.10 | 0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.4 | <0.2 | <0.2 | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <20 | 20 | <10 | <100 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <1 | <0.5 | <0.5 | <5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.2 | <0.1 | <0.1 | <1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | | | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.1 | <0.1 | <1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | <1 | | <0.5 | <5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1 | <0.5 | <0.5 | <5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.1 | <0.1 | <1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | <0.5 | <0.5 | <0.5 | <5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | 3 | <0.1 | <1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <10 | <5.0 | <5 | <50 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <10 | 13 | <5 | <50 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.1 | <0.1 | <1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.4 | <0.2 | <0.2 | <2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.4 | 0.78 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.1 | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.4 | | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.4 | <0.2 | <0.2 | <2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | <0.1 | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 22-II | | | | | | | 22-II R | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.1 | <0.1 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.1 | 0.1 | 0.29 | <0.25 | <0.1 | 0.3 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | | <0.2 | <0.2 | <0.5 | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <25 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | | | | | | | | |
| Chloroform | | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | | | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.5 | <0.5 | <0.5 | <1.3 | 16 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | | | | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 22-III R | | | | |
|---|---|---|---|---|---|---|
| | | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-I | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | 0.9 | <0.4 | 0.4 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-I | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10 | 13.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | 0.14 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | <0.2 | <0.2 | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.2 | <0.2 | <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 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | <0.5 | <0.5 | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | 0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5.0 | | | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-I | |
|---|---|---|---|
| | | Sep-19 | Sep-20 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 |
| Acetone | | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 |
| Chloroethane | | | |
| Chloroform | | <0.10 | <0.10 |
| Chloromethane | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-II | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | <1.0 | 1.1 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.9 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | * <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | * <0.5 | * <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-II | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | <0.2 | <0.2 | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.2 | <0.2 | <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 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | <0.5 | <0.5 | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5.0 | | | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-II | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | 23 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-III | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 3.7 | 1.3 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | 0.6 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | 0.6 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | 0.2 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | 1.2 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | 0.8 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 2.1 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-III | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | <0.2 | <0.2 | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <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 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | <0.5 | <0.5 | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5.0 | | | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 23-III | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-I | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 2.7 | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | 18.4 | 29.4 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | 1.1 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <5.0 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 1.5 | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | 2.2 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | 0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | 0.8 | 0.3 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | 0.3 | * 0.1 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | 5.9 | 0.7 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-I | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.8 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.8 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.8 | <0.5 | | <0.2 | <0.2 | | <0.4 | | <0.2 | <0.2 | <0.5 | | | | <1.0 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Acetone** | | <10.0 | <15.0 | <10.0 | <40.0 | <15.0 | <10 | 14 | <10 | 11 | <20 | <10 | <10 | <10 | <25 | <10 | <50 | <100 | <50 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.8 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <2.0 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <2.5 | <5.0 | <2.5 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.5 | <1.0 | <0.50 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.8 | <1.0 | | | | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.5 | <1.0 | <0.50 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <2.0 | <2.0 | | | | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.4 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.8 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.8 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <2.5 | <5.0 | <2.5 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <2.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <2.5 | <5.0 | <2.5 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.5 | <1.0 | <0.50 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <2.5 | <5.0 | <2.5 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.5 | <1.0 | <0.50 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <20.0 | <15.0 | <5 | <5.0 | <5 | <5 | <10 | <5 | <5 | <5 | <13 | <5 | <25 | <50 | <25 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <20.0 | <10.0 | <5 | <5.0 | <5 | | <10 | <5 | <5 | <5 | <13 | <5 | <25 | <50 | <25 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.8 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.5 | <1.0 | <0.50 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.8 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.4 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.8 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.4 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.8 | <2.0 | | | | <0.2 | | | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.8 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <1.0 | <2.0 | <1.0 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.25 | <0.1 | <0.50 | <1.0 | <0.50 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-I | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <2.0 | <0.20 | <1.0 | <0.50 |
| 1,1,1-Trichloroethane | | <1.0 | <0.10 | <0.50 | <0.25 |
| 1,1,2,2-Tetrachloroethane | | <2.0 | <0.20 | <1.0 | <0.50 |
| 1,1,2-Trichloroethane | | <2.0 | <0.20 | <1.0 | <0.50 |
| 1,1-Dichloroethane | | <1.0 | <0.10 | <0.50 | <0.25 |
| 1,1-Dichloroethylene | 14 ** | <1.0 | <0.10 | <0.50 | <0.25 |
| 1,2-Dibromoethane | | <2.0 | <0.20 | <1.0 | <0.50 |
| 1,2-Dichlorobenzene | 3 | <2.0 | <0.20 | <1.0 | <0.50 |
| 1,2-Dichloroethane | 5 ** | <2.0 | <0.20 | <1.0 | <0.50 |
| 1,2-Dichloropropane | | <1.0 | <0.10 | <0.50 | <0.25 |
| 1,3-Dichlorobenzene | | <2.0 | <0.20 | <1.0 | <0.50 |
| 1,4-Dichlorobenzene | 1 | <2.0 | <0.20 | <1.0 | <0.50 |
| Acetone | | <100 | <10 | <50 | <25 |
| Benzene | 5 ** | <1.0 | <0.10 | <0.50 | <0.25 |
| Bromodichloromethane | | <1.0 | <0.10 | <0.50 | <0.25 |
| Bromoform | | <2.0 | <0.20 | <1.0 | <0.50 |
| Bromomethane | | <5.0 | <0.50 | <2.5 | <1.3 |
| Carbon Tetrachloride | 5 ** | <1.0 | <0.10 | <0.50 | <0.25 |
| Chlorobenzene | 30 | <1.0 | <0.10 | <0.50 | <0.25 |
| Chloroethane | | | | | |
| Chloroform | | <1.0 | <0.10 | <0.50 | <0.25 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <1.0 | <0.10 | <0.50 | <0.25 |
| Cis-1,3-Dichloropropene | | <2.0 | <0.20 | <1.0 | <0.50 |
| Dibromochloromethane | | <2.0 | <0.20 | <1.0 | <0.50 |
| Dichlorodifluoromethane | | <5.0 | <0.50 | <2.5 | <1.3 |
| Dichloromethane | 50 ** | <5.0 | <0.50 | <2.5 | <1.3 |
| Ethyl benzene | 2.4 | <1.0 | <0.10 | <0.50 | <0.25 |
| Hexane | | <5.0 | <0.50 | <2.5 | <1.3 |
| m/p-Xylenes | 300 *** | <1.0 | <0.10 | <0.50 | <0.25 |
| Methyl ethyl ketone | | <50 | <5.0 | <25 | <13 |
| Methyl Isobutyl Ketone | | <50 | <5.0 | <25 | <13 |
| Methyl t-Butyl Ether | | <2.0 | <0.20 | <1.0 | <0.50 |
| o-Xylene | 300 *** | <1.0 | <0.10 | <0.50 | <0.25 |
| Styrene | | <2.0 | <0.20 | <1.0 | <0.50 |
| Tetrachloroethylene | 30 ** | <1.0 | <0.10 | <0.50 | <0.25 |
| Toluene | 24 | <2.0 | <0.20 | <1.0 | <0.50 |
| trans-1,2-Dichloroethylene | | <1.0 | <0.10 | <0.50 | <0.25 |
| trans-1,3-Dichloropropene | | <2.0 | <0.20 | <1.0 | <0.50 |
| Trichloroethylene | 5 ** | <1.0 | <0.10 | <0.50 | <0.25 |
| Trichlorofluoromethane | | <2.0 | <0.20 | <1.0 | <0.50 |
| Vinyl Chloride | 2 ** | <2.0 | <0.20 | <1.0 | <0.50 |
| Xylenes - total | | <1.0 | <0.10 | <0.50 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-II | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-00 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 3.4 | * <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | * <0.4 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | 1.4 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 2.7 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-II | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **1,1-Dichloroethane** | | <0.2 | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.4 | | <0.2 | <0.4 | <1 | | | | <0.20 | <1.0 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **1,2-Dichloropropane** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **Acetone** | | <15.0 | 24.7 | 19.9 | <15.0 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | 92 | <50 | <50 | <25 | <50 | <10 | <50 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Bromodichloromethane** | | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1.0 | <2.5 | <2.5 | <1.3 | <2.5 | <0.50 | <2.5 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Chlorobenzene** | **30** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Chloroethane** | | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Chloromethane** | | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | <0.5 | <1.0 | <2.5 | <2.5 | <1.3 | <2.5 | <0.50 | <2.5 |
| **Dichloromethane** | **50 **** | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <1.0 | <2.5 | <2.5 | <1.3 | <2.5 | <0.50 | <2.5 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | 0.25 | <0.50 | <0.10 | <0.50 |
| **Hexane** | | | | | | | | | | | | <0.5 | <0.5 | <2.5 | <2.5 | <1.3 | <2.5 | <0.50 | <2.5 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Methyl ethyl ketone** | | <5.0 | 10.4 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <10 | <5 | <5 | <10 | <25 | <25 | <13 | <25 | <5.0 | <25 |
| **Methyl Isobutyl Ketone** | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <10 | <5 | <5 | <10 | <25 | <25 | <13 | <25 | <5.0 | <25 |
| **Methyl t-Butyl Ether** | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **o-Xylene** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Styrene** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.5 | <1.0 | <0.20 | <1.0 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |
| **Trichlorofluoromethane** | | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | | | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.4 | <1 | <1 | <0.50 | <1.0 | <0.20 | <1.0 |
| **Xylenes - total** | | | | | | | | | | | | | | <0.5 | <0.5 | <0.25 | <0.50 | <0.10 | <0.50 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-II | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <1.0 | <0.50 |
| 1,1,1-Trichloroethane | | <0.10 | <0.50 | <0.25 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <1.0 | <0.50 |
| 1,1,2-Trichloroethane | | <0.20 | <1.0 | <0.50 |
| 1,1-Dichloroethane | | <0.10 | <0.50 | <0.25 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.50 | <0.25 |
| 1,2-Dibromoethane | | <0.20 | <1.0 | <0.50 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <1.0 | <0.50 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <1.0 | <0.50 |
| 1,2-Dichloropropane | | <0.10 | <0.50 | <0.25 |
| 1,3-Dichlorobenzene | | <0.20 | <1.0 | <0.50 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <1.0 | <0.50 |
| Acetone | | <10 | <50 | <25 |
| Benzene | 5 ** | <0.10 | <0.50 | <0.25 |
| Bromodichloromethane | | <0.10 | <0.50 | <0.25 |
| Bromoform | | <0.20 | <1.0 | <0.50 |
| Bromomethane | | <0.50 | <2.5 | <1.3 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.50 | <0.25 |
| Chlorobenzene | 30 | <0.10 | <0.50 | <0.25 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.50 | <0.25 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.50 | <0.25 |
| Cis-1,3-Dichloropropene | | <0.20 | <1.0 | <0.50 |
| Dibromochloromethane | | <0.20 | <1.0 | <0.50 |
| Dichlorodifluoromethane | | <0.50 | <2.5 | <1.3 |
| Dichloromethane | 50 ** | <0.50 | <2.5 | <1.3 |
| Ethyl benzene | 2.4 | <0.10 | <0.50 | <0.25 |
| Hexane | | <0.50 | <2.5 | <1.3 |
| m/p-Xylenes | 300 *** | <0.10 | <0.50 | <0.25 |
| Methyl ethyl ketone | | <5.0 | <25 | <13 |
| Methyl Isobutyl Ketone | | <5.0 | <25 | <13 |
| Methyl t-Butyl Ether | | <0.20 | <1.0 | <0.50 |
| o-Xylene | 300 *** | <0.10 | <0.50 | <0.25 |
| Styrene | | <0.20 | <1.0 | <0.50 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.50 | <0.25 |
| Toluene | 24 | <0.20 | <1.0 | <0.50 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.50 | <0.25 |
| trans-1,3-Dichloropropene | | <0.20 | <1.0 | <0.50 |
| Trichloroethylene | 5 ** | <0.10 | <0.50 | <0.25 |
| Trichlorofluoromethane | | <0.20 | <1.0 | <0.50 |
| Vinyl Chloride | 2 ** | <0.20 | <1.0 | <0.50 |
| Xylenes - total | | <0.10 | <0.50 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-III | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 3.7 | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | 1.1 | 3.7 | 3.6 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | * <0.3 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | 0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | 0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | 1.3 | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | 8.7 | 32.8 | 29.5 | <1.0 | 3.4 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | 0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | 8.0 | 6.9 | 6.5 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 2.2 | <1.0 | * <1.0 | 1.2 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | * <1.0 | 1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | 2.9 | 2.5 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | 6.1 | 12.1 | 11.8 | <1.0 | 5.7 | * <1.0 | * <0.6 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | * 0.1 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | * <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | 3.5 | 11.0 | 12.3 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-III | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <0.1 | 0.1 | 0.1 | 0.2 | 0.2 | 0.1 | 0.1 | <0.1 | <0.25 | <0.1 | 0.13 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.5 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <15.0 | <10.0 | <10.0 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <25 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | 0.1 | <0.1 | <0.5 | <0.1 | 0.1 | 0.2 | <0.1 | <0.1 | 0.2 | 0.1 | <0.1 | <0.25 | <0.1 | 0.34 | 0.14 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | 0.3 | 0.2 | 0.2 | 0.3 | <1.0 | 0.4 | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | 0.11 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | 0.25 | <0.20 | 0.21 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | 0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | | | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.25 | <0.1 | 0.11 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 24-III | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | 0.11 | 0.14 | <0.10 | 0.12 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 25-I (Refuse Monitor) | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 | Sep-02 | Sep-03 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | <0.1 | <4.0 |
| **1,1,1-Trichloroethane** | | <1.0 | 3.8 | <6.0 | <0.6 | <0.6 | <0.6 | <3.0 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <2.0 | <4 | <0.4 | <0.4 | <0.4 | <2.0 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.2 | <8.0 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <6.0 | <1.1 | <1.1 | <0.6 | | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.2 | <8.0 |
| **1,1-Dichloroethane** | | <1.0 | 66.5 | 120.0 | 230.0 | <0.5 | <0.5 | 47.0 | 48.0 | * 9.6 | 18.0 | 15.0 | 24.7 | <0.2 | 0.1 | 10.9 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <4 | <0.4 | <0.4 | <0.4 | <8.0 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **1,2-Dibromoethane** | | <1.0 | <1.0 | <1.0 | <1.0 | | | | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.2 | <8.0 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | 6.7 | <0.4 | <0.4 | <0.4 | <2.0 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | 1.2 | 5.4 | 2.0 | <0.4 | <0.4 | <2.0 | <50 | <10.0 | *1.9 | <5.0 | <10.0 | <0.2 | 0.1 | *3.3 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <5.0 | <0.5 | <0.5 | <0.5 | <2.5 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | 15.8 | <4.0 |
| **1,3-Dichlorobenzene** | | <1.0 | * <0.3 | <3 | <0.3 | <0.3 | <0.3 | <1.5 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | 12.0 | 7.0 | <0.2 | <0.2 | <1.0 | <50 | * 8.6 | 7.7 | 7.8 | <10.0 | 1.1 | 0.1 | 10.7 |
| **Acetone** | | | | | | | | | | <500.0 | <100.0 | <250.0 | <500 | <10.0 | <10.0 | <400 |
| **Benzene** | **5 **** | <0.5 | 5.9 | <2.0 | 20.0 | <0.2 | <0.2 | 1.5 | 24.0 | 15.2 | 24.2 | 17.4 | 22.5 | 5.3 | 0.4 | 22.8 |
| **Bromodichloromethane** | | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **Bromoform** | | <2.0 | <2.0 | <3 | <0.3 | <0.3 | <0.3 | | <125 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.2 | <8.0 |
| **Bromomethane** | | <2.0 | <2.0 | <24 | <2.4 | <2.4 | <2.4 | <12 | <250 | <25.0 | <5.0 | <12.5 | <25.0 | <0.5 | <0.5 | <20.0 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <3.0 | <0.3 | <0.3 | <0.3 | <1.5 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <6 | <0.6 | <0.6 | <0.6 | <3.0 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | 6.3 | 0.4 | <4.0 |
| **Chloroethane** | | <2.0 | <2.0 | <23 | 5.1 | <2.3 | <2.3 | <12 | <250 | <25.0 | <5.0 | * 9.0 | <25.0 | <0.5 | <0.2 | <8.0 |
| **Chloroform** | | <1.0 | <1.0 | 7.8 | <0.4 | <0.4 | <0.4 | | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **Chloromethane** | | <2.0 | <2.0 | <23 | <2.3 | <2.3 | <2.3 | <12.0 | <250 | <50.0 | <10.0 | <25.0 | <50.0 | <1.0 | <0.5 | <20.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | 32.7 | <1.0 | <1.0 | | | | 196.0 | 28.8 | 7.8 | 48.2 | 147 | <0.2 | 0.1 | 89.8 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.2 | <8.0 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <4.0 | <1.0 | <1.0 | <0.4 | | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.2 | <8.0 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | 510.0 | <1.0 | <1.0 | 160.0 | <250 | <50.0 | <10.0 | 38.7 | 106 | <1.0 | <1.0 | <20.0 |
| **Ethyl benzene** | **2.4** | <0.5 | 7.3 | 15.0 | 47.0 | <0.4 | <0.4 | <2.0 | 50.0 | 47.6 | 63.5 | 32.9 | 49.8 | <0.2 | <0.1 | 58.6 |
| **Hexane** | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | | | | 153.0 | 175.0 | 168.0 | 96.8 | 127 | 3.1 | 0.1 | 164.0 |
| **Methyl ethyl ketone** | | | | | | | | | | <250.0 | *48.1 | <125 | 527.0 | <5.0 | <5.0 | 487.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | <5.0 | <200 |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | <0.2 | <8.0 |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | | | | 64.0 | 58.8 | 58.1 | 32.1 | 44.8 | 0.2 | <0.1 | 63.5 |
| **Styrene** | | | | | | | | | | <10.0 | 2.0 | <5.0 | <10.0 | <0.2 | <0.1 | <4.0 |
| **Tetrachloroethylene** | **30 **** | <1.0 | 14.6 | 250.0 | 320.0 | <0.2 | <0.2 | 150.0 | 313.0 | 358.0 | 7.5 | 20.9 | 88.9 | <0.2 | <0.1 | 228.0 |
| **Toluene** | **24** | <0.5 | 10.2 | 76.0 | 580.0 | <0.4 | <0.4 | 210.0 | 610.0 | 281.0 | 88.4 | 80.4 | 251 | 0.2 | 0.4 | 280.0 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | 7.6 | 20.0 | <0.4 | <0.4 | <10 | <50 | <10.0 | 6.8 | 8.8 | *8.0 | <0.2 | <0.1 | 7.6 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <5.5 | <50 | <10.0 | <2.0 | <5.0 | <10.0 | <0.2 | <0.2 | <8.0 |
| **Trichloroethylene** | **5 **** | <1.0 | 21.6 | 120.0 | 130.0 | <0.3 | <0.3 | 86.0 | 108.0 | 36.0 | <2.0 | 10.6 | 57.1 | <0.2 | <0.1 | 50.0 |
| **Trichlorofluoromethane** | | <2.0 | 2.8 | <3 | <0.3 | <0.3 | <0.3 | | <125 | <25.0 | <5.0 | <12.5 | <25.0 | <0.5 | 0.7 | <8.0 |
| **Vinyl Chloride** | **2 **** | <2.0 | 99.7 | 45.0 | 46.0 | <2.9 | <2.9 | 60.0 | <125 | <25.0 | * 3.5 | * 10.6 | *16.4 | <0.2 | <0.2 | 12.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 25-I (Refuse Monitor) | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 |
| **1,1,1,2-Tetrachloroethane** | | <0.5 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **1,1,1-Trichloroethane** | | <0.5 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <10 | <10 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **1,1,2-Trichloroethane** | | <0.5 | <20 | <20 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **1,1-Dichloroethane** | | <0.4 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **1,1-Dichloroethylene** | **14 **** | <0.5 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **1,2-Dibromoethane** | | <0.5 | | <20 | <20 | | <10 | | <2 | <5 | | | | <2.0 | <10 | <4.0 | <4.0 |
| **1,2-Dichlorobenzene** | **3** | <0.5 | <10 | <20 | <20 | <5 | <10 | <10 | 6 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **1,2-Dichloroethane** | **5 **** | <0.5 | <10 | <10 | <10 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **1,2-Dichloropropane** | | <0.5 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **1,3-Dichlorobenzene** | | <0.5 | <10 | <20 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **1,4-Dichlorobenzene** | **1** | 1.2 | 13.0 | 24.0 | 24.0 | 16.0 | 27 | 37 | 15 | 13 | 14 | 13 | 2.2 | 6 | <10 | 7.3 | <4.0 |
| **Acetone** | | <15.0 | <1000 | <1000 | <1000 | <300 | <300 | <500 | <100 | <250 | <200 | <500 | <100 | <100 | <500 | <200 | <200 |
| **Benzene** | **5 **** | 6.8 | 16.0 | 23.0 | 16.0 | 5.0 | 8 | 11 | 1 | <2.5 | 3.3 | 5.1 | 2.9 | 3.7 | <5.0 | 3.4 | <2.0 |
| **Bromodichloromethane** | | <0.2 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **Bromoform** | | <0.2 | <20 | <20 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **Bromomethane** | | <3.0 | <50 | <50 | <50 | <10 | <30 | <30 | <5 | <13 | <10 | <25 | <5.0 | <5.0 | <25 | <10 | <10 |
| **Carbon Tetrachloride** | **5 **** | <0.5 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **Chlorobenzene** | **30** | 7.4 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **Chloroethane** | | <1.0 | | | | <5 | <10 | | | | | | | | | | |
| **Chloroform** | | <0.2 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **Chloromethane** | | 5.2 | | | | <10 | <30 | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <1.0 | 365.0 | 180.0 | 110.0 | <3 | 26 | 15 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | 8 | <2.0 | <2.0 |
| **Cis-1,3-Dichloropropene** | | <0.14 | <20 | <20 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **Dibromochloromethane** | | <0.2 | <20 | <20 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **Dichlorodifluoromethane** | | | | | | | | | <5 | <13 | <10 | <25 | <5.0 | <5.0 | <25 | <10 | <10 |
| **Dichloromethane** | **50 **** | <1.0 | <50 | <50 | <50 | <10 | <30 | <30 | <5 | <13 | <10 | <25 | <5.0 | <5.0 | <25 | <10 | <10 |
| **Ethyl benzene** | **2.4** | <0.5 | 67.0 | 110.0 | 100.0 | 14.0 | 85 | 190 | <1 | 13 | 17 | 12 | 4 | 19 | <5.0 | 28 | 2.6 |
| **Hexane** | | | | | | | | <0.5 | <0.5 | <13 | <10 | <25 | <5.0 | <5.0 | <25 | <10 | <10 |
| **m/p-Xylenes** | **300 ***** | 11.0 | 216.0 | 320.0 | 290.0 | 180.0 | 290 | 490 | 3 | 120 | 140 | 170 | 23 | 72 | 11 | 96 | 7 |
| **Methyl ethyl ketone** | | <15.0 | <500 | <500 | <500 | <100 | <300 | <300 | <50 | <130 | <100 | <250 | <50 | <50 | <250 | <100 | <100 |
| **Methyl Isobutyl Ketone** | | <10.0 | <500 | <500 | <500 | | <300 | <300 | <50 | <130 | <100 | <250 | <50 | <50 | <250 | <100 | <100 |
| **Methyl t-Butyl Ether** | | <2.0 | <20 | <20 | <20 | | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **o-Xylene** | **300 ***** | 0.6 | 79.0 | 120.0 | 50.0 | 69.0 | 71 | 100 | 57 | 16 | 11 | 20 | 6.5 | 17 | <5.0 | 36 | 3.6 |
| **Styrene** | | <0.5 | <10 | <10 | <10 | <5 | <10 | 15 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **Tetrachloroethylene** | **30 **** | <0.5 | 420.0 | 400.0 | 280.0 | <3 | 72 | 48 | <1 | <2.5 | <2 | <5.0 | 1.5 | 1.5 | <5.0 | <2.0 | 5.1 |
| **Toluene** | **24** | <0.5 | 839.0 | 800.0 | 560.0 | 5.0 | 500 | 420 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | 25 | <4.0 | <4.0 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <10 | <10 | <10 | <3 | <5 | <5 | <1 | <2.5 | <2 | <5.0 | 2.1 | 4.4 | <5.0 | 5 | <2.0 |
| **trans-1,3-Dichloropropene** | | <0.14 | <20 | <20 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **Trichloroethylene** | **5 **** | <0.5 | 167.0 | 59.0 | 42.0 | <3 | 11 | 14 | <1 | <2.5 | <2 | <5.0 | <1.0 | <1.0 | <5.0 | <2.0 | <2.0 |
| **Trichlorofluoromethane** | | <2.0 | | | | <5 | <10 | | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **Vinyl Chloride** | **2 **** | <0.2 | 25.0 | <20 | <20 | <5 | <10 | <10 | <2 | <5 | <4 | <10 | <2.0 | <2.0 | <10 | <4.0 | <4.0 |
| **Xylenes - total** | | | | | | | | | | 140 | 160 | 190 | 29 | 89 | 11 | 130 | 11 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 25-I |
|---|---|---|
| | | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <10 |
| 1,1,1-Trichloroethane | | <5.0 |
| 1,1,2,2-Tetrachloroethane | | <10 |
| 1,1,2-Trichloroethane | | <10 |
| 1,1-Dichloroethane | | <5.0 |
| 1,1-Dichloroethylene | 14 ** | <5.0 |
| 1,2-Dibromoethane | | <10 |
| 1,2-Dichlorobenzene | 3 | <10 |
| 1,2-Dichloroethane | 5 ** | <10 |
| 1,2-Dichloropropane | | <5.0 |
| 1,3-Dichlorobenzene | | <10 |
| 1,4-Dichlorobenzene | 1 | <10 |
| Acetone | | <500 |
| Benzene | 5 ** | <5.0 |
| Bromodichloromethane | | <5.0 |
| Bromoform | | <10 |
| Bromomethane | | <25 |
| Carbon Tetrachloride | 5 ** | <5.0 |
| Chlorobenzene | 30 | <5.0 |
| Chloroethane | | |
| Chloroform | | <5.0 |
| Chloromethane | | |
| Cis-1,2-Dichloroethylene | | <5.0 |
| Cis-1,3-Dichloropropene | | <10 |
| Dibromochloromethane | | <10 |
| Dichlorodifluoromethane | | <25 |
| Dichloromethane | 50 ** | <25 |
| Ethyl benzene | 2.4 | 33 |
| Hexane | | <25 |
| m/p-Xylenes | 300 *** | 100 |
| Methyl ethyl ketone | | <250 |
| Methyl Isobutyl Ketone | | <250 |
| Methyl t-Butyl Ether | | <10 |
| o-Xylene | 300 *** | 46 |
| Styrene | | <10 |
| Tetrachloroethylene | 30 ** | <5.0 |
| Toluene | 24 | <10 |
| trans-1,2-Dichloroethylene | | 7.1 |
| trans-1,3-Dichloropropene | | <10 |
| Trichloroethylene | 5 ** | <5.0 |
| Trichlorofluoromethane | | <10 |
| Vinyl Chloride | 2 ** | <10 |
| Xylenes - total | | 150 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-I | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 5.4 | * <1.0 | <1.0 | * <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | * <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 |
| **Chloroform** | | 1.6 | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | |
| **Dichloromethane** | **50 **** | 2.9 | <1.0 | 1.5 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-I | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-98 | Sep-98 | Sep-99 | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0..1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chloroethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | | |
| **Chloroform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 |
| **Methyl Isobutyl Ketone** | | | | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 |
| **Methyl t-Butyl Ether** | | | | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Styrene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | | |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-I | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | | | | | | | | | | | |
| **Chloroform** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-II | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 4.8 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 1.7 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 3.1 | <1.0 | * <1.0 | 1.1 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-II | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <250 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <13 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <13 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <13 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <13 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <130 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5 | <5 | <5 | <130 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.1 | <0.1 | <2.5 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-II | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.50 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.25 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.50 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.50 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.25 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.25 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.50 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.50 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.50 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.25 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.50 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.50 | <0.20 | <0.20 | <0.20 |
| Acetone | | <25 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.25 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.25 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.50 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <1.3 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.25 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.25 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.25 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.25 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.50 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.50 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <1.3 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <1.3 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.25 | <0.10 | <0.10 | <0.10 |
| Hexane | | <1.3 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.25 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <13 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <13 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.50 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.25 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.50 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.25 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.50 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.25 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.50 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.25 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.50 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.50 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.25 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-III | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 3.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 1.2 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 3.6 | <1.0 | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | <5.0 | 5.3 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-III | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.14 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.22 | <0.1 | <0.1 | <0.1 | <0.10 | 0.12 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.24 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | 0.12 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 26-III | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | 0.11 | <0.10 | <0.10 | 0.1 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | 0.11 | <0.10 | <0.10 | 0.1 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-I | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 4.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 1.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 2.7 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-I | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <15.0 | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <0.5 | | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-I | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-II | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 2.8 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | * <0.4 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | 2.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-II | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | 31.5 | <15.0 | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <0.5 | | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | 5.4 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5.0 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | 0.23 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-II | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-III | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Dec-87 | Dec-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 6.8 | 9.6 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | 2.6 | 2.4 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.4 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | 0.1 | 0.4 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | * <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | 6.8 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | 3.3 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | 10.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | 4.6 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | 5.2 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | 0.3 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | * <1.0 | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-III | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | <0.2 | 0.1 | 0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | <0.2 | <0.2 | <0.5 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <15.0 | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <25 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | 0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | 0.2 | 0.2 | <0.1 | 0.2 | 0.2 | <0.1 | <0.25 | <0.1 | <0.10 | 0.16 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.2 | 0.1 | 0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <0.5 | | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.5 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5.0 | <13 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5.0 | <13 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.1 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | 0.1 | 0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | <0.2 | | <0.2 | | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 27-III | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | 0.15 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 28-I | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 1.9 | 1.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | 0.6 | <0.5 | 0.6 | 0.4 | <0.2 | 0.4 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | 0.7 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.5 | 0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 | 0.3 | 0.2 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | * <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | * <1.0 | 2.1 | 2.8 | <1.0 | 1.7 | 1.6 | <1.0 | <1.0 | | | | 0.7 | 0.9 | 0.4 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | 1.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Xylenes - total** | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 28-I | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-00 | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | <0.20 |
| **1,1-Dichloroethane** | | 0.4 | 0.4 | 0.3 | 0.2 | <0.4 | <0.1 | 0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | | | <0.2 | | <0.4 | <0.2 | <0.5 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | 0.2 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <20 | <10 | <25 | <10 | <25 | <25 | <10 |
| **Benzene** | **5 **** | 0.2 | 0.2 | 0.2 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.50 | <0.50 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <1.3 | <0.5 | <1.3 | <1.3 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Chlorobenzene** | **30** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | 0.2 | <0.2 | 0.21 | <0.25 | 0.12 | 0.25 | <0.25 | 0.64 |
| **Chloroethane** | | <0.5 | <0.5 | <0.2 | *0.1 | <1.0 | | | 0.2 | <0.2 | <0.2 | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Chloromethane** | | <1.0 | <1.0 | <0.5 | <0.5 | <2.0 | | | <0.5 | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | 0.4 | 0.5 | 0.3 | 0.3 | <1.0 | <0.1 | 0.2 | 0.2 | <0.1 | <0.1 | 0.1 | <0.2 | 0.1 | <0.25 | <0.1 | <0.25 | <0.25 | 0.32 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | <1 | <0.5 | <1.3 | <0.5 | <1.3 | <1.3 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <1.3 | <0.5 | <1.3 | <1.3 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Hexane** | | | | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <1.3 | <1.3 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <10 | <5 | <13 | <5 | <13 | <13 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | | | <5 | <5 | <10 | <5 | <13 | <5 | <13 | <13 | <5.0 |
| **Methyl t-Butyl Ether** | | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | | | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |
| **Trichlorofluoromethane** | | <0.5 | <0.5 | <0.2 | <0.2 | <2.0 | | | <0.2 | <0.2 | <0.2 | | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.5 | <0.2 | <0.5 | <0.50 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | <0.25 | <0.1 | <0.25 | <0.25 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 28-I | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.50 | <1.0 | <0.20 | <2.0 |
| 1,1,1-Trichloroethane | | <0.25 | <0.50 | <0.10 | <1.0 |
| 1,1,2,2-Tetrachloroethane | | <0.50 | <1.0 | <0.20 | <2.0 |
| 1,1,2-Trichloroethane | | <0.50 | <1.0 | <0.20 | <2.0 |
| 1,1-Dichloroethane | | <0.25 | <0.50 | <0.10 | <1.0 |
| 1,1-Dichloroethylene | 14 ** | <0.25 | <0.50 | <0.10 | <1.0 |
| 1,2-Dibromoethane | | <0.50 | <1.0 | <0.20 | <2.0 |
| 1,2-Dichlorobenzene | 3 | <0.50 | <1.0 | <0.20 | <2.0 |
| 1,2-Dichloroethane | 5 ** | <0.50 | <1.0 | <0.20 | <2.0 |
| 1,2-Dichloropropane | | <0.25 | <0.50 | <0.10 | <1.0 |
| 1,3-Dichlorobenzene | | <0.50 | <1.0 | <0.20 | <2.0 |
| 1,4-Dichlorobenzene | 1 | <0.50 | <1.0 | <0.20 | <2.0 |
| Acetone | | <25 | <50 | <10 | <100 |
| Benzene | 5 ** | <0.25 | <0.50 | <0.10 | <1.0 |
| Bromodichloromethane | | <0.25 | <0.50 | <0.10 | <1.0 |
| Bromoform | | <0.50 | <1.0 | <0.20 | <2.0 |
| Bromomethane | | <1.3 | <2.5 | <0.50 | <5.0 |
| Carbon Tetrachloride | 5 ** | <0.25 | <0.50 | <0.10 | <1.0 |
| Chlorobenzene | 30 | 0.32 | 1.7 | 0.27 | <1.0 |
| Chloroethane | | | | | |
| Chloroform | | <0.25 | <0.50 | <0.10 | <1.0 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.25 | <0.50 | 0.3 | <1.0 |
| Cis-1,3-Dichloropropene | | <0.50 | <1.0 | <0.20 | <2.0 |
| Dibromochloromethane | | <0.50 | <1.0 | <0.20 | <2.0 |
| Dichlorodifluoromethane | | <1.3 | <2.5 | <0.50 | <5.0 |
| Dichloromethane | 50 ** | <1.3 | <2.5 | <0.50 | <5.0 |
| Ethyl benzene | 2.4 | <0.25 | <0.50 | <0.10 | <1.0 |
| Hexane | | <1.3 | <2.5 | <0.50 | <5.0 |
| m/p-Xylenes | 300 *** | <0.25 | <0.50 | <0.10 | <1.0 |
| Methyl ethyl ketone | | <13 | <25 | <5.0 | <50 |
| Methyl Isobutyl Ketone | | <13 | <25 | <5.0 | <50 |
| Methyl t-Butyl Ether | | <0.50 | <1.0 | <0.20 | <2.0 |
| o-Xylene | 300 *** | <0.25 | <0.50 | <0.10 | <1.0 |
| Styrene | | <0.50 | <1.0 | <0.20 | <2.0 |
| Tetrachloroethylene | 30 ** | <0.25 | <0.50 | <0.10 | <1.0 |
| Toluene | 24 | <0.50 | <1.0 | <0.20 | <2.0 |
| trans-1,2-Dichloroethylene | | <0.25 | <0.50 | <0.10 | <1.0 |
| trans-1,3-Dichloropropene | | <0.50 | <1.0 | <0.20 | <2.0 |
| Trichloroethylene | 5 ** | <0.25 | <0.50 | <0.10 | <1.0 |
| Trichlorofluoromethane | | <0.50 | <1.0 | <0.20 | <2.0 |
| Vinyl Chloride | 2 ** | <0.50 | <1.0 | <0.20 | <2.0 |
| Xylenes - total | | <0.25 | <0.50 | <0.10 | <1.0 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 29-I | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-94 | Sep-97 | Sep-05 | Sep-06 | Sep-07 |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | <0.1 | <0.1 | <0.1 |
| 1,1,1-Trichloroethane | | 2.7 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.2 | <0.1 | <0.1 | <0.1 |
| 1,1,2,2-Tetrachloroethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.2 | <0.1 | <0.1 | <0.2 |
| 1,1,2-Trichloroethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 |
| 1,1-Dichloroethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.2 | <0.1 | <0.1 | <0.1 |
| 1,1-Dichloroethylene | 14 ** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 |
| 1,2-Dibromoethane | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | <0.2 | | <0.2 | |
| 1,2-Dichlorobenzene | 3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.2 | <0.1 | <0.2 | <0.2 |
| 1,2-Dichloroethane | 5 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 |
| 1,2-Dichloropropane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.2 | <0.1 | <0.1 | <0.1 |
| 1,3-Dichlorobenzene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.2 | 0.1 | <0.2 | <0.2 |
| 1,4-Dichlorobenzene | 1 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | 0.1 | <0.2 | <0.2 |
| Acetone | | | | | | | | | | | <10.0 | <10 | <10 | <10 |
| Benzene | 5 ** | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.4 | <0.5 | <0.5 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| Bromodichloromethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 |
| Bromoform | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 |
| Bromomethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <0.5 | <0.5 | <0.5 | <0.5 |
| Carbon Tetrachloride | 5 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.2 | <0.1 | <0.1 | <0.1 |
| Chlorobenzene | 30 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.2 | <0.1 | <0.1 | <0.1 |
| Chloroethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <0.5 | | | <0.2 |
| Chloroform | | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 |
| Chloromethane | | * <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <1.0 | | | <0.5 |
| Cis-1,2-Dichloroethylene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | <0.2 | <0.1 | <0.1 | <0.1 |
| Cis-1,3-Dichloropropene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dibromochloromethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| Dichlorodifluoromethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | |
| Dichloromethane | 50 ** | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 |
| Ethyl benzene | 2.4 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 |
| Hexane | | | | | | | | | | | | | | |
| m/p-Xylenes | 300 *** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | <0.2 | <0.1 | <0.1 | <0.1 |
| Methyl ethyl ketone | | | | | | | | | | | <5.0 | <5 | <5.0 | <5 |
| Methyl Isobutyl Ketone | | | | | | | | | | | | <5 | <5.0 | |
| Methyl t-Butyl Ether | | | | | | | | | | | | <0.2 | <0.2 | |
| o-Xylene | 300 *** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | <0.2 | <0.1 | <0.1 | <0.1 |
| Styrene | | | | | | | | | | | <0.2 | <0.1 | <0.1 | <0.1 |
| Tetrachloroethylene | 30 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 |
| Toluene | 24 | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| trans-1,2-Dichloroethylene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.2 | <0.1 | <0.1 | <0.1 |
| trans-1,3-Dichloropropene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 |
| Trichloroethylene | 5 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.2 | <0.1 | <0.1 | <0.1 |
| Trichlorofluoromethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.5 | | | <0.2 |
| Vinyl Chloride | 2 ** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <0.5 | <0.2 | <0.2 | <0.2 |
| Xylenes - total | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 29-I | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | | <0.2 | | <0.2 | <0.2 | <0.5 | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10 | <10 | <10 | <10 | <10 | <25 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | <0.2 | <0.2 | | | | | | | | | | | | |
| **Chloroform** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | | | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5 | <5 | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | <5 | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 30-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | |
| **1,1,1-Trichloroethane** | | 1.4 | 1.5 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethylene** | **14 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dibromoethane** | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.7 | 0.6 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | |
| **o-Xylene** | **300 ***** | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Styrene** | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Toluene** | **24** | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.8 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | 1.1 | 1.7 | 0.6 | 1.3 | 1.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 30-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | 0.3 | 0.7 | 0.2 | 0.13 | 0.17 | 0.17 | 0.88 | 0.4 | 0.19 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | | <0.2 | | | <0.2 | | <0.2 | <0.2 | <0.2 | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | 43.7 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | 0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | 0.26 | 0.21 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | | | <0.2 | <0.2 | 0.2 | | | | | | | | |
| **Chloroform** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | <0.5 | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | 0.1 | 0.9 | 2.8 | 0.9 | 0.66 | 0.91 | 1 | 5.6 | 3.9 | 1.6 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5.0 | 19.7 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | | | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | 0.3 | 0.2 | 0.12 | 0.18 | 0.18 | 0.75 | 0.58 | 0.15 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | 0.1 | 0.1 | <0.1 | 0.3 | 0.2 | 0.3 | 0.17 | 0.22 | 0.19 | 0.24 | 0.89 | 0.48 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | 2.1 | 0.7 | <0.2 | 2.3 | 2.0 | 1.7 | 1.9 | 6.7 | 8.7 | 3.8 | 1.8 | 2.0 | 1.9 | 7.9 | 3.8 | 1.3 |
| **Xylenes - total** | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 30-I | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | 0.15 | 0.21 | 0.83 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | 0.1 | 0.11 | 0.32 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | 1.7 | 2.5 | 9.7 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | 0.22 | 0.31 | 1.1 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | 0.26 | 0.25 | 0.6 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | 1.3 | 1.9 | 6.7 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 31-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Aug-92 | Aug-93 | Aug-94 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-19 | Sep-21 |
| **1,1,1,2-Tetrachloroethane** | | | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.6 | <0.6 | <0.6 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.4 | <0.4 | <0.4 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <1.1 | <1.1 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.5 | <0.5 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <1.0 | | | <0.2 | | | <0.2 | | <0.2 | <0.2 | <0.5 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.5 | <0.5 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | | | | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <25 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.2 | <0.2 | <0.2 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <2.4 | <2.4 | <2.4 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.3 | <0.3 | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.6 | <0.6 | <0.6 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | <2.3 | <2.3 | <2.3 | | <0.2 | <0.2 | <0.2 | | | | | | | | | |
| **Chloroform** | | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <2.3 | <2.3 | <2.3 | | <0.5 | <0.5 | <0.5 | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <1.0 | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <0.7 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | <2.0 | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.5 | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | | | | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | <5.0 | | | <5 | <5 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | | | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.5 | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | | | | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.1 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.3 | <0.3 | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.3 | <0.3 | <0.3 | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <2.9 | <2.9 | <2.9 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-I | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 | Sep-02 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | | <0.1 |
| **1,1,1-Trichloroethane** | | 1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | 1.0 | <1.0 | <1.0 | <1.0 | 0.8 | * <0.9 | 1.1 | <0.5 | 1.4 | <0.5 | 1.1 | 1.2 | 1.4 | 0.9 | 1.4 | 1.6 | 1.3 | 1.2 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | * 0.1 | <0.2 | <0.2 | 0.1 |
| **1,2-Dibromoethane** | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | 0.2 | <0.2 | 0.2 | 0.2 | <0.2 | 0.1 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Acetone** | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.3 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | * <1.0 | * <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | | | | 0.7 | 0.8 | 0.6 | 1.0 | 1.1 | 0.9 | 0.9 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | | |
| **Dichloromethane** | **50 **** | * <1.0 | <1.0 | <1.0 | <1.0 | 0.9 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | | <5.0 |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | | <0.2 |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Styrene** | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.9 | <0.1 |
| **Toluene** | **24** | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | * <1.0 | * <1.0 | <1.0 | <1.0 | * <0.6 | * <0.7 | <1.0 | <0.3 | 0.8 | <0.3 | <0.3 | 1.1 | 1.0 | 0.5 | 1.0 | 1 | <0.2 | 0.8 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | 1.1 | 0.8 | 0.9 | 0.8 | 0.7 | 0.8 | 0.5 | 0.4 | 0.2 | 0.3 | 0.4 | 0.27 | 0.32 | 0.26 | 0.23 | 0.31 |
| **1,1-Dichloroethylene** | **14 **** | 0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.5 | | <0.2 | | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | 0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.1 | <0.5 | <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 |
| **Chloroethane** | | 0.2 | <1.0 | | | <0.2 | <0.2 | | | | | | | | | | |
| **Chloroform** | | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <2.0 | | | <0.5 | <0.5 | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | 0.8 | <1.0 | 0.6 | 0.5 | 0.4 | 0.5 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.17 | 0.2 | 0.16 | 0.14 | 0.16 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 11 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5.0 | <10.0 | <5 | <5.0 | | | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <2.0 | <0.2 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | 0.47 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | 0.7 | 0.6 | 0.5 | 0.5 | 0.4 | 0.5 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.21 | 0.22 | 0.15 | 0.17 | 0.19 |
| **Trichlorofluoromethane** | | <0.2 | <2.0 | | | <0.2 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-I | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | 0.24 | 0.25 | 0.21 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | 0.14 | 0.12 | 0.13 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | 0.19 | 0.12 | 0.14 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-II | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 | Sep-02 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | | <0.1 |
| **1,1,1-Trichloroethane** | | 1.4 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | 1.0 | 1.4 | <1.0 | <1.0 | 0.7 | 1.1 | 1.4 | <0.5 | 1.9 | <0.5 | 1.3 | 1.5 | 1.5 | 0.9 | 1.3 | 1.4 | 1.3 | 1.1 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.1 |
| **1,2-Dibromoethane** | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloroethane** | **5 **** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | 0.2 | <0.2 | * 0.1 | <0.2 | <0.2 | 0.1 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Acetone** | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10.0 |
| **Benzene** | **5 **** | * <0.5 | * <0.5 | <0.5 | <0.5 | 0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 0.3 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | * <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | 0.7 | 0.9 | 0.6 | 1.0 | 1 | 0.9 | 0.9 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | 2.7 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | | |
| **Dichloromethane** | **50 **** | 3.0 | * <1.0 | <1.0 | 1.1 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | | <5.0 |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | | <0.2 |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Styrene** | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.9 | <0.1 |
| **Toluene** | **24** | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | * <1.0 | 1.0 | <1.0 | * <1.0 | * <0.6 | * <0.8 | 1.1 | <0.3 | 1.3 | <0.3 | 0.8 | 0.8 | 1.1 | 0.5 | 1.0 | 1 | <0.2 | 0.8 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-II | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | 1.1 | 1.0 | 0.9 | 0.8 | 0.6 | 0.7 | 0.6 | 0.4 | 0.5 | 0.3 | 0.4 | 0.39 | 0.35 | 0.38 | 0.36 | 0.3 |
| **1,1-Dichloroethylene** | **14 **** | 0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.5 | | <0.2 | | | <0.2 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | 0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <15.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | <0.1 | <0.2 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.1 | <0.5 | <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 |
| **Chloroethane** | | 0.3 | <1.0 | | | <0.2 | <0.2 | | | | | | | | | | |
| **Chloroform** | | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <2.0 | | | <0.5 | <0.5 | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | 0.8 | <1.0 | 0.6 | 0.5 | 0.3 | 0.4 | 0.3 | 0.3 | 0.3 | 0.2 | 0.3 | 0.21 | 0.22 | 0.21 | 0.21 | 0.17 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 16 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5.0 | <10.0 | <5 | <5.0 | | | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <2.0 | <0.2 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | 0.6 | 0.6 | 0.5 | 0.4 | 0.3 | 0.4 | 0.4 | 0.3 | 0.3 | 0.3 | 0.3 | 0.25 | 0.23 | 0.21 | 0.22 | 0.2 |
| **Trichlorofluoromethane** | | <0.2 | <2.0 | | | <0.2 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-II | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | 0.32 | 0.27 | 0.26 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | 0.19 | 0.14 | 0.16 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | 0.21 | 0.13 | 0.17 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-III | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Sep-96 | Sep-97 | Sep-98 | Sep-99 | Sep-00 | Sep-01 | Sep-02 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | | | | | | | | | | <0.1 |
| **1,1,1-Trichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | 1.3 | 1.5 | 1.7 | 0.7 | <0.5 | 0.8 | 0.6 | 0.5 | 0.3 | 0.4 | 0.3 | 0.3 | 0.2 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dibromoethane** | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Acetone** | | | | | | | | | | | | | | <10.0 | <10.0 | <10.0 | <10.0 | <15.0 | <10.0 |
| **Benzene** | **5 **** | <0.5 | <0.5 | <0.5 | <0.5 | 0.8 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | <2.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | | | | 0.3 | 0.2 | <0.2 | 0.2 | <0.2 | 0.2 | 0.1 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | | | | |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.5 | <1.0 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Methyl ethyl ketone** | | | | | | | | | | | | | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | | | | | | | | | | <5.0 |
| **Methyl t-Butyl Ether** | | | | | | | | | | | | | | | | | | | <0.2 |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Styrene** | | | | | | | | | | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **Toluene** | **24** | <0.5 | <0.5 | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <1.0 | <1.0 | <1.0 | * <1.0 | * <0.7 | * <0.8 | 0.8 | 1.3 | 0.5 | <0.3 | <0.3 | 0.3 | <0.2 | <0.2 | * 0.1 | 0.2 | <0.2 | 0.1 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-III | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.4 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.4 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | *0.1 | <0.4 | 0.2 | 0.1 | <0.1 | 0.2 | <0.5 | 0.3 | 0.4 | 0.34 | <0.1 | <0.1 | <0.10 | 0.23 | 0.17 | 0.19 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.4 | <0.5 | | <0.2 | | | <1 | | <0.2 | <0.2 | <0.2 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <20.0 | <15.0 | <10 | <10 | <10 | <10 | <50 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <1.0 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | <0.4 | <1.0 | | | <0.2 | <0.2 | | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <2.0 | | | <0.5 | <0.5 | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | 0.2 | 0.3 | 0.26 | <0.1 | <0.1 | <0.10 | 0.15 | 0.11 | 0.11 |
| **Cis-1,3-Dichloropropene** | | <0.4 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <3 | <0.5 | <0.5 | <0.5 | <0.5 | 15 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <10.0 | <15.0 | <5 | <5.0 | <5 | <5 | <30 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <10.0 | <10.0 | <5 | <5.0 | | | <30 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.4 | <2.0 | <0.2 | <0.2 | | | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.4 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | 0.32 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.4 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | 0.2 | 0.2 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.4 | <2.0 | | | <0.2 | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 32-III | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | 0.19 | 0.1 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | 0.12 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 33-I | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-05 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 |
| **1,1,1,2-Tetrachloroethane** | | | | | | | | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **1,1,1-Trichloroethane** | | <1.0 | <1.0 | <1.0 | <1.0 | 0.8 | <0.6 | <0.6 | <0.6 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **1,1,2-Trichloroethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **1,1-Dichloroethane** | | 9.4 | 11.5 | <1.0 | 4.2 | 5.3 | 6.1 | 4.6 | 4.7 | 1.1 | 0.7 | 0.6 | 0.5 | 0.6 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | 0.22 |
| **1,1-Dichloroethylene** | **14 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **1,2-Dibromoethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | | <0.2 | | <0.2 | <5 | <1 | | | | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.1 | <0.2 | 0.3 | 0.4 | 0.5 | <5 | <1 | <1 | <2.0 | <2.0 | 0.31 |
| **1,2-Dichloroethane** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **1,2-Dichloropropane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **1,3-Dichlorobenzene** | | <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | 1.0 | 0.9 | 1.8 | 0.2 | <0.2 | 1.7 | 2.0 | 2.1 | <5 | 1.8 | 2.0 | <2.0 | 2.1 | 1.1 |
| **Acetone** | | | | | | | | | | <10 | <10 | <10 | <10 | <10 | <250 | <50 | <50 | <100 | <100 | <10 |
| **Benzene** | **5 **** | <0.5 | * <0.5 | * <0.5 | <0.5 | <0.5 | 1.7 | <0.2 | <0.2 | <0.1 | <0.1 | 1.5 | 1.6 | 2.0 | <2.5 | 1.8 | 1.8 | 2 | 1.9 | 0.98 |
| **Bromodichloromethane** | | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Bromoform** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **Bromomethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <13 | <2.5 | <2.5 | <5.0 | <5.0 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Chlorobenzene** | **30** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | 1.5 | 0.2 | <0.1 | 3.7 | 4.6 | 5.4 | 5.3 | 4.9 | 5.3 | 5.7 | 6.2 | 3.4 |
| **Chloroethane** | | <2.0 | <2.0 | <2.0 | 3.1 | 8.2 | 13.0 | 9.1 | <2.3 | | 0.6 | 6.6 | | | | | | | | |
| **Chloroform** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Chloromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <2.3 | | <0.5 | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | 0.1 | 0.1 | 0.2 | 0.2 | 0.2 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | 0.1 |
| **Cis-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **Dibromochloromethane** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **Dichlorodifluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | | <0.5 | <13 | <2.5 | <2.5 | <5.0 | <5.0 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <13 | <2.5 | 17 | | <5.0 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Hexane** | | | | | | | | | | | | | | <0.5 | <0.5 | <2.5 | <2.5 | <5.0 | <5.0 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Methyl ethyl ketone** | | | | | | | | | | <5 | <5 | <5 | <5 | <5 | <130 | <25 | <25 | <50 | <50 | <5.0 |
| **Methyl Isobutyl Ketone** | | | | | | | | | | <5 | | <5 | <5 | <5 | <130 | <25 | <25 | <50 | <50 | <5.0 |
| **Methyl t-Butyl Ether** | | | | | | | | | | <0.2 | | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **o-Xylene** | **300 ***** | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Styrene** | | | | | | | | | | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Toluene** | **24** | <0.5 | <0.5 | * <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **trans-1,3-Dichloropropene** | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **Trichloroethylene** | **5 **** | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <2.5 | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |
| **Trichlorofluoromethane** | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.2 | <0.2 | | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **Vinyl Chloride** | **2 **** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <5 | <1 | <1 | <2.0 | <2.0 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | | <0.5 | <0.5 | <1.0 | <1.0 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 33-I | | | |
|---|---|---|---|---|---|
| | | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <1.0 | <2.0 | <1.0 | <0.50 |
| 1,1,1-Trichloroethane | | <0.50 | <1.0 | <0.50 | <0.25 |
| 1,1,2,2-Tetrachloroethane | | <1.0 | <2.0 | <1.0 | <0.50 |
| 1,1,2-Trichloroethane | | <1.0 | <2.0 | <1.0 | <0.50 |
| 1,1-Dichloroethane | | <0.50 | <1.0 | <0.50 | 0.44 |
| 1,1-Dichloroethylene | 14 ** | <0.50 | <1.0 | <0.50 | <0.25 |
| 1,2-Dibromoethane | | <1.0 | <2.0 | <1.0 | <0.50 |
| 1,2-Dichlorobenzene | 3 | <1.0 | <2.0 | <1.0 | <0.50 |
| 1,2-Dichloroethane | 5 ** | <1.0 | <2.0 | <1.0 | <0.50 |
| 1,2-Dichloropropane | | <0.50 | <1.0 | <0.50 | <0.25 |
| 1,3-Dichlorobenzene | | <1.0 | <2.0 | <1.0 | <0.50 |
| 1,4-Dichlorobenzene | 1 | 2 | <2.0 | <1.0 | 2.3 |
| Acetone | | <50 | <100 | <50 | <25 |
| Benzene | 5 ** | 1.4 | 1.8 | 0.74 | 2.1 |
| Bromodichloromethane | | <0.50 | <1.0 | <0.50 | <0.25 |
| Bromoform | | <1.0 | <2.0 | <1.0 | <0.50 |
| Bromomethane | | <2.5 | <5.0 | <2.5 | <1.3 |
| Carbon Tetrachloride | 5 ** | <0.50 | <1.0 | <0.50 | <0.25 |
| Chlorobenzene | 30 | 5.4 | 5.3 | 2.6 | 7.4 |
| Chloroethane | | | | | |
| Chloroform | | <0.50 | <1.0 | <0.50 | <0.25 |
| Chloromethane | | | | | |
| Cis-1,2-Dichloroethylene | | <0.50 | <1.0 | <0.50 | <0.25 |
| Cis-1,3-Dichloropropene | | <1.0 | <2.0 | <1.0 | <0.50 |
| Dibromochloromethane | | <1.0 | <2.0 | <1.0 | <0.50 |
| Dichlorodifluoromethane | | <2.5 | <5.0 | <2.5 | <1.3 |
| Dichloromethane | 50 ** | <2.5 | <5.0 | <2.5 | <1.3 |
| Ethyl benzene | 2.4 | <0.50 | <1.0 | <0.50 | <0.25 |
| Hexane | | <2.5 | <5.0 | <2.5 | <1.3 |
| m/p-Xylenes | 300 *** | <0.50 | <1.0 | <0.50 | <0.25 |
| Methyl ethyl ketone | | <25 | <50 | <25 | <13 |
| Methyl Isobutyl Ketone | | <25 | <50 | <25 | <13 |
| Methyl t-Butyl Ether | | <1.0 | <2.0 | <1.0 | <0.50 |
| o-Xylene | 300 *** | <0.50 | <1.0 | <0.50 | <0.25 |
| Styrene | | <1.0 | <2.0 | <1.0 | <0.50 |
| Tetrachloroethylene | 30 ** | <0.50 | <1.0 | <0.50 | <0.25 |
| Toluene | 24 | <1.0 | <2.0 | <1.0 | <0.50 |
| trans-1,2-Dichloroethylene | | <0.50 | <1.0 | <0.50 | <0.25 |
| trans-1,3-Dichloropropene | | <1.0 | <2.0 | <1.0 | <0.50 |
| Trichloroethylene | 5 ** | <0.50 | <1.0 | <0.50 | <0.25 |
| Trichlorofluoromethane | | <1.0 | <2.0 | <1.0 | <0.50 |
| Vinyl Chloride | 2 ** | <1.0 | <2.0 | <1.0 | <0.50 |
| Xylenes - total | | <0.50 | <1.0 | <0.50 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 34-I | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-87 | Nov-87 | Jul-88 | Nov-88 | Oct-89 | Oct-90 | Sep-91 | Aug-92 | Aug-93 | Aug-94 | Sep-95 | Oct-96 | Sep-99 | Sep-00 |
| 1,1,1,2-Tetrachloroethane | | | | | | | | | | | | | | | |
| 1,1,1-Trichloroethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | 0.7 | <0.6 | <0.6 | <0.6 | <0.6 | <0.2 | <0.2 | <0.2 |
| 1,1,2,2-Tetrachloroethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 |
| 1,1,2-Trichloroethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <1.1 | <1.1 | <0.6 | | <0.2 | <0.2 | <0.2 |
| 1,1-Dichloroethane | | * <1.0 | 1.7 | 1.5 | 1.7 | 1.4 | 5.4 | 4.1 | 4.5 | 3.1 | <0.5 | 1.6 | 1.7 | 0.4 | 1.2 |
| 1,1-Dichloroethylene | 14 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 |
| 1,2-Dibromoethane | | | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | <0.2 | <0.2 | <0.2 |
| 1,2-Dichlorobenzene | 3 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 |
| 1,2-Dichloroethane | 5 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 |
| 1,2-Dichloropropane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 |
| 1,3-Dichlorobenzene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 |
| 1,4-Dichlorobenzene | 1 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | 0.3 | <0.2 | <0.2 |
| Acetone | | | | | | | | | | | | | | <10.0 | <10.0 |
| Benzene | 5 ** | * <0.5 | * <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.1 | <0.1 |
| Bromodichloromethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <2.0 | <2.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 |
| Bromoform | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.2 | <0.2 |
| Bromomethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.4 | <2.4 | <2.4 | <2.4 | <1.0 | <0.5 | <0.5 |
| Carbon Tetrachloride | 5 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 |
| Chlorobenzene | 30 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.6 | <0.6 | <0.6 | <0.6 | 0.2 | <0.2 | <0.2 |
| Chloroethane | | * <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | 2.9 | <2.3 | <2.3 | <2.3 | 1.3 | <0.5 | 0.9 |
| Chloroform | | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | | <0.2 | <0.2 | <0.2 |
| Chloromethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.3 | <2.3 | <3.8 | <2.3 | <1.0 | <1.0 | <1.0 |
| Cis-1,2-Dichloroethylene | | <1.0 | <1.0 | <1.0 | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | | | | 0.2 | <0.2 | 0.2 |
| Cis-1,3-Dichloropropene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.7 | | <0.2 | <0.2 | <0.2 |
| Dibromochloromethane | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | | <0.2 | <0.2 | <0.2 |
| Dichlorodifluoromethane | | <2.0 | 2.1 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | | | | | | |
| Dichloromethane | 50 ** | * <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <1.0 | <1.0 | <1.0 |
| Ethyl benzene | 2.4 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 |
| Hexane | | | | | | | | | | | | | | | |
| m/p-Xylenes | 300 *** | <0.5 | <0.5 | <0.5 | <0.5 | 0.7 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 |
| Methyl ethyl ketone | | | | | | | | | | | | | | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | | | | | | | | | | | | | | |
| Methyl t-Butyl Ether | | | | | | | | | | | | | | | |
| o-Xylene | 300 *** | <0.5 | <0.5 | <0.5 | <0.5 | * <0.44 | <0.5 | <0.5 | <0.5 | | | | <0.2 | <0.2 | <0.2 |
| Styrene | | | | | | | | | | | | | | <0.2 | <0.2 |
| Tetrachloroethylene | 30 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| Toluene | 24 | * <0.5 | * <0.5 | <0.5 | <0.5 | * <0.4 | <0.5 | <0.5 | <0.4 | <0.4 | <0.4 | <0.4 | 0.4 | 0.5 | <0.2 |
| trans-1,2-Dichloroethylene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.4 | <0.4 | <0.4 | <0.4 | <0.2 | <0.2 | <0.2 |
| trans-1,3-Dichloropropene | | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.1 | <1.1 | <0.2 | <0.2 | <0.2 |
| Trichloroethylene | 5 ** | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 | <0.3 | <0.3 | <0.3 | <0.3 | <0.2 | <0.2 | <0.2 |
| Trichlorofluoromethane | | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <0.3 | <0.3 | <0.3 | | <0.5 | <0.5 | <0.5 |
| Vinyl Chloride | 2 ** | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 | <2.9 | <2.9 | <2.9 | <2.9 | <0.5 | <0.5 | <0.5 |
| Xylenes - total | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 34-I | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-06 | Sep-07 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <0.2 | 0.6 | 1.0 | 1.6 | 1.1 | 0.7 | 0.5 | 0.5 | 0.7 | <0.5 | 0.3 | 0.18 | <0.10 | 0.3 | 0.27 | 0.23 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | | <0.2 | <1.0 | <0.5 | | | | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | 0.1 | 0.1 | <0.5 | <0.2 | <0.2 | <0.2 | 0.3 | 0.5 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <15.0 | <10.0 | <10 | <10 | <10 | <10 | <50 | <25 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.2 | 0.2 | 0.2 | <0.5 | 0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | <0.5 | 0.3 | 0.7 | <1.0 | | | | | | | | | | | | |
| **Chloroform** | | <0.2 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <1.0 | <0.5 | <0.5 | <2.0 | | | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | 0.1 | 0.2 | <1.0 | 0.2 | <0.1 | <0.1 | <0.1 | 0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | <0.5 | | <1.3 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.0 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <2.5 | <1.3 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.8 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <15.0 | <5.0 | <5 | <5 | <5 | <5 | <25 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | <5.0 | <5.0 | <10.0 | <5.0 | <5 | <5 | <5 | <5 | <25 | <13 | <5 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.1 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.1 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | 0.3 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.5 | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.5 | <0.2 | <0.2 | <2.0 | | | | | <0.2 | | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <1.0 | <0.5 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | <0.25 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 34-I | | |
|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | 0.12 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 35-I | | | | | 35-IR | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Oct-10 | May-11 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <2.0 | <1.0 | <0.5 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <2.0 | <0.5 | <1 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **1,1-Dichloroethane** | | <0.2 | <0.1 | <1.0 | <0.4 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <2.0 | <0.5 | | | <0.2 | <0.5 | <0.2 | <1 | | | | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **1,2-Dichloropropane** | | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Acetone** | | <10.0 | 31.7 | <100.0 | <15.0 | <50 | <50 | <10 | <30 | <10 | <50 | <50 | <10 | <10 | <10 | <100 | <50 | <10 | <25 |
| **Benzene** | **5 **** | <0.1 | 0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Bromodichloromethane** | | <0.2 | <0.1 | <1.0 | <0.2 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Bromoform** | | <0.2 | <0.2 | <2.0 | <0.2 | <1 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Bromomethane** | | <0.5 | <0.5 | <5.0 | <3.0 | <3 | <3 | <0.5 | <1 | <0.5 | <2.5 | <2.5 | <0.50 | <0.50 | <0.50 | <5.0 | <2.5 | <0.50 | <1.3 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Chlorobenzene** | **30** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Chloroethane** | | <0.5 | 0.2 | <2.0 | <1.0 | | | | | | | | | | | | | | |
| **Chloroform** | | <0.2 | 0.7 | <1.0 | <0.2 | <0.5 | 0.7 | 0.4 | 0.6 | 0.5 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Chloromethane** | | <1.0 | 0.6 | <5.0 | <2.0 | | | | | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.1 | <1.0 | <1.0 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <2.0 | <0.14 | <1 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <2.0 | <0.2 | <1 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Dichlorodifluoromethane** | | | | | | | | | <1 | <0.5 | <2.5 | <2.5 | <0.50 | <0.50 | <0.50 | <5.0 | <2.5 | <0.50 | <1.3 |
| **Dichloromethane** | **50 **** | <1.5 | <1.0 | <5.0 | <1.0 | <3 | <3 | <0.5 | <1 | <0.5 | <2.5 | <2.5 | <0.5 | | <0.50 | <5.0 | <2.5 | <0.50 | <1.3 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Hexane** | | | | | | | | | <0.5 | <0.5 | <2.5 | <2.5 | <0.5 | <0.50 | <0.50 | <5.0 | <2.5 | <0.50 | <1.3 |
| **m/p-Xylenes** | **300 ***** | <0.2 | 0.2 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Methyl ethyl ketone** | | <5.0 | 6.3 | <50.0 | <15.0 | <30 | <30 | <5 | <10 | <5 | <25 | <25 | <5.0 | <5.0 | <5.0 | <50 | <25 | <5.0 | <13 |
| **Methyl Isobutyl Ketone** | | | <5.0 | <50.0 | <10.0 | <30 | <30 | <5 | <10 | <5 | <25 | <25 | <5.0 | <5.0 | <5.0 | <50 | <25 | <5.0 | <13 |
| **Methyl t-Butyl Ether** | | | 0.2 | <2.0 | <2.0 | <1 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **o-Xylene** | **300 ***** | <0.2 | 0.3 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.1 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Styrene** | | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.1 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Toluene** | **24** | <0.2 | 0.8 | 62.8 | <0.5 | 4 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.1 | <1.0 | <1.0 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <2.0 | <0.14 | <1 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.1 | <1.0 | <0.5 | <0.5 | <0.5 | <0.1 | <0.3 | <0.1 | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |
| **Trichlorofluoromethane** | | <0.5 | <0.2 | <2.0 | <2.0 | | | | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Vinyl Chloride** | **2 **** | <0.2 | 0.2 | <2.0 | <0.2 | <1 | <1 | <0.2 | <0.5 | <0.2 | <1 | <1 | <0.20 | <0.20 | <0.20 | <2.0 | <1.0 | <0.20 | <0.50 |
| **Xylenes - total** | | | | | | | | | | | <0.5 | <0.5 | <0.10 | <0.10 | <0.10 | <1.0 | <0.50 | <0.10 | <0.25 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 35-II | | | | | | | | | | 35-IIR | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-01 | Sep-02 | Sep-03 | Sep-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Oct-10 | May-11 | Sep-11 | Sep-12 | Sep-13 | Sep-14 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 |
| **1,1,1-Trichloroethane** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <0.2 | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,1-Dichloroethylene** | **14 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | <0.5 | | <0.2 | <0.2 | | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.1 | <0..1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | <15.0 | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | <0.2 | <0.1 | <0.1 | <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 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chlorobenzene** | **30** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chloroethane** | | <0.5 | <0.2 | <0.2 | <1.0 | | | | <0.2 | | | | | | | | |
| **Chloroform** | | <0.2 | <0.1 | 0.5 | <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 |
| **Chloromethane** | | <1.0 | <0.5 | <0.5 | <2.0 | | | | <0.5 | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 |
| **Dichloromethane** | **50 **** | <1.5 | <1.0 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | <15.0 | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| **Methyl Isobutyl Ketone** | | | <5.0 | <5.0 | <10.0 | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 |
| **Methyl t-Butyl Ether** | | | <0.2 | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **o-Xylene** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Styrene** | | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <0.2 | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <0.2 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Trichlorofluoromethane** | | <0.5 | <0.2 | <0.2 | <2.0 | | | | <0.2 | | | | | <0.2 | <0.2 | <0.2 | <0.2 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | <0.1 | <0.1 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 35-IIR | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | Sep-15 | Sep-16 | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | | | |
| Chloroform | | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.5 | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.5 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.19 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 0.33 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | | 0.19 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 35-III | | | | | | | | | | 35-IIIR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-01 | Sep-02 | Sep-03 | Oct-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Oct-10 | May-11 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <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 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <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 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <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 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | | | <0.2 | <0.2 | | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | | | |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.1 | <0..1 | | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <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 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.1 | <0.1 | | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.1 | <0.1 | | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.5 | 0.4 | <0.1 | <0.1 | <0.1 | <0.1 | 0.4 | 0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.10 | 0.24 |
| **Bromodichloromethane** | | <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 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <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 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <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 | <0.10 |
| **Chloroethane** | | <0.5 | <0.2 | <0.2 | | | | | <0.2 | | | | | | | | | | |
| **Chloroform** | | <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 | <0.10 |
| **Chloromethane** | | <1.0 | <0.5 | <0.5 | | | | | <0.5 | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <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 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.5 | <1.0 | <0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 12 | <0.5 | <0.5 |
| **Ethyl benzene** | **2.4** | <0.2 | <0.1 | <0.1 | <0.5 | <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 | <0.10 |
| **Hexane** | | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.11 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | <5.0 | <5.0 | | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <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 | <0.10 |
| **Styrene** | | <0.2 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <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 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.5 | 0.3 | <0.2 | <0.2 | <0.2 | <0.2 | 0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <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 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <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 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.5 | <0.2 | <0.2 | | | | | <0.2 | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | 0.11 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 35-IIIR | | | | |
|---|---|---|---|---|---|---|
| | | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | 0.14 | <0.10 | 0.26 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | 0.11 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | 0.22 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | 0.11 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the R
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 35-IV | | | | | | | | | | 35-IVR | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-01 | Sep-02 | Sep-03 | Oct-04 | Sep-05 | Sep-06 | Sep-07 | Oct-08 | Sep-09 | Sep-10 | Oct-10 | May-11 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-16 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <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 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <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 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <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 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.2 | | | <0.2 | <0.2 | | <0.2 | | | <0.2 | <0.2 | <0.2 | <0.2 | | | |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.1 | <0..1 | | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <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 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.1 | <0.1 | | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.1 | <0.1 | | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Acetone** | | <10.0 | <10.0 | <10.0 | | <10 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <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 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <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 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <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 | <0.10 |
| **Chloroethane** | | <0.5 | <0.2 | <0.2 | | | | | <0.2 | | | | | | | | | | |
| **Chloroform** | | <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 | <0.10 |
| **Chloromethane** | | <1.0 | <0.5 | <0.5 | | | | | <0.5 | | | | | | | | | | |
| **Cis-1,2-Dichloroethylene** | | <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 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 | <0.50 |
| **Dichloromethane** | **50 **** | <1.5 | <1.0 | <0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | 12 | <0.5 | |
| **Ethyl benzene** | **2.4** | <0.2 | <0.1 | <0.1 | <0.5 | <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 | <0.10 |
| **Hexane** | | | | | | | | | | | | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.50 |
| **m/p-Xylenes** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <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 | <0.10 |
| **Methyl ethyl ketone** | | <5.0 | <5.0 | <5.0 | | <5 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | | <5.0 | <5.0 | | <5 | <5.0 | <5 | | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.2 | <0.1 | <0.1 | <0.5 | <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 | <0.10 |
| **Styrene** | | <0.2 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.1 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <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 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <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 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <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 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.5 | <0.2 | <0.2 | | | | | <0.2 | | | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | | | | | | | | | | | | <0.1 | <0.1 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 35-IVR | | | | |
|---|---|---|---|---|---|---|
| | | Sep-17 | Sep-18 | Sep-19 | Sep-20 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Acetone | | <10 | <10 | <10 | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 | <0.10 | 0.12 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloroethane | | | | | | |
| Chloroform | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Chloromethane | | | | | | |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Dichlorodifluoromethane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Dichloromethane | 50 ** | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Hexane | | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 | 0.1 |
| Methyl ethyl ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 | <0.10 | <0.10 | 0.1 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 37-I (Refuse Monitor) | | | 38-I | | | | | | | | | | | 39-I |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Sep-19 | Sep-20 | Sep-21 | Oct-08 | Sep-09 | Sep-10 | Sep-11 | Sep-12 | Sep-13 | Sep-14 | Sep-15 | Sep-17 | Sep-18 | Sep-19 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <5.0 | <5.0 | <10 | <0.1 | <0.2 | <0.2 | <0.1 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| 1,1,1-Trichloroethane | | <2.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| 1,1,2,2-Tetrachloroethane | | <5.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| 1,1,2-Trichloroethane | | <5.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| 1,1-Dichloroethane | | <2.0 | <2.5 | <5.0 | 2.2 | 2.2 | 1.5 | 0.8 | 0.7 | 0.7 | 0.61 | 1 | 0.84 | 0.77 | 1.2 | <5.0 |
| 1,1-Dichloroethylene | 14 ** | <2.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| 1,2-Dibromoethane | | <2.0 | <5.0 | <10 | | <0.4 | | <0.2 | <0.2 | <0.5 | | | <0.20 | <1.0 | <1.0 | <10 |
| 1,2-Dichlorobenzene | 3 | <5.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| 1,2-Dichloroethane | 5 ** | <5.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| 1,2-Dichloropropane | | <2.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| 1,3-Dichlorobenzene | | <5.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| 1,4-Dichlorobenzene | 1 | 21 | 19 | 22 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | 0.41 | <1.0 | <1.0 | 32 |
| Acetone | | <100 | <250 | <500 | <10 | <20 | <20 | <10 | <10 | <25 | <10 | <10 | <10 | <50 | <50 | <500 |
| Benzene | 5 ** | 4.1 | 4.1 | <5.0 | 0.4 | 0.3 | 0.7 | 0.2 | 0.7 | 0.6 | 0.53 | 0.63 | 0.31 | <0.50 | <0.50 | <5.0 |
| Bromodichloromethane | | <5.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | 0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| Bromoform | | <10 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | 0.3 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| Bromomethane | | <5.0 | <13 | <25 | <0.5 | <1 | <1 | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <2.5 | <2.5 | <25 |
| Carbon Tetrachloride | 5 ** | <2.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| Chlorobenzene | 30 | 34 | 50 | 57 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | 0.13 | 0.25 | 0.37 | 1.1 | 0.73 | 21 |
| Chloroethane | | | | | <0.2 | <0.4 | | | | | | | | | | |
| Chloroform | | <2.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | 0.85 | <0.1 | <0.10 | <0.50 | <0.50 | <5.0 |
| Chloromethane | | | | | <0.5 | <1 | | | | | | | | | | |
| Cis-1,2-Dichloroethylene | | <5.0 | <2.5 | <5.0 | 0.6 | 0.9 | 0.9 | 0.4 | 0.5 | 0.4 | 0.5 | 0.61 | 0.49 | 0.56 | 0.82 | <5.0 |
| Cis-1,3-Dichloropropene | | <3.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| Dibromochloromethane | | <5.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | 0.8 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| Dichlorodifluoromethane | | <10 | <13 | <25 | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.50 | <0.50 | <2.5 | <2.5 | <25 |
| Dichloromethane | 50 ** | <20 | <13 | <25 | <0.5 | <1 | <1 | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <2.5 | <2.5 | <25 |
| Ethyl benzene | 2.4 | 54 | 67 | 77 | <0.1 | <0.2 | <0.2 | <0.1 | 0.1 | <0.25 | 0.1 | 0.12 | <0.10 | <0.50 | <0.50 | 120 |
| Hexane | | <10 | <13 | <25 | | | | <0.5 | <0.5 | <1.3 | <0.5 | <0.5 | <0.50 | <2.5 | <2.5 | <25 |
| m/p-Xylenes | 300 *** | 140 | 240 | 270 | <0.1 | <0.2 | <0.2 | <0.1 | 0.3 | <0.25 | 0.2 | 0.22 | 0.11 | <0.50 | <0.50 | 290 |
| Methyl ethyl ketone | | <100 | <130 | <250 | <5 | <10 | <10 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <25 | <25 | <250 |
| Methyl Isobutyl Ketone | | <50 | <130 | <250 | | <10 | <10 | <5 | <5 | <13 | <5 | <5.0 | <5.0 | <25 | <25 | <250 |
| Methyl t-Butyl Ether | | <5.0 | <5.0 | <10 | | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| o-Xylene | 300 *** | 88 | 110 | 130 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.1 | <0.10 | <0.50 | <0.50 | 120 |
| Styrene | | <5.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.1 | <0.20 | <1.0 | <1.0 | <10 |
| Tetrachloroethylene | 30 ** | <2.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| Toluene | 24 | 3.5 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | 0.5 | <0.5 | 0.34 | 0.4 | 0.2 | <1.0 | <1.0 | 27 |
| trans-1,2-Dichloroethylene | | <5.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| trans-1,3-Dichloropropene | | <4.0 | <5.0 | <10 | <0.2 | <0.4 | <0.4 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| Trichloroethylene | 5 ** | <2.0 | <2.5 | <5.0 | <0.1 | <0.2 | <0.2 | <0.1 | <0.1 | <0.25 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <5.0 |
| Trichlorofluoromethane | | <5.0 | <5.0 | <10 | <0.2 | <0.4 | | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| Vinyl Chloride | 2 ** | <2.0 | <5.0 | <10 | <0.2 | <0.4 | <0.6 | <0.2 | <0.2 | <0.5 | <0.2 | <0.20 | <0.20 | <1.0 | <1.0 | <10 |
| Xylenes - total | | 230 | 360 | 400 | | | | | | <0.25 | 0.2 | 0.22 | 0.11 | <0.50 | <0.50 | 410 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-I BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oct-03 | Jan-04 | Oct-04 | Oct-05 | Apr-06 | Sep-06 | May-07 | Sep-07 | May-08 | Oct-08 | Apr-09 | Sep-09 | Apr-10 | Sep-10 | Apr-12 | Sep-12 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | 0.2 | 0.3 | 0.3 | 0.3 | <0.2 | 0.4 | <0.2 | 0.2 | 0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | <10 | <10.0 | <15 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | | | | | | | | | | | | | | | <0.1 | <0.1 |
| **Bromoform** | | *0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroform** | | 5 | 2.7 | 0.9 | 0.5 | 0.3 | 0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | 0.7 | 0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | 1.7 | 0.8 | <0.2 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5 | <5.0 | <15 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5.0 | <10 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-I BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Apr-13 | Sep-13 | Apr-14 | Sep-14 | Apr-15 | Sep-15 | Apr-16 | Sep-16 | Apr-17 | Sep-17 | May-18 | Sep-18 | Apr-19 | Sep-19 | Apr-20 | Sep-20 |
| **1,1,1,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <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 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <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 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <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 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <5.0 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | | | | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <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 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <5.0 | <0.20 |
| **Chloroform** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.50 | <0.50 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | <0.1 | <0.1 | <0.10 | <0.10 | | | | | | | | | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <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 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <5 | <5 | <5.0 | <5.0 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5 | <0.2 | <0.2 | <0.20 | <0.20 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-I BP | |
|---|---|---|---|
| | | Apr-21 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 |
| Acetone | | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 |
| Chloroethane | | <0.20 | <0.20 |
| Chloroform | | <0.10 | <0.10 |
| Chloromethane | | <0.50 | <0.50 |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | |
| Dichloromethane | 50 ** | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 |
| Hexane | | | |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-II BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oct-03 | Jan-04 | Oct-04 | Oct-05 | Apr-06 | Sep-06 | May-07 | Sep-07 | May-08 | Oct-08 | Apr-09 | Sep-09 | Apr-10 | Sep-10 | Apr-12 | Sep-12 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | <10 | <10.0 | <15 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | 0.2 | <0.1 | <0.5 | <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 |
| **Bromodichloromethane** | | | | | | | | | | | | | | | | <0.1 | <0.1 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroform** | | 2.5 | 1.1 | 0.3 | 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 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | <0.5 | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | 0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | 0.6 | 0.2 | <0.2 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Ethyl benzene** | **2.4** | 0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | 0.2 | <0.1 | <0.5 | <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 |
| **Methyl ethyl ketone** | | <5 | <5.0 | <15 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5.0 | <10 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **o-Xylene** | **300 ***** | 0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | 0.3 | 0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-II BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Apr-13 | Sep-13 | Apr-14 | Sep-14 | Apr-15 | Sep-15 | Apr-16 | Sep-16 | Apr-17 | Sep-17 | May-18 | Sep-18 | Apr-19 | Sep-19 | Apr-20 | Sep-20 |
| **1,1,1,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <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 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <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 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <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 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <5.0 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | 0.13 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | 0.25 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | | | | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <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 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <5.0 | <0.20 |
| **Chloroform** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.50 | <0.50 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | <0.1 | <0.1 | <0.10 | <0.10 | | | | | | | | | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <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 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <5 | <5 | <5.0 | <5.0 | <0.10 | <0.10 | 0.12 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5 | <0.2 | <0.2 | <0.20 | <0.20 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | 0.21 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | <1 | <0.10 | <0.10 | <0.10 | <0.10 | 0.12 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-II BP | |
|---|---|---|---|
| | | Apr-21 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 |
| Acetone | | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 |
| Chloroethane | | <0.20 | <0.20 |
| Chloroform | | <0.10 | <0.10 |
| Chloromethane | | <0.50 | <0.50 |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | |
| Dichloromethane | 50 ** | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 |
| Hexane | | | |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-III BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oct-03 | Jan-04 | Oct-04 | Oct-05 | Apr-06 | Sep-06 | May-07 | Sep-07 | May-08 | Oct-08 | Apr-09 | Sep-09 | Apr-10 | Sep-10 | Apr-12 | Sep-12 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.4 | <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 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <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 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <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 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | <10 | <10.0 | <15 | <10.0 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | 0.5 | 0.2 | <0.5 | 0.3 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | 0.3 | 0.2 | 0.2 | 0.2 | 0.2 | <0.1 | <0.1 |
| **Bromodichloromethane** | | | | | | | | | | | | | | | | <0.1 | <0.1 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <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 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroform** | | 1.6 | 0.6 | 0.3 | <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 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | | | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <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 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <0.2 | 0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | 0.2 | <0.1 | <0.2 | <0.1 | <0.1 | | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Ethyl benzene** | **2.4** | 0.1 | <0.1 | <0.5 | <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 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | 0.1 | 0.1 | <0.5 | 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 |
| **Methyl ethyl ketone** | | <5 | <5.0 | <15 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5.0 | <10 | <5.0 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <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 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Toluene** | **24** | 0.3 | 0.3 | <0.5 | 0.3 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | 0.2 | <0.2 | 0.3 | <0.2 | 0.3 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <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 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <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 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-III BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Apr-13 | Sep-13 | Apr-14 | Sep-14 | Apr-15 | Sep-15 | Apr-16 | Sep-16 | Apr-17 | Sep-17 | May-18 | Sep-18 | Apr-19 | Sep-19 | Apr-20 | Sep-20 |
| **1,1,1,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <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 | <0.10 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <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 | <0.10 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <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 | <0.10 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <5.0 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Acetone** | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | 0.3 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | 0.19 | <0.10 | <0.10 | 0.11 | <0.10 | <0.10 | 0.33 | <0.10 | <0.10 | 0.1 |
| **Bromodichloromethane** | | <0.1 | <0.1 | | | | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <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 | <0.10 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <5.0 | <0.20 |
| **Chloroform** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.50 | <0.50 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | <0.1 | <0.1 | <0.10 | <0.10 | | | | | | | | | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <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 | <0.10 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | 0.14 | <0.1 | <5 | <5 | <5.0 | <5.0 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.19 | <0.10 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5 | <0.2 | <0.2 | <0.20 | <0.20 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Toluene** | **24** | 0.32 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | 0.22 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | 0.35 | <0.20 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | 0.19 | <0.10 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-III BP | |
|---|---|---|---|
| | | Apr-21 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 |
| Acetone | | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 |
| Chloroethane | | <0.20 | <0.20 |
| Chloroform | | <0.10 | <0.10 |
| Chloromethane | | <0.50 | <0.50 |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | |
| Dichloromethane | 50 ** | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 |
| Hexane | | | |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-IV BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Oct-03 | Jan-04 | Oct-04 | Oct-05 | Apr-06 | Sep-06 | May-07 | Sep-07 | May-08 | Oct-08 | Apr-09 | Sep-09 | Apr-10 | Sep-10 | Apr-12 | Sep-12 |
| **1,1,1,2-Tetrachloroethane** | | | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.2 | <0.2 |
| **1,1,1-Trichloroethane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <1.0 | <0.1 | <0.1 | <0.1 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,1-Dichloroethane** | | <0.1 | <0.1 | <0.4 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,1-Dichloroethylene** | **14 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | <0.5 | <0.2 | <0.2 | | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichlorobenzene** | **3** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloroethane** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **1,3-Dichlorobenzene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **1,4-Dichlorobenzene** | **1** | <0.1 | <0.1 | <0.5 | <0.1 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Acetone** | | 26.7 | <10.0 | <15 | <10.0 | <10 | <10 | <20 | <10 | <10 | <10 | <10 | <20 | <10 | <10 | <10 | <10 |
| **Benzene** | **5 **** | 0.2 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Bromodichloromethane** | | | | | | | | | | | | | | | | <0.1 | <0.1 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Bromomethane** | | <0.5 | <0.5 | <3.0 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Carbon Tetrachloride** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chloroethane** | | <0.2 | <0.2 | <1.0 | <0.2 | | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Chloroform** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Chloromethane** | | <0.5 | <0.5 | <2.0 | <0.5 | | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Dichlorodifluoromethane** | | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <1.0 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.5 | <1 | <0.5 | <0.5 | <0.5 | <0.5 |
| **Ethyl benzene** | **2.4** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | 0.2 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Methyl ethyl ketone** | | <5 | <5.0 | <15 | <5.0 | <5 | <5 | <10 | <5 | <5 | <5 | <5 | <10 | <5 | <5 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5.0 | <10 | <5.0 | <5 | <5 | <10 | <5 | <5 | <5 | <5 | <10 | <5 | <5 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | | <0.2 | <2.0 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Styrene** | | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Toluene** | **24** | 0.2 | <0.2 | <0.5 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <1.0 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.14 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.5 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 | <0.2 | <0.1 | <0.1 | <0.1 | <0.1 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <2.0 | <0.2 | | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 | <0.4 | <0.2 | <0.2 | <0.2 | <0.2 |
| **Xylenes - total** | | | | | | | | | | | | | | | | | |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-IV BP | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Apr-13 | Sep-13 | Apr-14 | Sep-14 | Apr-15 | Sep-15 | Apr-16 | Sep-16 | Apr-17 | Sep-17 | May-18 | Sep-18 | Apr-19 | Sep-19 | Apr-20 | Sep-20 |
| **1,1,1,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **1,1,1-Trichloroethane** | | <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 | <0.25 | <0.10 | <0.10 |
| **1,1,2,2-Tetrachloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **1,1,2-Trichloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **1,1-Dichloroethane** | | <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 | <0.25 | <0.10 | <0.10 |
| **1,1-Dichloroethylene** | **14 **** | <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 | <0.25 | <0.10 | <0.10 |
| **1,2-Dibromoethane** | | <0.2 | <0.2 | | | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **1,2-Dichlorobenzene** | **3** | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **1,2-Dichloroethane** | **5 **** | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **1,2-Dichloropropane** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **1,3-Dichlorobenzene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **1,4-Dichlorobenzene** | **1** | <0.2 | <0.2 | <0.2 | <0.2 | <5.0 | <5.0 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Acetone** | | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <10 | <25 | <10 | <10 |
| **Benzene** | **5 **** | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Bromodichloromethane** | | <0.1 | <0.1 | | | | | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Bromoform** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Bromomethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <1.3 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | **5 **** | <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 | <0.25 | <0.10 | <0.10 |
| **Chlorobenzene** | **30** | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Chloroethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <5.0 | <0.20 |
| **Chloroform** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.50 | <0.50 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Chloromethane** | | <0.5 | <0.5 | <0.5 | <0.5 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <1.3 | <0.50 | <0.50 |
| **Cis-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.1 | <0.1 | <0.20 | <0.20 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Cis-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Dibromochloromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.10 | <0.10 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Dichlorodifluoromethane** | | | | <0.1 | <0.1 | <0.10 | <0.10 | | | | | | | | | | |
| **Dichloromethane** | **50 **** | <0.5 | <0.5 | <0.1 | <0.1 | <0.10 | <0.10 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 | <1.3 | <0.50 | <0.50 |
| **Ethyl benzene** | **2.4** | <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 | <0.25 | <0.10 | <0.10 |
| **Hexane** | | | | | | | | | | | | | | | | | |
| **m/p-Xylenes** | **300 ***** | <0.1 | <0.1 | <5 | <5 | <5.0 | <5.0 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Methyl ethyl ketone** | | <5 | <5 | <5 | <5 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <13 | <5.0 | <5.0 |
| **Methyl Isobutyl Ketone** | | <5 | <5 | <0.2 | <0.2 | <0.20 | <0.20 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 | <13 | <5.0 | <5.0 |
| **Methyl t-Butyl Ether** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.50 | <0.50 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **o-Xylene** | **300 ***** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Styrene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Tetrachloroethylene** | **30 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Toluene** | **24** | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **trans-1,2-Dichloroethylene** | | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **trans-1,3-Dichloropropene** | | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Trichloroethylene** | **5 **** | <0.1 | <0.1 | <0.2 | <0.2 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |
| **Trichlorofluoromethane** | | <0.2 | <0.2 | <0.2 | <0.2 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Vinyl Chloride** | **2 **** | <0.2 | <0.2 | <0.1 | <0.1 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 | <0.50 | <0.20 | <0.20 |
| **Xylenes - total** | | | | | <1 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.10 | <0.25 | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-3**
**GROUNDWATER ORGANIC CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | ODWQS | 5-IV BP | |
|---|---|---|---|
| | | Apr-21 | Sep-21 |
| 1,1,1,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,1-Trichloroethane | | <0.10 | <0.10 |
| 1,1,2,2-Tetrachloroethane | | <0.20 | <0.20 |
| 1,1,2-Trichloroethane | | <0.20 | <0.20 |
| 1,1-Dichloroethane | | <0.10 | <0.10 |
| 1,1-Dichloroethylene | 14 ** | <0.10 | <0.10 |
| 1,2-Dibromoethane | | <0.20 | <0.20 |
| 1,2-Dichlorobenzene | 3 | <0.20 | <0.20 |
| 1,2-Dichloroethane | 5 ** | <0.20 | <0.20 |
| 1,2-Dichloropropane | | <0.10 | <0.10 |
| 1,3-Dichlorobenzene | | <0.20 | <0.20 |
| 1,4-Dichlorobenzene | 1 | <0.20 | <0.20 |
| Acetone | | <10 | <10 |
| Benzene | 5 ** | <0.10 | <0.10 |
| Bromodichloromethane | | <0.10 | <0.10 |
| Bromoform | | <0.20 | <0.20 |
| Bromomethane | | <0.50 | <0.50 |
| Carbon Tetrachloride | 5 ** | <0.10 | <0.10 |
| Chlorobenzene | 30 | <0.10 | <0.10 |
| Chloroethane | | <0.20 | <0.20 |
| Chloroform | | <0.10 | <0.10 |
| Chloromethane | | <0.50 | <0.50 |
| Cis-1,2-Dichloroethylene | | <0.10 | <0.10 |
| Cis-1,3-Dichloropropene | | <0.20 | <0.20 |
| Dibromochloromethane | | <0.20 | <0.20 |
| Dichlorodifluoromethane | | | |
| Dichloromethane | 50 ** | <0.50 | <0.50 |
| Ethyl benzene | 2.4 | <0.10 | <0.10 |
| Hexane | | | |
| m/p-Xylenes | 300 *** | <0.10 | <0.10 |
| Methyl ethyl ketone | | <5.0 | <5.0 |
| Methyl Isobutyl Ketone | | <5.0 | <5.0 |
| Methyl t-Butyl Ether | | <0.20 | <0.20 |
| o-Xylene | 300 *** | <0.10 | <0.10 |
| Styrene | | <0.20 | <0.20 |
| Tetrachloroethylene | 30 ** | <0.10 | <0.10 |
| Toluene | 24 | <0.20 | <0.20 |
| trans-1,2-Dichloroethylene | | <0.10 | <0.10 |
| trans-1,3-Dichloropropene | | <0.20 | <0.20 |
| Trichloroethylene | 5 ** | <0.10 | <0.10 |
| Trichlorofluoromethane | | <0.20 | <0.20 |
| Vinyl Chloride | 2 ** | <0.20 | <0.20 |
| Xylenes - total | | <0.10 | <0.10 |

NOTES: 1) All units are in µg/L
2) ODWQS - Ontario Drinking Water Quality Standards
3)* - Indicates parameter concentration detected below the Reportable Detection Limit (RDL)
** - Indicates value is a health related Standard.
*** - Indicates Standard is for total of all xylenes.
Blank indicates parameter not analysed.

**TABLE C-4**
**DUPLICATE SAMPLES RELATIVE PERCENT DIFFERENCES - Field Duplicates**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | | GROUNDWATER | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 16-I | | | | 21-IR | | | | 32-I | | | | 35-IIR | | | |
| | | September 2021 | | | | September 2021 | | | | September 2021 | | | | September 2021 | | | |
| PARAMETER | UNITS | RDL | Original | Duplicate | RPD (%) | RDL | Original | Duplicate | RPD (%) | RDL | Original | Duplicate | RPD (%) | RDL | Original | Duplicate | RPD (%) |
| Alkalinity | mg/L | 1 | 35 | 36 | 3 | 1 | 650 | 580 | 11 | 1 | 500 | 500 | <1 | 1 | 260 | 260 | <1 |
| Ammonia | mg/L | 0.05 | 20 | 19 | 5 | 0.05 | 0.18 | 0.23 | <2xRDL | 0.05 | <0.050 | <0.050 | <2xRDL | 0.05 | 5.8 | 5.8 | <1 |
| BOD | mg/L | 2 | <2 | <2 | <2xRDL | 2 | 3 | 4 | <2xRDL | 2 | <2 | <2 | <2xRDL | 2 | <2 | <2 | <2xRDL |
| Chloride | mg/L | 120 | 15000 | 16000 | 6 | 1 | 8.3 | 7.7 | 8 | 2 | 160 | 170 | 6 | 20 | 1600 | 1500 | 6 |
| Conductivity | umho/cm | 1 | 44000 | 45000 | 2 | 1 | 3200 | 3300 | 3 | 1 | 2100 | 2100 | <1 | 1 | 5900 | 5900 | <1 |
| Hardness | mg/L | 1 | 9700 | 9500 | 2 | 1 | 680 | 770 | 12 | 1 | 770 | 770 | <1 | 1 | 1200 | 1200 | <1 |
| Iron | mg/L | 0.02 | <0.02 | <0.02 | <2xRDL | 0.02 | <0.02 | <0.02 | <2xRDL | 0.02 | <0.02 | <0.02 | <2xRDL | 0.02 | <0.02 | <0.02 | <2xRDL |
| Nitrate | mg/L | 0.5 | <0.50 | <0.50 | <2xRDL | 0.1 | 0.15 | 0.16 | 6 | 0.1 | <0.10 | <0.10 | <2xRDL | 0.1 | <0.10 | <0.10 | <2xRDL |
| Nitrite | mg/L | 0.05 | <0.050 | <0.050 | <2xRDL | 0.01 | 0.013 | 0.037 | **>2xRDL** | 0.01 | <0.010 | <0.010 | <2xRDL | 0.01 | <0.010 | <0.010 | <2xRDL |
| pH | pH | | 7.13 | 7.17 | <1 | | 8.19 | 8.18 | <1 | | 7.89 | 7.74 | 2 | | 7.68 | 7.80 | 2 |
| Phenols | mg/L | 0.001 | 0.0017 | 0.0013 | <2xRDL | 0.001 | <0.0010 | <0.0010 | <2xRDL | 0.001 | <0.0010 | <0.0010 | <2xRDL | 0.001 | <0.0010 | <0.0010 | <2xRDL |
| Potassium | mg/L | 1 | 180 | 180 | <1 | 1 | 10 | 12 | 18 | 1 | 19 | 19 | <1 | 1 | 55 | 54 | 2 |
| Sodium | mg/L | 50 | 7700 | 7200 | 7 | 5 | 590 | 560 | 5 | 0.5 | 190 | 190 | <1 | 5 | 740 | 750 | 1 |
| Sulphate | mg/L | 5 | 1800 | 1700 | 6 | 10 | 1200 | 1400 | 15 | 2 | 420 | 430 | 2 | 2 | 370 | 370 | <1 |
| Total Kjeldahl Nitrogen | mg/L | 1 | 21 | 22 | 5 | 0.1 | 0.34 | 0.76 | **>2xRDL** | 0.1 | 0.15 | 0.14 | <2xRDL | 0.5 | 6.2 | 5.7 | 8 |
| 1,1,1-Trichloroethane | ug/L | 0.25 | 11 | 9.5 | 15 | | | | | | | | | | | | |
| 1,1-Dichloroethane | ug/L | | | | | | | | | 0.1 | 0.21 | 0.21 | <2xRDL | | | | |
| cis-1,2-Dichloroethylene | ug/L | | | | | | | | | 0.1 | 0.13 | 0.12 | <2xRDL | | | | |
| Ethylbenzene | ug/L | | | | | | | | | | | | | 0.1 | <0.10 | 0.31 | **>2xRDL** |
| m/p-Xylene | ug/L | | | | | | | | | | | | | 0.1 | 0.19 | 1.3 | **>2xRDL** |
| o-Xylene | ug/L | | | | | | | | | | | | | 0.1 | <0.10 | 0.56 | **>2xRDL** |
| Toluene | ug/L | | | | | | | | | | | | | 0.2 | 0.33 | 2 | **>2xRDL** |
| Trichloroethylene | ug/L | | | | | | | | | 0.1 | 0.14 | 0.13 | <2xRDL | | | | |
| Xylenes: total | ug/L | | | | | | | | | | | | | 0.1 | 0.19 | 1.8 | **>2xRDL** |

| | | SURFACE WATER | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | SW1A | | | | SW10 | | | | SW10 | | | | SW1A | | | |
| | | March 2021 | | | | June 2021 | | | | September 2021 | | | | December 2021 | | | |
| PARAMETER | UNITS | RDL | Original | Duplicate | RPD (%) | RDL | Original | Duplicate | RPD (%) | RDL | Original | Duplicate | RPD (%) | RDL | Original | Duplicate | RPD (%) |
| Alkalinity | mg/L | 1 | 140 | 130 | 7 | 1 | 74 | 74 | <1 | 1 | 190 | 180 | 5 | 1 | 230 | 230 | <1 |
| Ammonia | mg/L | 0.05 | <0.050 | <0.050 | <2xRDL | 0.05 | 0.094 | 0.1 | <2xRDL | 0.05 | 0.13 | 0.099 | <2xRDL | 0.05 | <0.050 | <0.050 | <2xRDL |
| BOD | mg/L | 2 | 3 | 3 | <2xRDL | 2 | 3 | 3 | <2xRDL | 2 | <2 | <2 | <2xRDL | 2 | <2 | <2 | <2xRDL |
| Chloride | mg/L | 1 | 58 | 54 | 7 | 1 | 12 | 12 | <1 | 1 | 19 | 17 | 11 | 1 | 50 | 57 | 13 |
| Conductivity | µmho/cm | 1 | 500 | 490 | 2 | 1 | 210 | 220 | 5 | 1 | 490 | 460 | 6 | 1 | 640 | 620 | 3 |
| Hardness | mg/L | 1 | 150 | 150 | <1 | 1 | 81 | 82 | 1 | 1 | 220 | 250 | 13 | 1 | 250 | 250 | <1 |
| Iron | mg/L | 0.02 | 13 | 13 | <1 | 0.02 | 2.60 | 2.90 | 11 | 0.02 | 0.93 | 0.41 | **78** | 0.02 | 0.68 | 0.68 | <1 |
| Nitrate | mg/L | 0.1 | 0.65 | 0.73 | 12 | 0.1 | 0.49 | 0.65 | **>2xRDL** | 0.1 | 0.4 | 0.23 | <2xRDL | 0.1 | <0.10 | <0.10 | <2xRDL |
| Nitrite | mg/L | 0.01 | <0.010 | 0.01 | <2xRDL | 0.01 | 0.024 | <0.010 | **>2xRDL** | 0.01 | 0.02 | 0.02 | <2xRDL | 0.01 | <0.010 | <0.010 | <2xRDL |
| pH | pH | | 8.14 | 8.11 | <1 | | 7.9 | 7.86 | <1 | | 8.17 | 8.14 | <1 | | 8.32 | 8.31 | <1 |
| Phenols | mg/L | 0.001 | <0.0010 | <0.0010 | <2xRDL | 0.001 | <0.0010 | 0.001 | <2xRDL | 0.001 | <0.0010 | <0.0010 | <2xRDL | 0.001 | <0.0010 | <0.0010 | <2xRDL |
| Phosphorus | mg/L | 0.04 | 0.46 | 0.59 | **25** | 0.02 | 0.130 | 0.150 | 14 | 0.02 | 0.13 | 0.17 | **27** | 0.004 | 0.053 | 0.056 | 6 |
| Potassium | mg/L | 1 | 4 | 4 | <2xRDL | 1 | 3 | 3 | <2xRDL | 1 | 7 | 7 | <1 | 1 | 3 | 3 | <2xRDL |
| Sodium | mg/L | 0.5 | 37 | 35 | 6 | 0.5 | 9.3 | 9.3 | <1 | 0.5 | 14 | 15 | 7 | 0.5 | 38 | 38 | <1 |
| Total Kjeldahl Nitrogen | mg/L | 0.1 | 0.35 | 0.33 | <2xRDL | 0.1 | 0.42 | 0.38 | <2xRDL | 0.1 | 0.74 | 0.74 | <1 | 0.1 | 0.18 | 0.14 | <2xRDL |
| Total Suspended Solids | mg/L | 17 | 470 | 450 | 4 | 10 | 70 | 74 | 6 | 10 | 75 | 130 | **54** | 10 | 30 | 26 | <2xRDL |

NOTES: 1) RPD = Relative Percent Difference
2) RDL = Reportable Detection Limit RPD = $\frac{X1 - X2}{Xavg} \times 100$

**TABLE C-5**
**GROUNDWATER CHEMISTRY RESULTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | 5 | 6A | 6B | 7A | 7B |
|---|---|---|---|---|---|---|
| | | May | May | May | May | May |
| **Hardness** | mg/L | 430 | 180 | 550 | 300 | 700 |
| **Ammonia (As N)** | mg/L | 0.09 | 2 | 1.6 | 3.2 | 0.38 |
| **BOD5** | mg/L | 10 | 6 | 5 | <2 | 17 |
| **Conductivity** | µmho/cm | 930 | 2800 | 1400 | 990 | 1600 |
| **TKN (As N)** | mg/L | 0.48 | 2 | 1.6 | 3 | 0.71 |
| **pH (20 Deg C)** | pH units | 7.92 | 8.16 | 7.54 | 7.74 | 7.27 |
| **Phenolic Compounds** | mg/L | <0.0010 | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| **Sulphate** | mg/L | 64 | 230 | 56 | 53 | 8.8 |
| **Alkalinity (As CaCO3)** | mg/L | 390 | 330 | 750 | 470 | 850 |
| **Chloride** | mg/L | 29 | 540 | 14 | 19 | 34 |
| **Nitrite** | mg/L | <0.010 | 0.059 | <0.010 | <0.010 | <0.010 |
| **Nitrate** | mg/L | 7.18 | <0.10 | <0.10 | <0.10 | <0.10 |
| **Nitrate & Nitrite** | mg/L | 7.18 | 0.13 | <0.10 | <0.10 | <0.10 |
| **Organic Nitrogen** | µg/L | 0.39 | <0.01 | <0.01 | <0.01 | 0.33 |
| **Iron** | µg/L | 1400 | <500 | 6500 | <100 | 13000 |
| **Sodium** | µg/L | 37000 | 520000 | 100000 | 88000 | 84000 |
| | | | | | | |
| **Acetone (2-Propanone)** | µg/L | <10 | <10 | <10 | <10 | 220.0 |
| **Benzene** | µg/L | <0.20 | <0.20 | 2.8 | <0.20 | <0.20 |
| **Bromodichloromethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Bromoform** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Bromomethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | µg/L | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 |
| **Chlorobenzene** | µg/L | <0.20 | <0.20 | 0.98 | <0.20 | <0.20 |
| **Chloroform** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochlormethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichlorobenzene 1,2- (o-DCB)** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **Dichlorobenzene 1,3- (m-DCB)** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **Dichlorobenzene 1,4- (p-DCB)** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **Dichlorodifluoromethane (Freon 12)** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 | 1.9 |
| **Dichloroethane 1,1-** | µg/L | <0.20 | <0.20 | 10 | 2.7 | 0.66 |
| **Dichloroethane 1,2-** | µg/L | <0.49 | <0.49 | 0.58 | <0.49 | <0.49 |
| **Dichloroethylene 1,1-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichloroethylene, cis-1,2-** | µg/L | <0.50 | <0.50 | 20 | 4.4 | 7.9 |
| **Dichloroethylene, trans-1,2-** | µg/L | <0.50 | <0.50 | 5.3 | <0.50 | 0.5 |
| **Dichloropropane 1,2-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichloropropene, cis-1,3** | µg/L | <0.30 | <0.30 | <0.30 | <0.30 | <0.30 |
| **Dichloropropene, trans-1,3** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **Ethylbenzene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dibromoethane (Ethylene Dibromide)** | µg/L | <0.19 | <0.19 | <0.19 | <0.19 | <0.19 |
| **Hexane** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 | <1.0 |
| **Methylene Chloride (Dichloromethane)** | µg/L | <2.0 | <2.0 | <2.0 | <2.0 | <2.0 |
| **Methyl Isobutyl Ketone** | µg/L | <5.0 | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Ethyl Ketone (2-Butanone)** | µg/L | <10 | <10 | <10 | <10 | <10 |
| **Methyl t-Butyl Ether (MTBE)** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Styrene** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **Tetrachloroethane 1,1,1,2-** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |
| **Tetrachloroethane 1,1,2,2-** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **Tetrachloroethylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Toluene** | µg/L | <0.20 | <0.20 | 0.39 | <0.20 | <0.20 |
| **Trichloroethane 1,1,1-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethane 1,1,2-** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 | <0.40 |
| **Trichloroethylene** | µg/L | <0.20 | <0.20 | 0.44 | <0.20 | 1.4 |
| **Vinyl Chloride** | µg/L | <0.20 | 0.3 | 47 | 16 | 4.7 |
| **m-Xylene & p-Xylene** | µg/L | <0.20 | <0.20 | 0.25 | <0.20 | <0.20 |
| **o-Xylene** | µg/L | <0.20 | <0.20 | 0.6 | <0.20 | <0.20 |
| **Total Xylene** | µg/L | <0.20 | <0.20 | 0.85 | <0.20 | <0.20 |
| **Trichlorofluoromethane (Freon 11)** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 | <0.50 |

NOTES: 1) Blank indicates parameter not analysed.
2) Data presented in this table was provided by Golder Associates.

**TABLE C-5**
**GROUNDWATER CHEMISTRY RESULTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | 8A | 8B | 9 | 10A |
|---|---|---|---|---|---|
| | | May | May | May | May |
| **Hardness** | mg/L | 1300 | 1300 | 840 | 16000 |
| **Ammonia (As N)** | mg/L | <0.050 | <0.050 | <0.050 | 16 |
| **BOD5** | mg/L | 4 | 7 | 2 | <40 |
| **Conductivity** | µmho/cm | 3000 | 3200 | 3100 | 64000 |
| **TKN (As N)** | mg/L | 0.24 | 0.4 | <0.10 | 28 |
| **pH (20 Deg C)** | pH units | 7.25 | 7.25 | 7.39 | 6.92 |
| **Phenolic Compounds** | mg/L | <0.0010 | <0.0010 | <0.0010 | <0.0010 |
| **Sulphate** | mg/L | 31 | 23 | 35 | 1400 |
| **Alkalinity (As CaCO3)** | mg/L | 1400 | 1600 | 1700 | 220 |
| **Chloride** | mg/L | 190 | 190 | 71 | 25000 |
| **Nitrite** | mg/L | <0.010 | <0.010 | <0.010 | 0.021 |
| **Nitrate** | mg/L | <0.10 | <0.10 | <0.10 | 45.2 |
| **Nitrate & Nitrite** | mg/L | <0.10 | <0.10 | <0.10 | 45.2 |
| **Organic Nitrogen** | µg/L | 0.24 | 0.40 | <0.01 | 12.0 |
| **Iron** | µg/L | <500 | 850 | 750 | <1000 |
| **Sodium** | µg/L | 140000 | 200000 | 420000 | 9900000 |
| | | | | | |
| **Acetone (2-Propanone)** | µg/L | <10 | <10 | <10 | <10 |
| **Benzene** | µg/L | 0.92 | 3 | 0.69 | <0.20 |
| **Bromodichloromethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Bromoform** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 |
| **Bromomethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | µg/L | <0.19 | <0.19 | <0.19 | <0.19 |
| **Chlorobenzene** | µg/L | 9 | 22 | 0.58 | <0.20 |
| **Chloroform** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochlormethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichlorobenzene 1,2- (o-DCB)** | µg/L | <0.40 | <0.40 | <0.40 | 0.8 |
| **Dichlorobenzene 1,3- (m-DCB)** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Dichlorobenzene 1,4- (p-DCB)** | µg/L | 0.53 | 5.3 | <0.40 | <0.40 |
| **Dichlorodifluoromethane (Freon 12)** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 |
| **Dichloroethane 1,1-** | µg/L | 4.2 | 5.4 | 4.4 | <0.20 |
| **Dichloroethane 1,2-** | µg/L | <0.49 | <0.49 | <0.49 | <0.49 |
| **Dichloroethylene 1,1-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichloroethylene, cis-1,2-** | µg/L | 14 | 11 | 2 | <0.50 |
| **Dichloroethylene, trans-1,2-** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloropropane 1,2-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichloropropene, cis-1,3** | µg/L | <0.30 | <0.30 | <0.30 | <0.30 |
| **Dichloropropene, trans-1,3** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Ethylbenzene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dibromoethane (Ethylene Dibromide)** | µg/L | <0.19 | <0.19 | <0.19 | <0.19 |
| **Hexane** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 |
| **Methylene Chloride (Dichloromethane)** | µg/L | <2.0 | <2.0 | <2.0 | <2.0 |
| **Methyl Isobutyl Ketone** | µg/L | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Ethyl Ketone (2-Butanone)** | µg/L | <10 | <10 | <10 | <10 |
| **Methyl t-Butyl Ether (MTBE)** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Styrene** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Tetrachloroethane 1,1,1,2-** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Tetrachloroethane 1,1,2,2-** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Tetrachloroethylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Toluene** | µg/L | <0.20 | 0.5 | <0.20 | <0.20 |
| **Trichloroethane 1,1,1-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethane 1,1,2-** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Trichloroethylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | µg/L | 3.1 | 3.4 | 0.36 | <0.20 |
| **m-Xylene & p-Xylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Total Xylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichlorofluoromethane (Freon 11)** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |

NOTES: 1) Blank indicates parameter not analysed.
2) Data presented in this table was provided by Golder Associates.

**TABLE C-5**
**GROUNDWATER CHEMISTRY RESULTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| PARAMETER | UNITS | 10B | 11 | 12A | 12B |
|---|---|---|---|---|---|
| | | May | May | May | May |
| **Hardness** | mg/L | 1600 | 1200 | 2300 | 1900 |
| **Ammonia (As N)** | mg/L | 29 | 30 | 2.2 | 0.87 |
| **BOD5** | mg/L | 19 | 7 | <2 | <2 |
| **Conductivity** | µmho/cm | 5800 | 3700 | 5900 | 5100 |
| **TKN (As N)** | mg/L | 35 | 31 | 2.6 | 1.6 |
| **pH (20 Deg C)** | pH units | 7.1 | 7.28 | 7.18 | 7.09 |
| **Phenolic Compounds** | mg/L | 0.0037 | 0.0014 | <0.0010 | <0.0010 |
| **Sulphate** | mg/L | 180 | <1.0 | 1000 | 330 |
| **Alkalinity (As CaCO3)** | mg/L | 1600 | 1300 | 870 | 1200 |
| **Chloride** | mg/L | 920 | 470 | 960 | 840 |
| **Nitrite** | mg/L | <0.010 | <0.010 | <0.010 | 0.011 |
| **Nitrate** | mg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| **Nitrate & Nitrite** | mg/L | <0.10 | <0.10 | <0.10 | <0.10 |
| **Organic Nitrogen** | µg/L | 6.0 | 1.0 | 0.40 | 0.73 |
| **Iron** | µg/L | 10000 | 3100 | <500 | <100 |
| **Sodium** | µg/L | 520000 | 300000 | 380000 | 360000 |
| | | | | | |
| **Acetone (2-Propanone)** | µg/L | <10 | <10 | <10 | <10 |
| **Benzene** | µg/L | 4.4 | 3.4 | 0.55 | 0.38 |
| **Bromodichloromethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Bromoform** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 |
| **Bromomethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Carbon Tetrachloride** | µg/L | <0.19 | <0.19 | <0.19 | <0.19 |
| **Chlorobenzene** | µg/L | 120 | 4.3 | 42 | 7.2 |
| **Chloroform** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dibromochlormethane** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichlorobenzene 1,2- (o-DCB)** | µg/L | 7 | <0.40 | <0.40 | <0.40 |
| **Dichlorobenzene 1,3- (m-DCB)** | µg/L | 1.7 | <0.40 | <0.40 | <0.40 |
| **Dichlorobenzene 1,4- (p-DCB)** | µg/L | 13 | 1.1 | 3.7 | <0.40 |
| **Dichlorodifluoromethane (Freon 12)** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 |
| **Dichloroethane 1,1-** | µg/L | 0.37 | <0.20 | 0.57 | 0.37 |
| **Dichloroethane 1,2-** | µg/L | <0.49 | <0.49 | <0.49 | <0.49 |
| **Dichloroethylene 1,1-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichloroethylene, cis-1,2-** | µg/L | <0.50 | <0.50 | 0.5 | <0.50 |
| **Dichloroethylene, trans-1,2-** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Dichloropropane 1,2-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Dichloropropene, cis-1,3** | µg/L | <0.30 | <0.30 | <0.30 | <0.30 |
| **Dichloropropene, trans-1,3** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Ethylbenzene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **1,2-Dibromoethane (Ethylene Dibromide)** | µg/L | <0.19 | <0.19 | <0.19 | <0.19 |
| **Hexane** | µg/L | <1.0 | <1.0 | <1.0 | <1.0 |
| **Methylene Chloride (Dichloromethane)** | µg/L | <2.0 | <2.0 | <2.0 | <2.0 |
| **Methyl Isobutyl Ketone** | µg/L | <5.0 | <5.0 | <5.0 | <5.0 |
| **Methyl Ethyl Ketone (2-Butanone)** | µg/L | <10 | <10 | <10 | <10 |
| **Methyl t-Butyl Ether (MTBE)** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Styrene** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Tetrachloroethane 1,1,1,2-** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |
| **Tetrachloroethane 1,1,2,2-** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Tetrachloroethylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Toluene** | µg/L | 0.32 | <0.20 | <0.20 | <0.20 |
| **Trichloroethane 1,1,1-** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichloroethane 1,1,2-** | µg/L | <0.40 | <0.40 | <0.40 | <0.40 |
| **Trichloroethylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Vinyl Chloride** | µg/L | <0.20 | <0.20 | 0.2 | <0.20 |
| **m-Xylene & p-Xylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **o-Xylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Total Xylene** | µg/L | <0.20 | <0.20 | <0.20 | <0.20 |
| **Trichlorofluoromethane (Freon 11)** | µg/L | <0.50 | <0.50 | <0.50 | <0.50 |

NOTES: 1) Blank indicates parameter not analysed.
2) Data presented in this table was provided by Golder Associates.

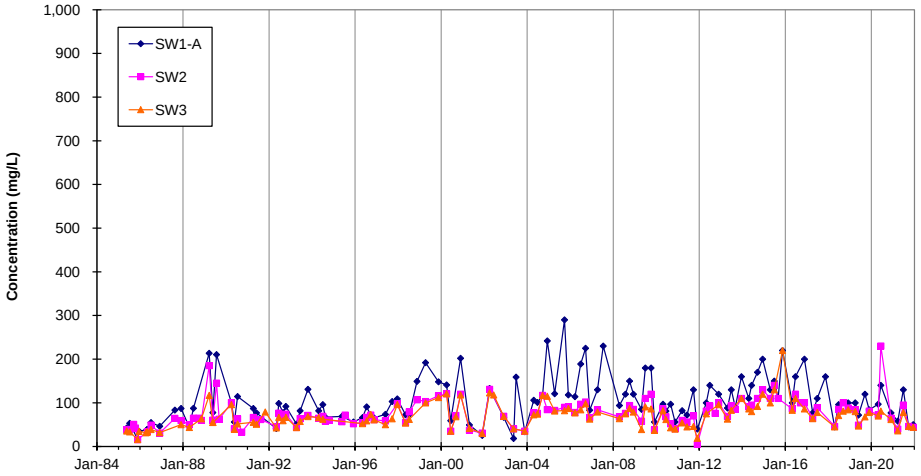
# APPENDIX

# D SURFACE WATER CHEMISTRY

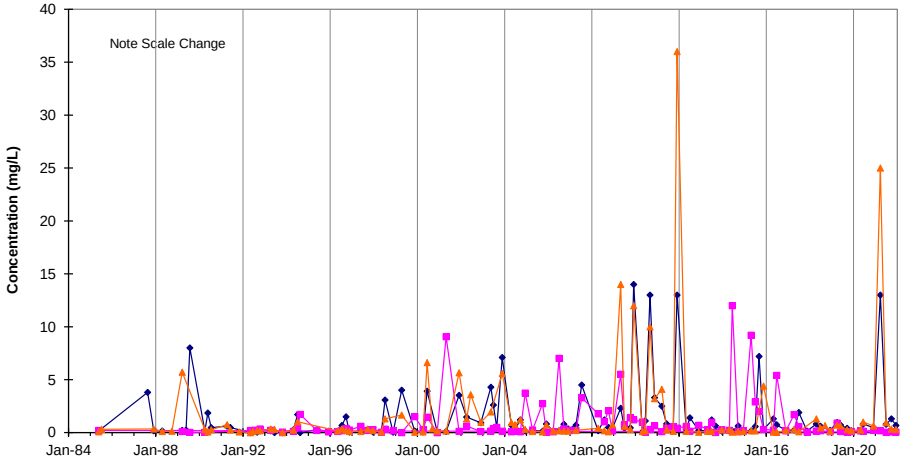
# FIGURE D-1

## TIME CONCENTRATION GRAPHS - Surface Water : Falcon Creek

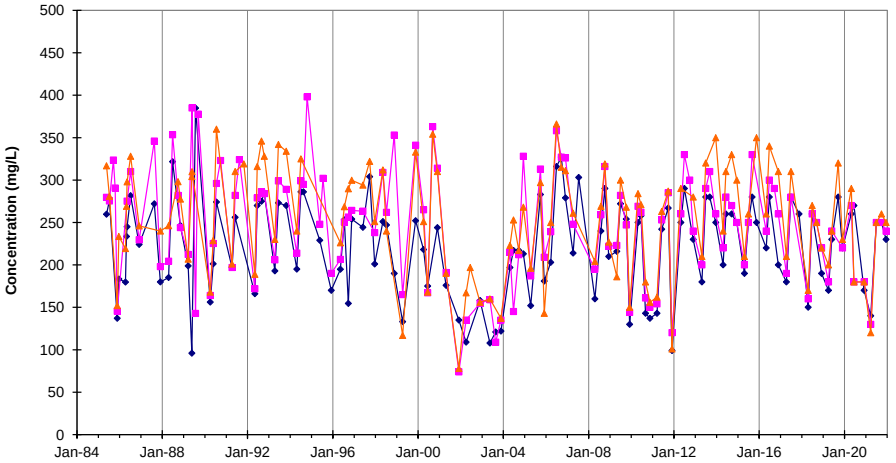
### CHLORIDE



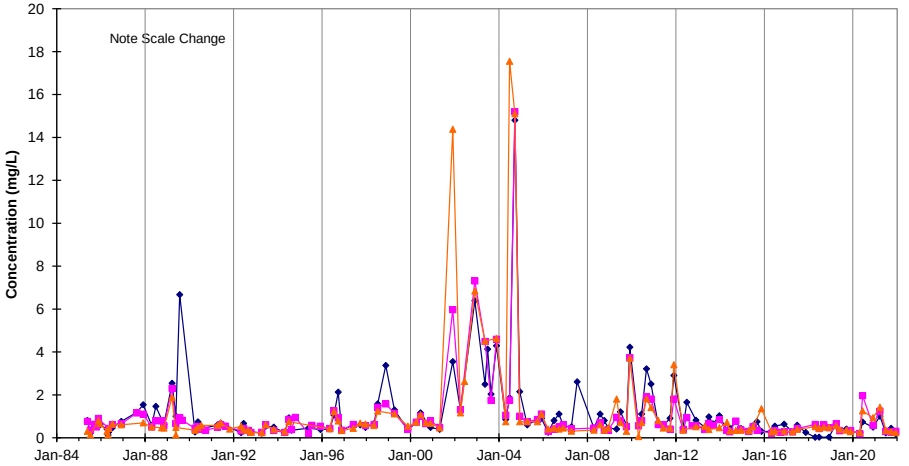

### IRON




### ALKALINITY



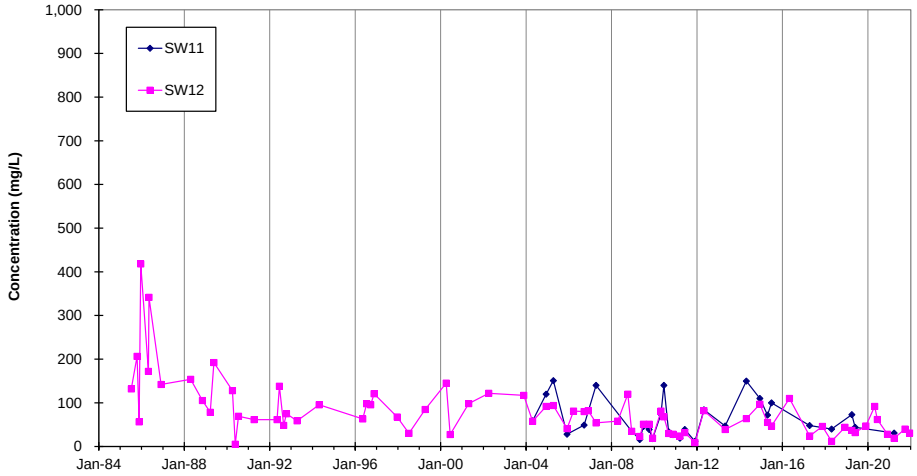

### NITROGEN



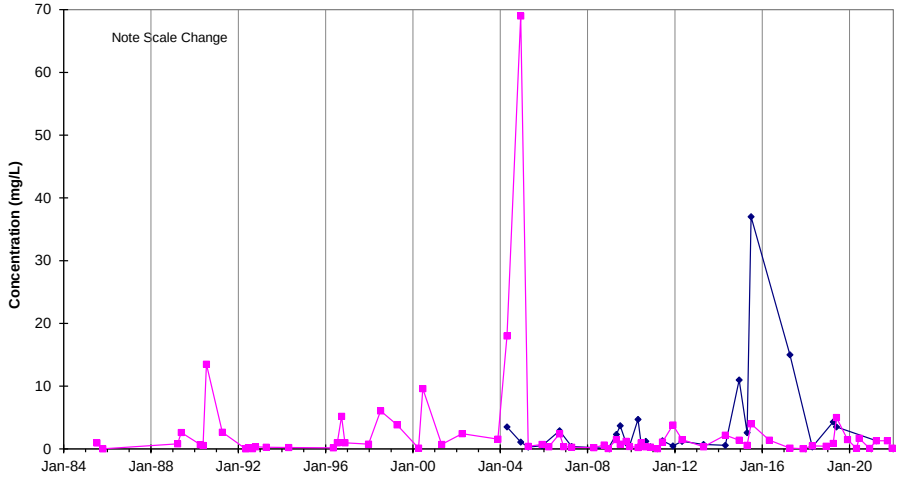
# FIGURE D-2

## TIME CONCENTRATION GRAPHS - Surface Water : Falcon Creek (Downstream)

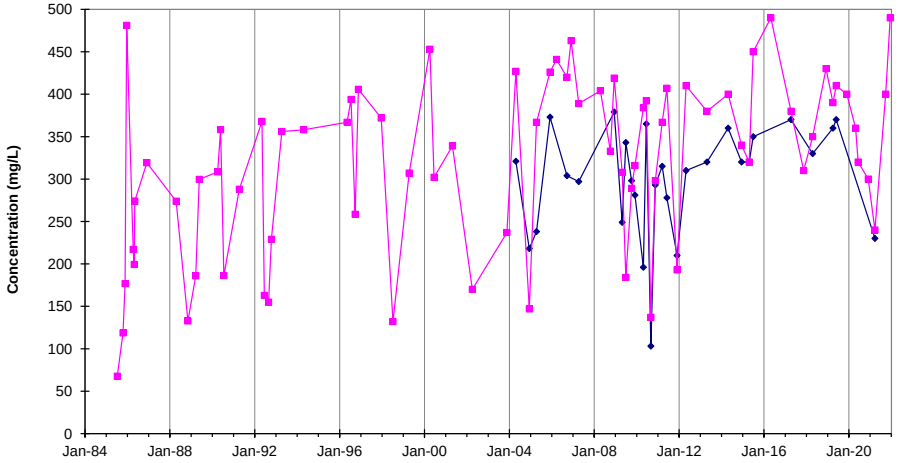
### CHLORIDE



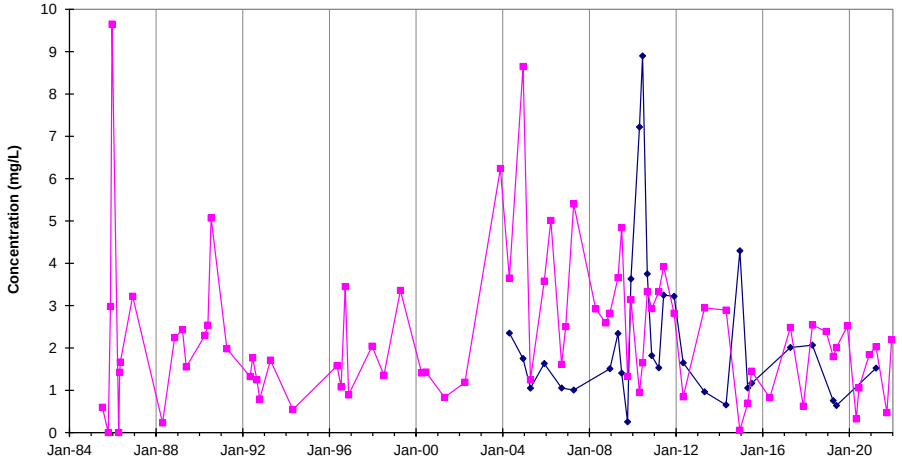

### IRON




### ALKALINITY



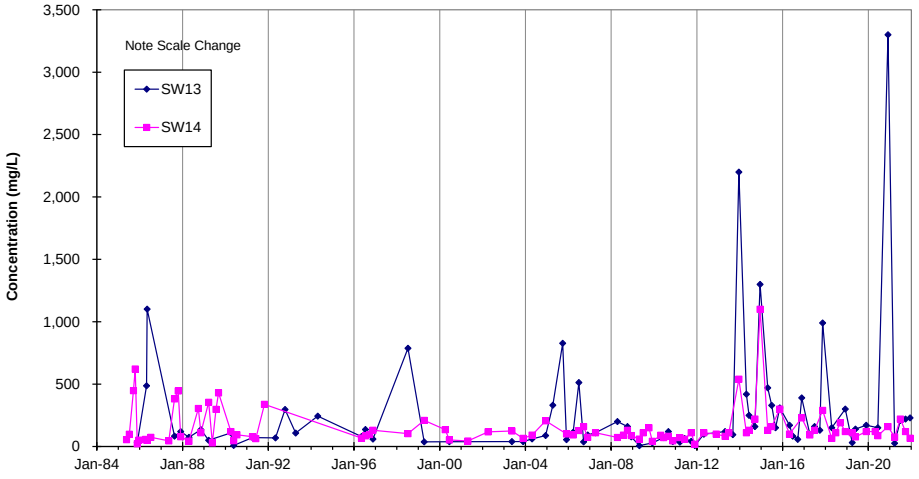

### NITROGEN



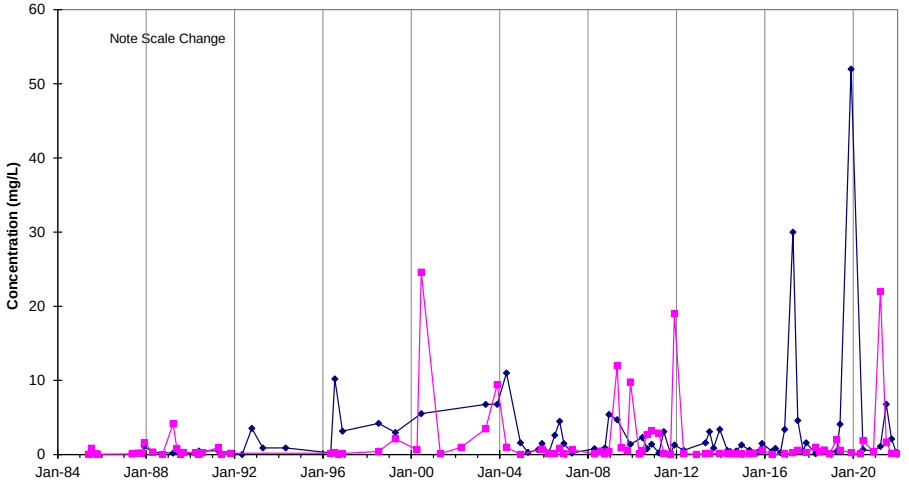
# FIGURE D-3

## TIME CONCENTRATION GRAPHS - Surface Water : Falcon Creek (Downstream)

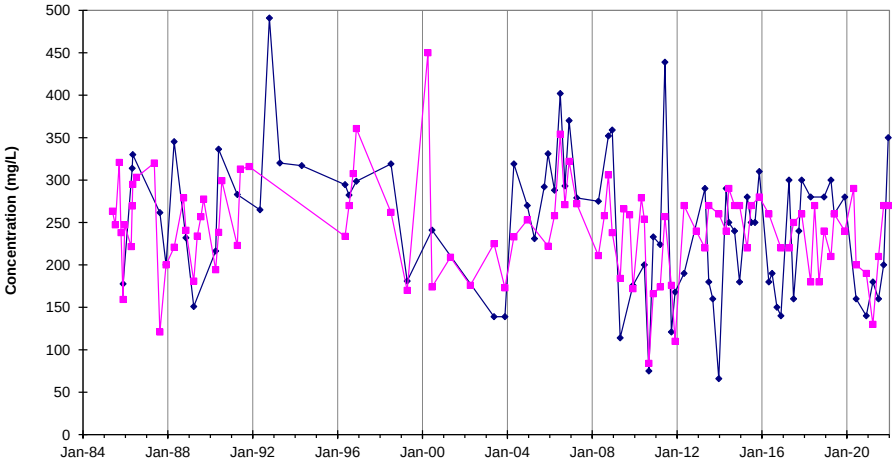
### CHLORIDE



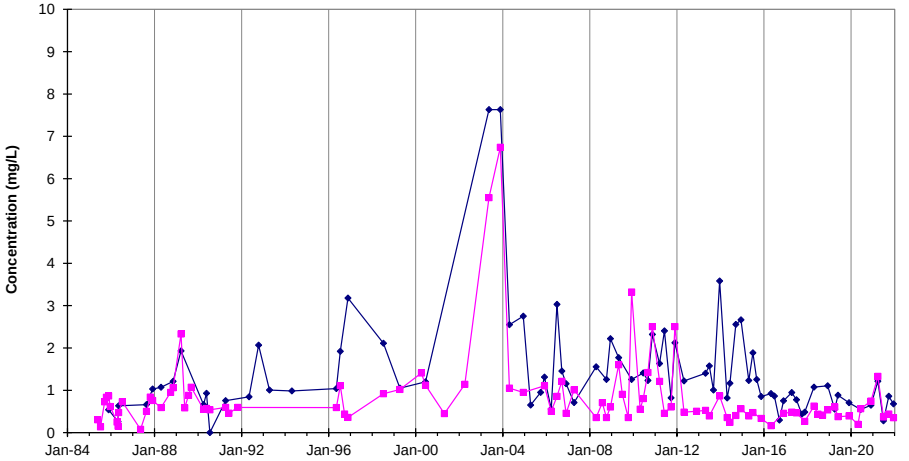

### IRON




### ALKALINITY



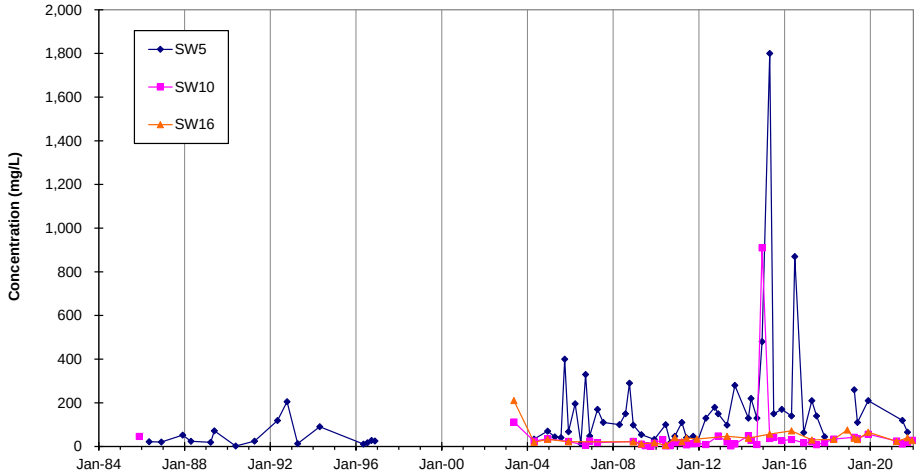

### NITROGEN



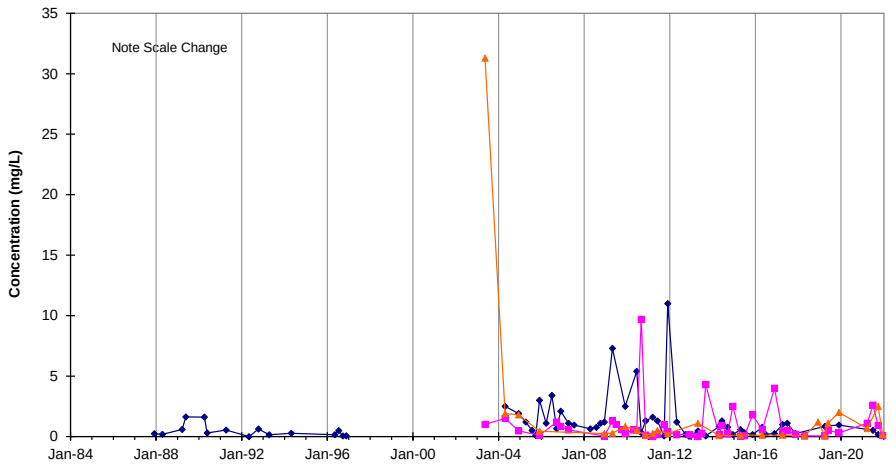
# FIGURE D-4

## TIME CONCENTRATION GRAPHS - Surface Water : Indian Creek

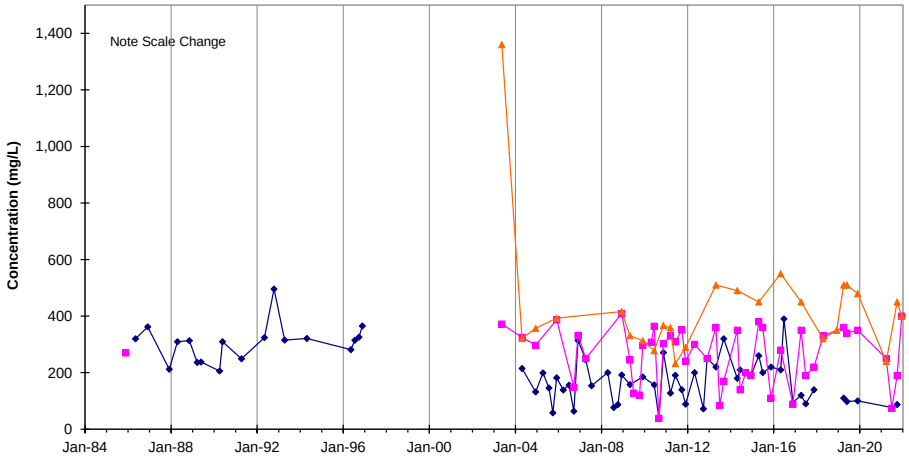
### CHLORIDE




### IRON




### ALKALINITY




### NITROGEN

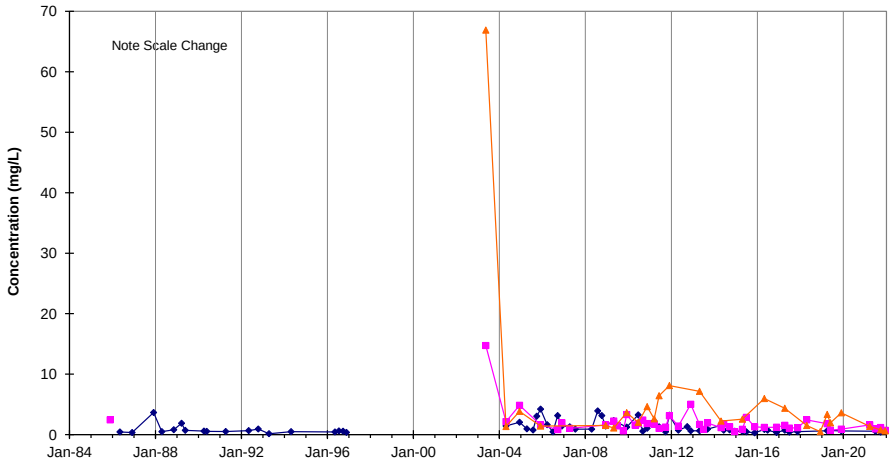


**TABLE D-1**
**SURFACE WATER FIELD CHEMICAL RESULTS**
**BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| WATERSHED | MONITORING STATION | DATE | Temperature (°C) | pH (as units) | Conductivity (µS/cm) | Flow Rate (L/sec) |
|---|---|---|---|---|---|---|
| FALCON CREEK (West of Site) | SW1A | March 26 | 6.5 | 7.87 | 524 | 76.9 |
| | | June 30 | | | | |
| | | September 27 | 14.9 | 7.61 | 621 | 14.1 |
| | | December 14 | 5.4 | 8.02 | 717 | 1.5 |
| | SW2 | March 26 | 7.0 | 7.81 | 440 | 31.0 |
| | | June 30 | | | | |
| | | September 27 | 16.7 | 7.70 | 638 | 12.7 |
| | | December 14 | 4.6 | 7.97 | 719 | 14.5 |
| | SW3 | March 26 | 7.1 | 7.17 | 416 | 52.2 |
| | | June 30 | | | | |
| | | September 27 | 16.9 | 7.59 | 665 | 17.6 |
| | | December 14 | 4.1 | 8.11 | 739 | 12.1 |
| FALCON CREEK (South of Site) | SW11 | March 26 | 7.7 | 7.44 | 623 | 16.4 |
| | | June 30 | - | - | - | Dry |
| | | September 27 | - | - | - | Dry |
| | | December 14 | - | - | - | Ponded |
| | SW12 | March 26 | 7.2 | 7.54 | 589 | 14.1 |
| | | June 30 | - | - | - | Dry |
| | | September 27 | 18.3 | 7.28 | 934 | NMF |
| | | December 14 | 5.0 | 7.92 | 1183 | 1.5 |
| | SW13 | March 26 | 7.9 | 7.22 | 609 | 17.6 |
| | | June 30 | | | | |
| | | September 27 | 17.6 | 7.34 | 1400 | NMF |
| | | December 14 | 6.1 | 8.09 | 1719 | 1.3 |
| | SW14 | March 26 | 7.4 | 7.26 | 686 | 246.1 |
| | | June 30 | | | | |
| | | September 27 | 15.3 | 7.52 | 900 | 10.0 |
| | | December 14 | 3.8 | 8.13 | 842 | 29.0 |
| INDIAN CREEK | SW5 | March 26 | - | - | - | Dry |
| | | June 30 | | | | |
| | | September 27 | 17.0 | 7.33 | 418 | 0.5 |
| | | December 14 | - | - | - | Dry |
| | SW10 | March 26 | 6.9 | 7.56 | 636 | 17.4 |
| | | June 30 | | | | |
| | | September 27 | 15.0 | 7.80 | 499 | NMF |
| | | December 14 | 6.9 | 7.93 | 953 | 0.6 |
| | SW16 | March 26 | 7.3 | 7.61 | 599 | 14.1 |
| | | June 30 | - | - | - | Dry |
| | | September 27 | 17.1 | 7.01 | 1020 | <0.01 |
| | | December 14 | 4.5 | 8.08 | 936 | 0.7 |

NOTES: 1) "-" - Dry condition. No sample obtained.
2) NMF - No measureable flow, but sample obtained

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW1-A** | May-85 | 8.11 | 669 | 42 | 260 | 316 | 0.40 | <0.05 | <1 | 0.40 | 0.005 | 0.0 | 0.16 | | 0.04 | | 0.4 | 0.5 |
| | Jul-85 | 8.13 | 696 | 53 | 276 | 321 | | | | 0.20 | 0.010 | 12.9 | | | | | 0.6 | 0.8 |
| | Nov-85 | 8.08 | 381 | 17 | 137 | 169 | 0.30 | <0.05 | <1 | 0.50 | <0.005 | 0.0 | | | 0.06 | | 0.2 | 0.3 |
| | Dec-85 | 8.20 | 528 | 35 | 183 | 238 | 0.30 | <0.05 | <1 | 0.30 | <0.005 | 0.0 | | | 0.02 | | 0.6 | 0.6 |
| | Apr-86 | 8.50 | 483 | | 180 | 223 | | <0.05 | <1 | 0.30 | 0.080 | 5.8 | | | | | 0.4 | 0.3 |
| | Apr-86 | 8.53 | 577 | 39 | 234 | 274 | <0.20 | <0.05 | <1 | <0.05 | 0.005 | 14.4 | | | <0.02 | | 0.8 | 0.7 |
| | May-86 | 8.52 | 596 | 39 | 245 | 286 | 0.20 | 1.35 | 97 | 0.05 | 0.010 | 4.3 | | | 0.20 | | 0.6 | 0.3 |
| | Jul-86 | 8.24 | 723 | 55 | 282 | 315 | 0.40 | <0.05 | <1 | 0.05 | 0.015 | 59.4 | | | 0.10 | | 1.2 | 4.0 |
| | Dec-86 | 8.16 | 642 | 47 | 224 | 280 | 0.30 | 0.15 | 3 | 0.45 | 0.010 | | | | 0.05 | | 0.6 | |
| | Aug-87 | 8.58 | 660 | 84 | 272 | 373 | 0.24 | | | 0.94 | <0.02 | 200 | 3.80 | | 0.12 | | <0.5 | 3.9 |
| | Dec-87 | 8.30 | 410 | 87 | 180 | 248 | <0.05 | <0.01 | <1 | 1.50 | <0.02 | 4.0 | 0.16 | | <0.02 | | 1.9 | <1 |
| | Apr-88 | 8.17 | 495 | 45 | 185 | 227 | 0.40 | 0.01 | <1 | 0.16 | 0.020 | 5.0 | 0.16 | | 0.04 | | 0.5 | 1.0 |
| | Jun-88 | 8.01 | 606 | 88 | 322 | 392 | 0.94 | <0.02 | <1 | 0.51 | <0.02 | 65.6 | | | 0.21 | | <0.5 | <1 |
| | Nov-88 | 7.99 | 627 | | 246 | 294 | 0.38 | <0.01 | <1 | 0.23 | <0.02 | 23.3 | | | | | | <1 |
| | Mar-89 | 8.13 | 1140 | 214 | 199 | 334 | 1.33 | 0.05 | 1 | 1.19 | 0.020 | 2.0 | 0.22 | | 0.05 | 101 | <2.0 | 0.5 |
| | May-89 | 8.33 | 699 | 78 | 96 | 153 | 0.55 | <0.01 | <1 | 0.44 | <0.02 | 9.2 | <0.48 | | 0.11 | | 6.0 | 0.3 |
| | Jul-89 | 8.38 | 1250 | 210 | 385 | 562 | 6.30 | 0.40 | 30 | 0.34 | 0.030 | 983 | 8.00 | | 0.79 | 46 | 7.0 | 1.5 |
| | Apr-90 | 8.18 | 617 | 100 | 156 | 210 | 0.15 | 0.05 | 2 | <0.2 | 0.020 | 4.0 | 0.14 | | 0.08 | 53 | 1.0 | 0.3 |
| | May-90 | 8.29 | 647 | 56 | 201 | 245 | 0.62 | 0.05 | 2 | <0.2 | 0.020 | 68.4 | 1.86 | | 0.20 | 38 | 2.0 | 0.5 |
| | Jul-90 | 8.17 | 862 | 114 | 274 | 369 | 0.29 | 0.05 | 2 | <0.2 | 0.020 | 12.0 | 0.47 | | 0.09 | 49 | 1.7 | 1.7 |
| | Apr-91 | 8.35 | 564 | 87 | 197 | 252 | 0.53 | <0.05 | <1 | <0.1 | 0.020 | 22.8 | 0.60 | | 0.24 | 44 | <1.0 | <0.5 |
| | Jun-91 | 8.29 | 1000 | 77 | 256 | 330 | 0.46 | <0.05 | <1 | 0.20 | 0.020 | 32.0 | 0.48 | | | 36 | <2.0 | 2.0 |
| | May-92 | 8.35 | 580 | 41 | 166 | 210 | 0.18 | <0.05 | <1 | <0.1 | <0.01 | 19.0 | 0.29 | | 0.07 | 25 | <2.0 | <0.7 |
| | Jun-92 | 8.19 | 852 | 99 | 270 | 380 | 0.46 | <0.05 | <1 | 0.20 | <0.01 | 62.0 | 0.25 | | 0.25 | 47 | <2.0 | <0.7 |
| | Aug-92 | 8.34 | 756 | 78 | 275 | 510 | 0.29 | <0.02 | <1 | <0.1 | <0.01 | 14.9 | <0.08 | | 0.11 | 45 | <2.0 | <0.5 |
| | Oct-92 | 8.30 | 818 | 92 | 285 | 350 | 0.18 | <0.02 | <1 | 0.10 | <0.01 | 8.4 | 0.17 | | 0.07 | 42 | <2.0 | <0.5 |
| | Apr-93 | 8.42 | 512 | 52 | 193 | 230 | 0.20 | <0.01 | <1 | <0.02 | <0.01 | 9.2 | 0.16 | | <0.04 | 34 | <2.0 | <0.3 |
| | Jun-93 | 8.31 | 778 | 82 | 273 | 350 | 0.27 | 0.01 | <1 | 0.26 | <0.01 | 12.0 | 0.18 | | 0.12 | 41 | <2.0 | <0.3 |
| | Oct-93 | 7.98 | 1030 | 131 | 270 | 390 | 0.48 | <0.01 | <1 | <0.02 | <0.01 | 51.2 | 0.30 | | 0.17 | 77 | 2.3 | 1.8 |
| | Apr-94 | 8.30 | 668 | 82 | 195 | 250 | 0.22 | 0.02 | <1 | <0.02 | <0.01 | 2.0 | 0.26 | | 0.05 | 42 | <1.0 | 1.7 |
| | Jul-94 | 8.28 | 878 | 96 | 286 | 360 | 0.48 | <0.02 | <1 | 0.44 | <0.02 | 40.0 | 1.70 | | 0.18 | 46 | <1.0 | 0.9 |
| | Aug-94 | 8.18 | 853 | 67 | 286 | 380 | 0.33 | <0.02 | <1 | <0.02 | <0.02 | 41.0 | 1.33 | | 0.19 | 40 | <1.0 | 1.1 |
| | May-95 | 8.43 | 718 | 69 | 229 | 300 | 0.39 | <0.03 | <1 | 0.05 | <0.01 | <0.9 | 0.27 | | 0.04 | 38 | <2.0 | 0.8 |
| | Dec-95 | 8.15 | 580 | 56 | 170 | 220 | 0.20 | <0.03 | <1 | 0.18 | <0.009 | <4.2 | 0.13 | | 0.03 | 35 | <1.0 | <5.0 |
| | May-96 | 8.24 | 626 | 66 | 195 | 229 | 0.26 | 0.04 | 1 | <0.10 | <0.20 | 5.4 | 0.13 | | 0.03 | 40 | <0.5 | 0.7 |
| | Jul-96 | 8.03 | 832 | 91 | 253 | 335 | 0.37 | <0.02 | <1 | 0.59 | <0.20 | 24.7 | 0.67 | | 0.20 | 45 | <0.5 | 1.5 |
| | Sep-96 | 7.91 | 553 | 71 | 155 | 224 | 1.43 | <0.02 | <1 | 0.60 | <0.20 | 335 | 1.50 | | <0.10 | 34 | <0.5 | 2.7 |
| | Nov-96 | 8.15 | 744 | 66 | 254 | 316 | 0.20 | <0.02 | <1 | <0.10 | <0.20 | 3.2 | 0.05 | | <0.05 | 38 | <1.0 | 1.3 |
| | May-97 | 8.26 | 672 | 74 | 244 | 297 | 0.30 | 0.04 | 1 | 0.20 | <0.20 | 6.5 | 0.14 | | <0.05 | 39 | <1.0 | 1.3 |
| | Sep-97 | 8.25 | 786 | 103 | 304 | 339 | 0.20 | <0.02 | <1 | 0.30 | <0.20 | 17.4 | 0.31 | | 0.07 | 44 | <1.0 | 0.3 |
| | Dec-97 | 8.23 | 778 | 109 | 201 | 285 | 0.28 | 0.05 | 1 | <0.20 | <0.20 | 2.7 | 0.06 | | <0.05 | 57 | <1.0 | 0.9 |
| | May-98 | 8.24 | 716 | 73 | 251 | 296 | 0.25 | <0.02 | <1 | 0.30 | <0.20 | 9.0 | 0.07 | 2.5 | 0.04 | 40 | <1.0 | 1.8 |
| | Jul-98 | 8.15 | 746 | 73 | 247 | 311 | 0.78 | 0.04 | 2 | 0.70 | <0.20 | 73.0 | 3.08 | 5.5 | 0.16 | 45 | <1.0 | 2.3 |
| | Nov-98 | 7.51 | 1154 | 149 | 190 | 518 | 1.07 | 0.05 | <1 | 2.20 | <0.20 | 4.0 | 0.03 | 5.0 | 0.12 | 61 | <1.0 | 9.0 |
| | Apr-99 | 7.95 | 891 | 192 | 133 | 220 | 0.80 | <0.02 | <1 | 0.40 | <0.20 | 94.0 | 4.01 | 4.0 | 0.17 | 104 | <1.0 | 1.5 |
| | Nov-99 | 7.83 | 1021 | 148 | 252 | 363 | 0.18 | 0.02 | <1 | <0.20 | <0.20 | 8.0 | 0.15 | 2.9 | 0.04 | 72 | <1.0 | 1.3 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
' * - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW1-A** | Apr-00 | 8.21 | 888 | 141 | 218 | 314 | 0.31 | <0.03 | <1 | <0.4 | <0.4 | 3 | 0.06 | 2.9 | <0.002 | 73 | <1.0 | 2.0 |
| | Jun-00 | 8.13 | 512 | 59 | 175 | 200 | 0.56 | 0.03 | 1 | 0.50 | <0.2 | 146 | 3.91 | 2.7 | 0.23 | | <1.0 | <0.5 |
| | Nov-00 | 7.95 | 1083 | 202 | 244 | 386 | 0.18 | <0.03 | <1 | 0.20 | <0.2 | 4 | 0.11 | 3.8 | 0.05 | 97 | <1.0 | 0.8 |
| | Apr-01 | 7.62 | 655 | 49 | 176 | 246 | 0.19 | <0.03 | <1 | <0.2 | <0.2 | 6 | 0.10 | 2.0 | 0.02 | 54 | <1.0 | 1.4 |
| | Nov-01 | 8.02 | 550 | 25 | 135 | 254 | 1.45 | <0.03 | <1 | 2.00 | <0.2 | 60 | 3.53 | 6.5 | 0.21 | 17 | <1.0 | 1.6 |
| | Apr-02 | 8.00 | 827 | 133 | 109 | 244 | 0.71 | <0.03 | <1 | <0.2 | <1.0 | 25 | 1.47 | 2.0 | 0.06 | 70 | <1.0 | <0.5 |
| | Nov-02 | 8.01 | 834 | 67 | 158 | 378 | 0.99 | 0.04 | <1 | 5.30 | <0.2 | 15 | 0.93 | 11.0 | 0.13 | 41 | <1.0 | 1.2 |
| | May-03 | 8.22 | 344 | 19 | 108 | 159 | 2.29 | 0.11 | 3 | <0.2 | <0.2 | 53 | 4.29 | 6.0 | 0.24 | 11 | <1.0 | 2.3 |
| | Jun-03 | 8.10 | 1061 | 159 | 686 | 284 | 1.13 | 0.15 | 7 | 2.90 | <0.2 | 89 | 2.61 | 8.8 | 0.35 | 101 | <1.0 | 1.5 |
| | Aug-03 | 7.80 | * 15760 | * 4640 | 121 | * 5396 | 0.93 | 0.18 | 5 | <0.2 | <2.0 | 75 | 0.47 | 43.0 | 0.08 | * 1420 | <1.0 | 1.3 |
| | Nov-03 | 8.04 | 537 | 34 | 122 | 230 | 1.79 | <0.03 | <1 | 2.40 | <0.2 | 96 | 7.10 | 10.5 | 0.47 | 19 | <1.0 | <0.5 |
| | Apr-04 | 8.35 | 742 | 106 | 197 | 250 | 0.70 | <0.05 | <1 | 0.10 | <0.1 | 19 | 0.70 | 2.1 | <0.02 | 58 | <1.0 | <3 |
| | Jun-04 | 8.22 | 1150 | 101 | 217 | 499 | 1.30 | 0.18 | 10 | <1 | <0.1 | 4 | 0.29 | | 0.03 | 66 | <1.0 | <4 |
| | Sep-04 | 8.16 | 1010 | 117 | 217 | 349 | 0.80 | <0.05 | <1 | 13.90 | 0.100 | 23 | 1.20 | 16.0 | 0.05 | 74 | 1.0 | 4.0 |
| | Dec-04 | 8.21 | 1180 | 242 | 213 | 360 | 0.60 | <0.05 | <1 | 1.50 | <0.1 | 9 | 0.15 | 3.2 | | 120 | <1.0 | <2 |
| | Apr-05 | 8.30 | 730 | 121 | 152 | 217 | 0.50 | 0.06 | 2 | <0.1 | <0.1 | 2 | 0.20 | 2.3 | <0.02 | 71 | <1.0 | <2 |
| | Sep-05 | 8.31 | 1470 | 290 | 283 | | 0.40 | <0.05 | <1 | 0.30 | <0.3 | 7 | 0.13 | 4.0 | 0.04 | 160 | <1.0 | <2 |
| | Dec-05 | 8.25 | 744 | 118 | 181 | 220 | 0.60 | <0.05 | <1 | 0.30 | <0.01 | 10 | 0.82 | 3.2 | 0.06 | 80 | <1.0 | <2 |
| | Mar-06 | 8.40 | 795 | 114 | 203 | 230 | 0.20 | <0.05 | <1 | <0.1 | <0.01 | 6 | 0.15 | 2.4 | 0.01 | 79 | <1.0 | <2 |
| | Jun-06 | 8.30 | 1300 | 189 | 316 | 390 | 0.50 | 0.07 | 3 | 0.30 | <0.01 | 2 | 0.18 | 3.3 | 0.04 | 120 | <1.0 | <2 |
| | Sep-06 | 8.30 | 1370 | 225 | 327 | 360 | 0.40 | 0.05 | 2 | 0.70 | <0.01 | 51 | 0.79 | 3.3 | 0.08 | 130 | <1.0 | <2 |
| | Nov-06 | 8.30 | 765 | 83 | 279 | 270 | 0.50 | 0.09 | 2 | <0.1 | <0.01 | 9 | 0.35 | 2.5 | 0.03 | 55 | <1.0 | <2 |
| | Apr-07 | 8.40 | 853 | 130 | 214 | 260 | 0.50 | 0.06 | 2 | <0.1 | <0.01 | 19 | 0.70 | 2.7 | 0.03 | 81 | <1.0 | <2 |
| | Jul-07 | 8.30 | 1300 | 230 | 303 | 400 | 2.30 | 0.11 | 8 | 0.30 | <0.01 | 520 | 4.50 | 4.4 | 0.41 | 130 | <1.0 | <2 |
| | Apr-08 | 8.30 | 658 | 94 | 160 | 180 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | 11 | 0.18 | 2.0 | 0.02 | 61 | <1.0 | <2 |
| | Jul-08 | 8.20 | 862 | 120 | 240 | 270 | 0.80 | <0.05 | <1 | 0.30 | <0.01 | 28 | 1.20 | 3.0 | <0.100 | 74 | <1.0 | <2 |
| | Oct-08 | 8.40 | 1020 | 150 | 290 | 310 | 0.60 | <0.05 | <1 | 0.20 | <0.01 | 17 | 0.49 | 3.0 | 0.05 | 84 | <1.0 | <2 |
| | Dec-08 | 8.20 | 803 | 120 | 210 | 250 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | 31 | 0.43 | 3.0 | 0.05 | 61 | <1.0 | <2 |
| | Apr-09 | 8.00 | 683 | 85 | 216 | 220 | 0.30 | <0.05 | <1 | 0.10 | <0.01 | 83 | 2.30 | 2.0 | 0.13 | 50 | <1.0 | <2 |
| | Jun-09 | 8.30 | 1110 | 180 | 272 | 300 | 0.90 | 0.08 | 5 | 0.30 | <0.01 | 12 | 0.42 | 3.0 | 0.06 | 94 | <1.0 | <2 |
| | Oct-09 | 8.30 | 1140 | 180 | 254 | 310 | 0.20 | <0.05 | <3 | 0.40 | <0.01 | <10 | 0.45 | 4.0 | 0.05 | 110 | <1.0 | <2 |
| | Dec-09 | 8.00 | 506 | 56 | 130 | 150 | 2.20 | <0.05 | <1 | 2.00 | 0.020 | 140 | 14.00 | 6.0 | 0.65 | 38 | <1.0 | <2 |
| | Apr-10 | 8.50 | 796 | 97 | 250 | 290 | 0.50 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.08 | 3.0 | 0.01 | 60 | <1.0 | <2 |
| | Jun-10 | 8.30 | 774 | 81 | 258 | 270 | 0.60 | 0.08 | 4 | 0.50 | <0.01 | 27 | 1.10 | 3.0 | 0.07 | 55 | <1.0 | <2 |
| | Sep-10 | 8.10 | 660 | 97 | 143 | 180 | 1.80 | <0.05 | <1 | 1.40 | 0.010 | 320 | 13.00 | 5.0 | 0.45 | 68 | <1.0 | 3.0 |
| | Nov-10 | 8.09 | 502 | 56 | 137 | 160 | 2.00 | <0.05 | <1 | 0.50 | <0.01 | 49 | 3.30 | 4.0 | 0.27 | 37 | 4.0 | 3.0 |
| | Mar-11 | 8.09 | 582 | 82 | 143 | 180 | 0.50 | <0.05 | <1 | 0.10 | <0.01 | 73 | 2.50 | 2.0 | 0.11 | 50 | <1 | <2 |
| | Jun-11 | 8.43 | 718 | 72 | 242 | 250 | 0.50 | <0.05 | <1 | <0.1 | <0.01 | 24 | 0.83 | 3.0 | 0.10 | 56 | <1 | <2 |
| | Sep-11 | 8.23 | 1020 | 130 | 267 | 370 | 0.50 | <0.05 | <1 | 0.40 | <0.01 | 280 | 0.48 | 4.0 | 0.06 | 72 | <1 | <2 |
| | Nov-11 | 7.84 | 395 | 40 | 99 | 120 | 1.90 | <0.05 | <1 | 1.00 | <0.01 | 390 | 13.00 | 5.0 | 0.62 | 30 | 4.0 | <2 |
| | Apr-12 | 8.20 | 860 | 100 | 250 | 300 | 0.43 | <0.05 | <1 | <0.10 | <0.010 | <10 | 0.29 | 2.0 | 0.55 | 59 | <1 | <2.0 |
| | Jun-12 | 8.17 | 1100 | 140 | 290 | 360 | 1.40 | <0.05 | <1 | 0.24 | 0.014 | 40 | 1.40 | 4.0 | 0.10 | 71 | <1 | <2.0 |
| | Nov-12 | 8.15 | 1000 | 120 | 230 | 380 | 0.76 | 0.09 | 2 | <0.1 | <0.01 | <10 | 0.22 | 2.0 | 0.02 | 73 | <1 | <2.0 |
| | Apr-13 | 8.39 | 720 | 88 | 180 | 250 | 0.43 | 0.06 | 3 | <0.1 | <0.01 | 10 | 0.16 | 2.0 | 0.02 | 55 | <1 | <2 |
| | Jun-13 | 8.25 | 990 | 130 | 280 | 350 | 0.59 | 0.06 | 3 | 0.38 | <0.01 | 44 | 1.20 | 3.0 | 0.07 | 76 | <1 | <2 |
| | Sep-13 | 8.16 | 890 | 90 | 280 | 370 | 0.46 | 0.05 | 2 | 0.18 | <0.01 | 170 | 0.62 | 5.0 | 0.07 | 56 | <1 | <2 |
| | Dec-13 | 8.05 | 1200 | 160 | 250 | 400 | 0.97 | 0.08 | 1 | <0.1 | <0.01 | <10 | 0.13 | 3.0 | 0.03 | 90 | 2.2 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
' * - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW1-A** | Apr-14 | 8.30 | 840 | 110 | 200 | 270 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.14 | 3.0 | <0.1 | 63 | <1 | <2 |
| | Jun-14 | 8.34 | 1000 | 140 | 260 | 340 | 0.24 | <0.05 | <1 | 0.20 | <0.01 | 35 | 0.14 | 3.0 | <0.1 | 82 | <1 | <2 |
| | Sep-14 | 8.32 | 1200 | 170 | 260 | 410 | 0.56 | <0.05 | <1 | 0.20 | <0.01 | <10 | 0.63 | 4.0 | <0.1 | 100 | <1 | <2 |
| | Dec-14 | 8.10 | 1300 | 200 | 250 | 400 | 0.37 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.12 | 4.0 | <0.1 | 110 | 1.0 | <2 |
| | Apr-15 | 8.27 | 890 | 130 | 190 | 300 | 0.24 | <0.050 | <1 | <0.1 | <0.01 | 21 | 0.16 | 3.0 | 0.04 | 73 | <1 | <2 |
| | Jun-15 | 8.31 | 1000 | 150 | 250 | 360 | 0.50 | <0.050 | <1 | <0.1 | <0.01 | 29 | 0.58 | 3.0 | 0.08 | 81 | <1 | <2 |
| | Sep-15 | 8.21 | 950 | 110 | 280 | 360 | 0.51 | <0.050 | <1 | 0.23 | <0.01 | 740 | 7.20 | 6.0 | 0.30 | 58 | <1 | <2 |
| | Nov-15 | 8.03 | 1300 | 220 | 250 | 400 | 0.24 | <0.050 | <1 | <0.1 | <0.01 | 110 | 0.28 | 4.0 | 0.10 | 110 | <1 | <2 |
| | Apr-16 | 8.39 | 810 | 100 | 220 | 280 | 0.24 | <0.050 | <1 | <0.1 | <0.01 | <10 | 1.30 | 3 | 0.05 | 65 | <1 | 2.0 |
| | Jun-16 | 8.27 | 1200 | 160 | 280 | 380 | 0.24 | <0.050 | <1 | 0.30 | <0.01 | 33 | 0.74 | 4 | 0.07 | 96 | <1 | <2.0 |
| | Nov-16 | 7.86 | 1100 | 200 | 200 | 350 | 0.36 | <0.050 | <1 | <0.5 | <0.05 | 12 | 0.19 | 6 | 0.70 | 98 | 2.4 | 17.0 * |
| | Apr-17 | 8.21 | 670 | 77 | 180 | 220 | 0.24 | <0.050 | <1 | <0.1 | <0.01 | <10 | 0.25 | 2 | 0.03 | 50 | 1.2 | <2 |
| | Jun-17 | 8.46 | 930 | 110 | 280 | 320 | 0.28 | <0.050 | <1 | 0.30 | <0.01 | 46 | 1.90 | 3 | 0.10 | 75 | <1 | <2 |
| | Nov-17 | 8.37 | 1100 | 160 | 260 | 340 | 0.19 | <0.050 | <1 | <0.1 | <0.01 | 10 | 0.14 | 4 | 0.09 | 83 | <2 | <2 |
| | Apr-18 | 8.19 | 580 | 45 | 150 | 170 | 0.21 | <0.050 | <1 | 0.37 | <0.01 | 22 | 0.82 | 2 | 0.06 | 46 | <1 | <2 |
| | Jun-18 | 8.27 | 810 | 96 | 260 | 280 | 0.29 | <0.050 | <1 | 0.25 | <0.01 | 35 | 0.61 | 3 | 0.09 | 62 | <1 | <2 |
| | Dec-18 | 8.24 | 780 | 100 | 190 | 250 | 0.16 | 0.05 | 1 | 0.37 | <0.01 | 17 | 0.21 | 3 | 0.04 | 60 | <1 | <2 |
| | Apr-19 | 8.27 | 700 | 100 | 170 | 200 | 0.27 | <0.050 | <1 | 0.39 | <0.010 | 36 | 0.96 | 2 | 0.05 | 52 | <1 | <2 |
| | May-19 | 8.45 | 700 | 72 | 230 | 240 | 0.20 | <0.050 | <1 | 0.13 | <0.010 | 21 | 0.71 | 3 | 0.06 | 50 | <1 | <2 |
| | Sep-19 | 8.40 | 990 | 120 | 280 | 350 | 0.15 | <0.050 | <1 | 0.25 | <0.010 | 24 | 0.41 | 4 | 0.07 | 70 | <1 | <2 |
| | Nov-19 | 8.23 | 770 | 84 | 220 | 300 | 0.24 | <0.050 | <1 | <0.10 | <0.010 | <10 | 0.19 | 3 | 0.05 | 52 | <1 | <2 |
| | Apr-20 | 8.41 | 840 | 97 | 260 | 290 | 0.18 | <0.050 | <1 | <0.10 | <0.010 | <10 | 0.20 | 3 | 0.02 | 60 | <1 | <2 |
| | Jun-20 | 8.30 | 990 | 140 | 270 | 310 | 0.32 | <0.050 | <1 | 0.41 | <0.010 | 23 | 0.80 | 4 | 0.08 | 90 | <1 | <2 |
| | Dec-20 | 8.15 | 690 | 77 | 170 | 220 | 0.23 | 0.05 | <1 | 0.26 | <0.010 | 11 | 0.48 | 3 | 0.09 | 44 | <1 | <2 |
| | Mar-21 | 8.14 | 500 | 58 | 140 | 150 | 0.35 | <0.050 | <1 | 0.65 | <0.010 | 470 | 13 | 4 | 0.46 | 37 | <1 | 3 |
| | Jun-21 | 8.37 | 950 | 130 | 250 | 290 | 0.23 | <0.050 | | <0.10 | <0.010 | 19 | 0.79 | 5 | 0.087 | 84 | <1 | <2 |
| | Sep-21 | 8.48 | 650 | 45 | 250 | 280 | 0.31 | 0.057 | 4 | 0.13 | <0.010 | 49 | 1.3 | 4 | 0.09 | 32 | <1 | <2 |
| | Dec-21 | 8.32 | 640 | 50 | 230 | 250 | 0.18 | <0.050 | <1 | <0.10 | <0.010 | 30 | 0.68 | 3 | 0.053 | 38 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
' * - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW2** | May-85 | 8.13 | 714 | 38 | 280 | 335 | 0.20 | <0.05 | <1 | 0.55 | 0.010 | 0.0 | 0.11 | | 0.04 | | 0.4 | 0.3 |
| | Jul-85 | 8.15 | 678 | 39 | 275 | 328 | | <0.05 | <1 | 0.30 | 0.030 | 9.1 | | | | | 8.0 | 0.8 |
| | Sep-85 | 7.98 | 883 | 51 | 324 | 420 | 0.60 | <0.05 | <1 | <0.05 | <0.005 | 23.2 | <0.03 | | 0.02 | | 0.4 | 0.4 |
| | Oct-85 | 7.84 | 834 | 42 | 291 | 383 | 0.30 | <0.05 | <1 | 0.20 | <0.005 | 0.0 | <0.03 | | 0.12 | | 0.2 | 0.6 |
| | Nov-85 | 8.06 | 397 | 16 | 146 | 177 | 0.40 | <0.05 | <1 | 0.50 | <0.005 | 0.0 | | | 0.08 | | 0.2 | 0.3 |
| | May-86 | 8.55 | 646 | 34 | 275 | 326 | 0.40 | 0.20 | 14 | <0.05 | 0.010 | 5.1 | | | 0.04 | | 0.8 | 0.3 |
| | Jul-86 | 8.13 | 785 | 49 | 310 | 374 | 0.20 | 0.15 | 7 | 0.40 | 0.015 | 25.1 | | | 0.08 | | 1.8 | 1.8 |
| | Dec-86 | 8.25 | 570 | 31 | 230 | 272 | 0.20 | 0.15 | 3 | 0.45 | 0.005 | | | | 0.05 | | 0.6 | |
| | Aug-87 | 8.32 | 700 | 65 | 346 | 407 | 0.51 | | | 0.54 | <0.2 | 13.0 | <0.4 | | <0.02 | | <0.5 | 8.4 |
| | Dec-87 | 8.25 | 370 | 60 | 198 | 268 | <0.05 | <0.01 | <1 | 1.02 | 0.050 | 4.5 | 0.18 | | <0.02 | | 1.4 | <1.0 |
| | Apr-88 | 8.33 | 501 | 50 | 204 | 264 | 0.30 | 0.17 | 6 | 0.18 | 0.020 | 3.5 | 0.23 | | 0.04 | | 0.5 | 1.0 |
| | Jun-88 | 8.11 | 647 | 65 | 353 | 431 | 0.48 | 0.02 | <1 | 0.30 | <0.02 | 11.6 | 0.34 | | 0.10 | | <0.5 | <1.0 |
| | Sep-88 | 7.80 | 564 | 65 | 282 | | 0.33 | 0.03 | <1 | 0.45 | <0.02 | 10.8 | 0.22 | | | | 1.0 | <1.0 |
| | Nov-88 | 7.99 | 454 | 60 | 244 | 318 | 0.37 | <0.01 | <1 | 0.18 | <0.02 | 17.5 | | | | | 1.8 | |
| | Mar-89 | 8.11 | 960 | 185 | 212 | 332 | 1.33 | 0.03 | <1 | 0.96 | <0.02 | 4.0 | <0.10 | | 0.08 | 81 | 4.0 | 0.4 |
| | May-89 | 8.36 | 650 | 61 | 385 | 508 | 0.40 | <0.01 | <1 | 0.25 | <0.02 | 2.8 | <0.25 | | 0.05 | | <2.0 | 0.3 |
| | Jul-89 | 8.28 | 1040 | 145 | 143 | 534 | 0.70 | 0.40 | 24 | 0.20 | 0.040 | 61.2 | 0.48 | | 0.24 | 36 | <2.0 | 0.3 |
| | Sep-89 | 7.49 | 910 | 63 | 378 | 297 | 0.50 | 0.14 | 1 | 0.30 | <0.02 | 18.7 | 1.72 | | 0.13 | 38 | <2.0 | 3.2 |
| | Apr-90 | 8.20 | 557 | 101 | 164 | 216 | 0.22 | 0.05 | 1 | 0.20 | 0.020 | 8.4 | 0.20 | | 0.09 | 36 | 1.0 | 0.3 |
| | May-90 | 8.24 | 594 | 41 | 225 | 266 | 0.31 | 0.05 | 2 | 0.20 | 0.020 | 11.2 | 0.06 | | 0.10 | 27 | 2.0 | 0.5 |
| | Jul-90 | 8.13 | 844 | 63 | 296 | 366 | 0.28 | 0.05 | 2 | <0.20 | 0.020 | 6.4 | 0.11 | | 0.13 | 37 | 1.7 | 2.5 |
| | Sep-90 | 7.97 | 6560 | 33 | 323 | 384 | 0.30 | <0.05 | <1 | <0.10 | <0.10 | 3.0 | 0.18 | | 0.08 | 36 | <2.0 | <2.5 |
| | Apr-91 | 8.45 | 497 | 67 | 197 | 253 | 0.41 | <0.05 | <1 | <0.10 | 0.020 | 14.0 | 0.37 | | 0.11 | 29 | <1.0 | <0.5 |
| | Jun-91 | 8.27 | 1060 | 54 | 282 | 370 | 0.50 | <0.05 | <1 | 0.10 | 0.010 | 13.6 | 0.24 | | 0.88 | 35 | <2.0 | 2.2 |
| | Aug-91 | 8.18 | 916 | 62 | 324 | 430 | 0.32 | <0.05 | <1 | 0.20 | 0.020 | 16.0 | 0.59 | | 0.12 | 42 | <2.0 | 4.0 |
| | May-92 | 8.31 | 628 | 46 | 172 | 230 | 0.21 | 0.07 | 3 | 0.10 | <0.01 | 8.0 | 0.20 | | 0.06 | 26 | <2.0 | <0.7 |
| | Jun-92 | 8.06 | 835 | 77 | 279 | 390 | 0.33 | <0.05 | <1 | 0.10 | <0.01 | 6.8 | 0.28 | | 0.09 | 41 | <2.0 | <0.7 |
| | Aug-92 | 8.24 | 780 | 66 | 286 | 370 | 0.29 | <0.02 | <1 | <0.1 | <0.01 | 15.6 | <0.08 | | 0.20 | 37 | <2.0 | <0.5 |
| | Oct-92 | 8.17 | 838 | 74 | 284 | 360 | 0.19 | <0.02 | <1 | <0.1 | <0.01 | 3.2 | 0.33 | | 0.09 | 39 | <2.0 | <0.5 |
| | Apr-93 | 8.44 | 549 | 44 | 206 | 250 | 0.16 | <0.01 | <1 | 0.09 | <0.01 | 4.0 | 0.16 | | 0.11 | 30 | <2.0 | <0.3 |
| | Jun-93 | 8.23 | 826 | 64 | 299 | 380 | 0.32 | 0.03 | 1 | 0.28 | <0.01 | 15.2 | 0.21 | | 0.14 | 38 | <2.0 | <0.3 |
| | Oct-93 | 7.96 | 857 | 71 | 289 | 410 | 0.32 | <0.01 | <1 | <0.02 | <0.01 | 6.8 | 1.51 | | 0.23 | 46 | <2.0 | 1.4 |
| | Apr-94 | 8.38 | 671 | 65 | 214 | 280 | 0.23 | 0.04 | 2 | <0.02 | <0.01 | 6.0 | 0.29 | | 0.08 | 35 | <1.0 | 1.5 |
| | Jul-94 | 8.29 | 858 | 69 | 299 | 370 | 0.60 | 0.02 | 1 | 0.25 | <0.02 | 28.0 | 1.46 | | 0.18 | 40 | <1.0 | 0.8 |
| | Aug-94 | 8.05 | 837 | 58 | 295 | 380 | 0.36 | 0.04 | 1 | <0.02 | <0.02 | 37.0 | 1.64 | | 0.21 | 35 | <1.0 | 0.8 |
| | Oct-94 | 7.54 | 929 | 61 | 398 | 430 | 0.89 | 0.17 | 1 | 0.05 | <0.02 | 88.0 | 9.06 | | 0.60 | 37 | 7.0 | 3.3 |
| | May-95 | 8.52 | 739 | 57 | 248 | 330 | 0.19 | <0.03 | <1 | <0.04 | <0.01 | <0.9 | <0.25 | | 0.06 | 32 | <2.0 | 0.5 |
| | Jul-95 | 8.27 | 934 | 72 | 302 | 410 | 0.29 | 0.04 | 2 | 0.28 | 0.010 | | 0.62 | | 0.12 | 39 | <2.0 | 0.8 |
| | Dec-95 | 8.24 | 610 | 52 | 190 | 240 | 0.22 | <0.03 | <1 | 0.31 | <0.009 | <4.2 | 0.10 | | 0.04 | 32 | <1.0 | <5.0 |
| | May-96 | 8.28 | 645 | 55 | 206 | 250 | 0.28 | 0.03 | 1 | <0.10 | <0.20 | 6.9 | 0.15 | | 0.03 | 34 | <0.5 | 0.8 |
| | Jul-96 | 7.86 | 762 | 67 | 251 | 330 | 0.48 | 0.04 | <1 | 0.67 | <0.20 | 13.1 | 0.36 | | 0.30 | 33 | <0.5 | 2.2 |
| | Sep-96 | 8.00 | 763 | 72 | 256 | 327 | 0.53 | 0.03 | <1 | 0.30 | <0.20 | 61.3 | 0.50 | | <0.10 | 33 | <0.5 | 1.5 |
| | Nov-96 | 8.14 | 768 | 62 | 264 | 340 | 0.20 | <0.02 | <1 | <0.10 | <0.20 | 2.7 | 0.13 | | <0.05 | 35 | <1.0 | 2.2 |
| | May-97 | 8.36 | 677 | 58 | 263 | 319 | 0.32 | 0.03 | 1 | 0.20 | <0.20 | 4.9 | 0.08 | | <0.05 | 33 | <1.0 | 1.1 |
| | Dec-97 | 8.09 | 769 | 98 | 238 | 320 | 0.37 | <0.02 | <1 | <0.20 | <0.20 | 3.3 | 0.13 | | 0.05 | 49 | <1.0 | 1.0 |
| | May-98 | 8.32 | 786 | 55 | 309 | 359 | 0.32 | <0.02 | <1 | 0.20 | <0.20 | 4.0 | 0.07 | 3.6 | 0.06 | 37 | <1.0 | 1.6 |
| | Jul-98 | 8.19 | 771 | 79 | 262 | 313 | 0.82 | 0.04 | 2 | 0.50 | <0.20 | 94.0 | 3.73 | 5.1 | 0.18 | 49 | <1.0 | 2.9 |
| | Nov-98 | 7.63 | 1219 | 107 | 353 | 593 | 1.38 | 0.04 | <1 | <0.20 | <0.20 | 21.0 | 0.24 | 10.0 | 0.42 | 56 | 1.0 | 9.6 |
| | Apr-99 | 8.04 | 690 | 103 | 165 | 264 | 0.64 | <0.02 | <1 | 0.40 | <0.20 | 59.0 | 2.74 | 5.0 | 0.09 | 49 | <1.0 | 1.3 |
| | Nov-99 | 8.09 | 1145 | 116 | 341 | 520 | 0.20 | 0.12 | 3 | <0.20 | <0.20 | 2.0 | 0.03 | 4.8 | 0.04 | 62 | <1.0 | 1.0 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW2** | Apr-00 | 8.24 | 925 | 121 | 265 | 370 | 0.33 | <0.03 | <1 | <0.4 | <0.4 | 3 | 0.08 | 4.0 | 0.00 | 67 | <1.0 | 1.2 |
| | Jun-00 | 8.13 | 383 | 35 | 167 | 197 | 0.51 | 0.06 | 2 | 0.40 | <0.2 | 154 | 7.02 | 5.6 | 0.26 | | <1.0 | 1.5 |
| | Sep-00 | 8.18 | 847 | 71 | 363 | 470 | 0.36 | <0.03 | <1 | 0.20 | <0.2 | 10 | 0.34 | 4.2 | 0.05 | 43 | 1.0 | 1.4 |
| | Nov-00 | 8.03 | 989 | 120 | 314 | 485 | 0.28 | <0.03 | <1 | 0.40 | <0.2 | 8 | 0.22 | 4.0 | 0.04 | 54 | <1.0 | 0.7 |
| | Apr-01 | 7.66 | 660 | 37 | 191 | 269 | 0.28 | <0.03 | <1 | <0.2 | <0.2 | 8 | 0.20 | 4.0 | 0.03 | 47 | <1.0 | 1.9 |
| | Nov-01 | 7.69 | 418 | 31 | 74 | 167 | 1.87 | <0.03 | <1 | 4.00 | <0.2 | 71 | 3.29 | 8.0 | 0.36 | 13 | <1.0 | 0.7 |
| | Apr-02 | 8.10 | 831 | 131 | 135 | 248 | 0.70 | <0.03 | <1 | <0.2 | <1.0 | 32 | 1.78 | 3.0 | 0.06 | 69 | <1.0 | <0.5 |
| | Nov-02 | 7.98 | 829 | 69 | 155 | 359 | 1.01 | 0.03 | <1 | 6.20 | <0.2 | 23 | 1.02 | 11.0 | 0.04 | 41 | <1.0 | 1.3 |
| | May-03 | 8.18 | 664 | 40 | 159 | 305 | 1.69 | 0.04 | 1 | 2.70 | <0.2 | 28 | 2.06 | 7.0 | 0.16 | 25 | <1.0 | 1.5 |
| | Aug-03 | 7.86 | * 14400 | * 4040 | 109 | * 4680 | 0.64 | <0.03 | <1 | <0.2 | <2.0 | 46 | 0.16 | 44.0 | 0.05 | * 1350 | <1.0 | 1.6 |
| | Nov-03 | 7.91 | 592 | 35 | 135 | 256 | 1.49 | <0.03 | <1 | 3.00 | <0.2 | 85 | 5.51 | 10.2 | 0.39 | 21 | <1.0 | 0.8 |
| | Apr-04 | 8.36 | 700 | 78 | 215 | 269 | 0.70 | <0.05 | <1 | 0.30 | <0.1 | 16 | 0.74 | 2.6 | <0.02 | 41 | <1.0 | <3 |
| | Jun-04 | 8.42 | 927 | 76 | 145 | 393 | 1.20 | <0.05 | <1 | <1 | <0.1 | 38 | 1.40 | | 0.04 | 60 | <1.0 | <4 |
| | Sep-04 | 8.18 | 1010 | 117 | 212 | 351 | 1.10 | <0.05 | <1 | 14.00 | 0.100 | 27 | 1.20 | 16.0 | 1.11 | 73 | 1.0 | <3 |
| | Dec-04 | 7.87 | 1110 | 84 | 328 | 536 | 0.90 | <0.05 | <1 | <0.1 | <0.1 | 22 | 1.00 | 5.9 | | 62 | <1.0 | <2 |
| | Apr-05 | 8.22 | 684 | 83 | 187 | 254 | 0.50 | <0.05 | <1 | 0.20 | <0.1 | <1 | <0.1 | 2.7 | 0.03 | 48 | <1.0 | <2 |
| | Sep-05 | 8.36 | 931 | 90 | 313 | | 0.60 | <0.05 | <1 | <0.2 | <0.3 | 5 | 0.30 | 5.2 | 0.04 | 62 | <1.0 | <2 |
| | Dec-05 | 8.23 | 731 | 91 | 209 | 250 | 0.70 | <0.05 | <1 | 0.40 | <0.01 | 4 | 0.65 | 4.1 | 0.06 | 61 | <1.0 | <2 |
| | Mar-06 | 8.30 | 759 | 78 | 239 | 260 | 0.10 | <0.05 | <1 | 0.20 | <0.01 | 4 | 0.10 | | 0.01 | 58 | <1.0 | <2 |
| | Jun-06 | 8.20 | 1020 | 97 | 358 | 400 | 0.30 | 0.07 | 3 | 0.10 | <0.01 | 13 | 0.43 | 5.4 | 0.06 | 62 | <1.0 | <2 |
| | Sep-06 | 8.20 | 937 | 102 | 327 | 340 | 0.30 | 0.10 | 4 | 0.20 | <0.01 | 49 | 0.57 | 4.8 | 0.05 | 59 | <1.0 | <2 |
| | Nov-06 | 8.20 | 819 | 66 | 326 | 320 | 0.50 | 0.15 | 3 | 0.10 | <0.01 | 8 | 0.43 | 4.5 | 0.05 | 46 | <1.0 | <2 |
| | Apr-07 | 8.40 | 766 | 84 | 248 | 280 | 0.40 | 0.08 | 3 | <0.1 | <0.01 | 19 | 0.59 | 3.5 | 0.03 | 54 | <1.0 | <2 |
| | Apr-08 | 8.30 | 635 | 68 | 195 | 210 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.13 | 3.0 | 0.03 | 42 | <1.0 | <2 |
| | Jul-08 | 8.20 | 779 | 76 | 259 | 300 | 0.50 | <0.05 | <1 | 0.20 | <0.01 | 17 | 0.69 | 4.5 | <0.100 | 52 | <1.0 | <2 |
| | Oct-08 | 8.40 | 934 | 94 | 316 | 350 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.29 | 4.0 | 0.06 | 61 | <1.0 | <2 |
| | Dec-08 | 8.10 | 727 | 85 | 222 | 250 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | 45 | 0.98 | 3.0 | 0.08 | 47 | <1.0 | <2 |
| | Apr-09 | 7.90 | 626 | 58 | 223 | 230 | 0.90 | <0.05 | <1 | <0.1 | <0.01 | 83 | <0.02 | <1 | 0.16 | <0.5 | <1.0 | <2 |
| | Jun-09 | 8.30 | 932 | 110 | 282 | 320 | 0.50 | 0.19 | 12 | 0.30 | <0.01 | 17 | 0.26 | 4.0 | 0.06 | 62 | <1.0 | <2 |
| | Oct-09 | 8.20 | 901 | 120 | 247 | 310 | 0.30 | <0.05 | <3 | 0.20 | <0.01 | <10 | 0.21 | 4.0 | 0.06 | 65 | <1.0 | <2 |
| | Dec-09 | 8.00 | 463 | 38 | 144 | 160 | 1.90 | <0.05 | <1 | 1.80 | 0.020 | 130 | 12.00 | 5.0 | 0.57 | 27 | <1.0 | <2 |
| | Apr-10 | 8.40 | 812 | 86 | 269 | 320 | 0.50 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.08 | 3.0 | 0.03 | 52 | <1.0 | <2 |
| | Jun-10 | 8.30 | 745 | 68 | 262 | 280 | 0.40 | <0.05 | <1 | 0.40 | <0.01 | <10 | 0.18 | 2.0 | 0.04 | 46 | <1.0 | <2 |
| | Sep-10 | 8.20 | 537 | 52 | 161 | 200 | 1.30 | <0.05 | <1 | 0.60 | <0.01 | 310 | 9.20 | 5.0 | 0.34 | 35 | <1.0 | <2 |
| | Nov-10 | 8.14 | 476 | 41 | 150 | 170 | 1.10 | <0.05 | <1 | 0.70 | <0.01 | 46 | 2.90 | 5.0 | 0.25 | 27 | 4.0 | 3.0 |
| | Mar-11 | 8.11 | 534 | 60 | 154 | 200 | 0.50 | <0.05 | <1 | 0.10 | 0.010 | 72 | 2.00 | 3.0 | 0.09 | 36 | <1 | <2 |
| | Jun-11 | 8.32 | 702 | 56 | 253 | 280 | 0.40 | <0.05 | <1 | 0.20 | <0.01 | 16 | 0.30 | 3.0 | 0.06 | 42 | <1 | <2 |
| | Sep-11 | 8.18 | 877 | 70 | 285 | 360 | 0.30 | <0.05 | <1 | 0.10 | <0.01 | 77 | 0.23 | 4.0 | 0.05 | 41 | <1 | <2 |
| | Nov-11 | 7.90 | 259 | 5 | 120 | 120 | 1.50 | <0.05 | <1 | 0.30 | <0.01 | 240 | 5.40 | 11.0 | 0.30 | 2 | 4.0 | <2 |
| | Apr-12 | 8.30 | 830 | 81 | 260 | 320 | 0.31 | <0.05 | <1 | <0.10 | <0.01 | <10 | 0.16 | 2.0 | 0.57 | 50 | <1 | <2.0 |
| | Jun-12 | 8.04 | 1000 | 93 | 330 | 390 | 0.81 | <0.05 | <1 | 0.11 | 0.020 | 56 | 1.70 | 5.0 | 0.12 | 57 | <1 | <2.0 |
| | Sep-12 | 7.88 | 970 | 76 | 300 | 400 | 0.50 | 0.24 | 7 | <0.10 | <0.01 | 52 | 0.56 | 5.0 | 0.09 | 50 | <1 | <2.0 |
| | Nov-12 | 8.04 | 980 | 100 | 240 | 400 | 0.51 | 0.07 | 1 | <0.1 | <0.01 | <10 | 0.05 | 2.0 | 0.04 | 59 | 1.1 | <2.0 |
| | Apr-13 | 8.41 | 670 | 69 | 200 | 250 | 0.33 | 0.44 | 22 | <0.1 | <0.01 | <10 | 0.14 | 3.0 | 0.02 | 44 | <1 | <2 |
| | Jun-13 | 8.24 | 910 | 93 | 290 | 370 | 0.41 | 0.10 | 5 | 0.26 | <0.01 | <10 | 0.18 | 4.0 | 0.05 | 55 | <1 | <2 |
| | Sep-13 | 8.04 | 1000 | 85 | 310 | 420 | 0.51 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.07 | 5.0 | 0.04 | 55 | <1 | <2 |
| | Dec-13 | 7.99 | 1000 | 110 | 260 | 410 | 0.79 | 0.05 | <1 | <0.1 | <0.01 | 32 | 0.90 | 4.0 | 0.10 | 64 | 1.6 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW2** | Apr-14 | 8.28 | 800 | 91 | 220 | 290 | 0.28 | 0.05 | 1 | <0.1 | <0.01 | <10 | 0.11 | 3.0 | <0.1 | 54 | <1 | <2 |
| | Jun-14 | 8.28 | 900 | 95 | 280 | 340 | 0.22 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.04 | 4.0 | <0.1 | 56 | <1 | <2 |
| | Sep-14 | 8.28 | 970 | 110 | 270 | 400 | 0.67 | <0.05 | <1 | 0.10 | <0.01 | <10 | 0.07 | 4.0 | <0.1 | 64 | <1 | <2 |
| | Dec-14 | 8.12 | 1000 | 130 | 250 | 370 | 0.31 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.16 | 4.0 | <0.1 | 69 | <1 | <2 |
| | Apr-15 | 8.31 | 840 | 110 | 200 | 300 | 0.24 | <0.05 | <1 | <0.1 | <0.010 | <10 | 0.13 | 3 | 0.03 | 64 | <1 | <2 |
| | Jun-15 | 8.35 | 1000 | 140 | 250 | 360 | 0.46 | <0.05 | <1 | <0.1 | <0.010 | 14 | 0.22 | 4 | 0.07 | 76 | <1 | <2 |
| | Sep-15 | 8.14 | 1100 | 110 | 330 | 450 | 0.29 | 0.06 | 3 | <0.1 | <0.010 | <10 | 0.18 | 5 | 0.07 | 68 | <1 | <2 |
| | Apr-16 | 8.32 | 790 | 86 | 240 | 300 | 0.16 | <0.05 | <1 | <0.10 | <0.010 | <10 | 0.03 | 3.0 | 0.02 | 52 | <1 | <2.0 |
| | Jun-16 | 8.14 | 1100 | 120 | 300 | 400 | 0.21 | <0.05 | <1 | 0.11 | <0.010 | <10 | 0.06 | 5 | 0.04 | 63 | <1 | <2.0 |
| | Sep-16 | 8.16 | 1000 | 100 | 290 | 410 | 0.19 | <0.05 | <1 | <0.10 | <0.010 | <10 | 0.05 | 5 | 0.04 | 57 | <1 | <2.0 |
| | Nov-16 | 8.18 | 950 | 100 | 260 | 380 | 0.21 | <0.05 | <1 | <0.10 | <0.010 | <10 | 0.11 | 5 | 0.20 | 53 | 1.4 | <2.0 |
| | Apr-17 | 8.30 | 660 | 65 | 190 | 230 | 0.21 | <0.05 | <1 | <0.10 | <0.010 | 12 | 0.20 | 3 | 0.04 | 45 | <1 | <2 |
| | Jun-17 | 8.44 | 860 | 89 | 280 | 330 | 0.19 | <0.05 | <1 | 0.24 | <0.010 | <10 | 0.12 | 4 | 0.06 | 62 | <1 | <2 |
| | Apr-18 | 8.24 | 510 | 46 | 160 | 180 | 0.26 | <0.05 | <1 | 0.35 | <0.010 | 20 | 0.77 | 3 | 0.06 | 33 | <1 | <2 |
| | Jun-18 | 8.39 | 800 | 85 | 260 | 290 | 0.22 | <0.05 | <1 | 0.20 | <0.010 | <10 | 0.39 | 4 | 0.07 | 57 | <1 | <2 |
| | Sep-18 | 8.34 | 850 | 100 | 250 | 290 | 0.17 | <0.05 | <1 | 0.42 | <0.010 | 16 | 0.50 | 4 | 0.07 | 64 | 0.001 | <2 |
| | Dec-18 | 8.34 | 760 | 88 | 220 | 260 | 0.13 | <0.05 | <1 | 0.33 | <0.010 | <10 | 0.14 | 3 | 0.04 | 51 | <1 | <2 |
| | Apr-19 | 8.30 | 680 | 84 | 180 | 220 | 0.26 | <0.050 | <1 | 0.38 | <0.010 | 23 | 0.74 | 3 | 0.04 | 45 | <1 | <2 |
| | May-19 | 8.43 | 660 | 49 | 240 | 250 | 0.18 | <0.050 | <1 | 0.14 | <0.010 | 19 | 0.59 | 3 | 0.06 | 40 | <1 | <2 |
| | Nov-19 | 8.26 | 760 | 81 | 220 | 300 | 0.28 | <0.050 | <1 | <0.10 | <0.010 | <10 | 0.16 | 4 | 0.06 | 50 | <1 | <2 |
| | Apr-20 | 8.41 | 800 | 73 | 270 | 320 | 0.14 | <0.050 | <1 | <0.10 | <0.010 | <10 | 0.13 | 3 | 0.02 | 47 | <1 | <2 |
| | Jun-20 | 8.09 | 1200 | 230 | 180 | 180 | 0.63 | <0.050 | <1 | 1.32 | 0.02 | 10 | 0.58 | 4 | 0.09 | 170 | <1 | <2 |
| | Dec-20 | 8.18 | 660 | 65 | 180 | 240 | 0.21 | <0.050 | <1 | 0.36 | <0.010 | <10 | 0.33 | 3 | 0.08 | 39 | <1 | <2 |
| | Mar-21 | 8.12 | 420 | 40 | 130 | 140 | 0.35 | <0.050 | <1 | 0.89 | <0.010 | 630 | 18 | 6 | 0.61 | 26 | <1 | <2 |
| | Jun-21 | 8.33 | 830 | 95 | 250 | 280 | 0.3 | <0.050 | | <0.10 | <0.010 | 26 | 0.74 | 5 | 0.12 | 61 | <1 | <2 |
| | Sep-21 | 8.54 | 670 | 46 | 250 | 290 | 0.26 | <0.050 | <1 | <0.10 | <0.010 | 18 | 0.53 | 4 | 0.074 | 33 | <1 | <2 |
| | Dec-21 | 8.28 | 620 | 44 | 240 | 270 | 0.19 | <0.050 | <1 | 0.11 | <0.010 | 12 | 0.28 | 3 | 0.054 | 31 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.

* - Indicates associated value is suspected to be anomalous.

2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW3** | May-85 | 8.15 | 792 | 36 | 317 | 385 | 0.20 | <0.05 | <1 | 0.10 | 0.005 | 0.0 | 0.08 | | 0.04 | | 0.4 | 0.4 |
| | Jul-85 | 8.22 | 676 | 34 | 281 | 322 | | <0.05 | <1 | 0.10 | 0.010 | 7.0 | 0.32 | | | | 6.4 | 0.8 |
| | Nov-85 | 7.98 | 420 | 16 | 152 | 190 | 0.40 | <0.05 | <1 | 0.40 | <0.005 | 10.5 | | | 0.08 | | 0.2 | 0.3 |
| | Dec-85 | 8.26 | 647 | 35 | 234 | 303 | 0.30 | <0.05 | <1 | 0.35 | <0.005 | 0.0 | | | 0.04 | | 0.2 | 0.5 |
| | Apr-86 | 8.57 | 555 | 32 | 219 | 267 | 0.20 | <0.05 | <1 | 0.10 | <0.005 | 10.0 | | | 0.02 | | 0.2 | 0.1 |
| | Apr-86 | 8.48 | 651 | 33 | 269 | 311 | <0.20 | <0.05 | <1 | <0.05 | 0.005 | 61.6 | | | <0.02 | | 2.0 | 0.6 |
| | May-86 | 8.46 | 707 | 33 | 298 | 352 | 0.40 | <0.05 | <1 | <0.05 | 0.015 | 73.2 | | | 0.08 | | 0.6 | 0.3 |
| | Jul-86 | 8.36 | 759 | 39 | 328 | 367 | 0.40 | <0.05 | <1 | 0.20 | 0.040 | 47.9 | | | 0.12 | | 1.4 | 1.5 |
| | Dec-86 | 8.10 | 625 | 32 | 246 | 299 | 0.20 | 0.15 | 2 | 0.40 | 0.005 | | | | 0.05 | | 0.4 | |
| | Dec-87 | 8.29 | 400 | 50 | 240 | 300 | <0.05 | 0.01 | <1 | 0.66 | <0.02 | 8.5 | 0.34 | | <0.02 | | 0.9 | <1.0 |
| | Apr-88 | 8.27 | 493 | 44 | 246 | 303 | 0.40 | 0.09 | 3 | 0.08 | 0.020 | 5.0 | 0.11 | | 0.06 | | 0.5 | 1.0 |
| | Sep-88 | 8.00 | 531 | | 298 | | | | | 0.43 | 0.040 | 25.0 | 0.13 | | | | 2.8 | 1.0 |
| | Nov-88 | 8.06 | 513 | 64 | 278 | 372 | 0.25 | <0.01 | <1 | 0.19 | <0.02 | 27 | | | | | 4.1 | 2.0 |
| | Mar-89 | 7.99 | 836 | 117 | 207 | 325 | 1.36 | 0.14 | 2 | 0.50 | 0.020 | 58.0 | 5.71 | | 0.10 | 58 | 3.0 | 0.3 |
| | May-89 | 8.37 | 945 | 55 | 304 | 388 | * <0.20 | <0.05 | <1 | <0.05 | <0.005 | | | | 0.02 | 33 | <2.0 | 1.2 |
| | May-89 | 8.41 | 757 | 55 | 310 | 387 | 0.28 | 0.01 | <1 | 0.18 | 0.020 | 3.6 | | | 0.06 | 40 | | 0.3 |
| | Apr-90 | 8.16 | 543 | 96 | 168 | 226 | 0.23 | 0.07 | 2 | <0.2 | 0.020 | 18.0 | 0.28 | | 0.12 | 27 | 1.0 | 0.3 |
| | May-90 | 8.25 | 613 | 39 | 229 | 279 | 0.25 | 0.05 | 2 | 0.20 | 0.020 | 13.2 | 0.06 | | 0.18 | 39 | 2.0 | 0.5 |
| | Jul-90 | 8.29 | 848 | 52 | 360 | 425 | 0.36 | 0.06 | 4 | 0.20 | 0.020 | 5.2 | 0.27 | | 0.23 | 42 | 1.3 | 2.2 |
| | Apr-91 | 8.37 | 504 | 56 | 201 | 275 | 0.47 | <0.05 | <1 | 0.10 | 0.010 | 28.8 | 0.74 | | 0.19 | 25 | <1.0 | <0.5 |
| | Jun-91 | 8.36 | 933 | 51 | 310 | 400 | 0.58 | <0.05 | <1 | 0.10 | <0.01 | 21.2 | 0.26 | | 0.20 | 36 | 2.0 | 3.2 |
| | Oct-91 | 7.56 | 1200 | 79 | 319 | 570 | 0.35 | <0.05 | <1 | <0.10 | <0.01 | 2.0 | <0.12 | | 0.24 | 48 | 2.6 | 4.2 |
| | May-92 | 8.27 | 632 | 43 | 189 | 240 | 0.43 | 0.06 | 2 | 0.10 | <0.01 | 145.0 | 0.90 | | 0.27 | 26 | <2.0 | <0.7 |
| | Jun-92 | 8.11 | 864 | 67 | 316 | 430 | 0.32 | <0.05 | <1 | <0.10 | 0.010 | 6.0 | 0.11 | | <0.06 | 44 | <2.0 | <0.7 |
| | Aug-92 | 8.23 | 818 | 59 | 346 | 370 | 0.29 | <0.02 | <1 | <0.10 | <0.01 | | 0.18 | | | 38 | <2.0 | |
| | Oct-92 | 8.14 | 893 | 67 | 328 | 410 | 0.19 | <0.02 | <1 | <0.10 | <0.01 | 4.4 | 0.17 | | 0.11 | 41 | <2.0 | <0.5 |
| | Apr-93 | 8.43 | 559 | 43 | 230 | 280 | 0.22 | <0.01 | <1 | <0.02 | <0.01 | 62.0 | 0.34 | | 0.15 | 31 | <2.0 | <0.3 |
| | Jun-93 | 8.24 | 892 | 58 | 342 | 420 | 0.44 | <0.01 | <1 | 0.16 | <0.01 | 16.0 | 0.30 | | 0.17 | 41 | <2.0 | <0.3 |
| | Oct-93 | 7.92 | 1010 | 69 | 334 | 470 | 0.37 | <0.01 | <1 | <0.02 | <0.01 | 3.6 | 0.25 | | 0.26 | 49 | 7.2 | 3.0 |
| | Apr-94 | 8.35 | 653 | 66 | 240 | 310 | 0.27 | 0.04 | 2 | <0.02 | <0.01 | 6.1 | 0.25 | | 0.06 | 37 | <1.0 | 1.5 |
| | Jul-94 | 8.28 | 946 | 62 | 325 | 410 | 0.53 | 0.12 | 7 | 0.21 | <0.02 | 30.0 | 1.02 | | 0.14 | 43 | <1.0 | 1.1 |
| | May-96 | 8.25 | 675 | 52 | 226 | 283 | 0.27 | <0.02 | <1 | <0.10 | <0.02 | 5.3 | 0.16 | | 0.03 | 35 | <0.5 | 1.0 |
| | Jul-96 | 7.86 | 840 | 59 | 269 | 354 | 0.50 | 0.03 | <1 | 0.62 | <0.02 | 14.3 | 0.35 | | 0.20 | 33 | <0.5 | 2.6 |
| | Sep-96 | 8.08 | 866 | 73 | 290 | 441 | 0.48 | <0.02 | <1 | 0.20 | <0.02 | 14.3 | 0.20 | | <0.10 | 39 | <0.5 | 2.2 |
| | Nov-96 | 8.14 | 860 | 61 | 300 | 384 | 0.19 | <0.02 | <1 | <0.1 | <0.02 | 4.4 | 0.11 | | <0.05 | 39 | <1.0 | 1.4 |
| | May-97 | 8.32 | 725 | 50 | 294 | 358 | 0.29 | 0.04 | 1 | <0.1 | <0.02 | 3.1 | 0.11 | | <0.05 | 35 | <1.0 | 0.3 |
| | Sep-97 | 8.28 | 663 | 63 | 322 | 384 | 0.39 | 0.05 | 2 | 0.20 | <0.02 | 12.5 | 0.33 | | 0.09 | 37 | <1.0 | 0.2 |
| | Dec-97 | 8.12 | 870 | 96 | 251 | 372 | 0.44 | 0.03 | <1 | <0.2 | <0.02 | 4.2 | 0.19 | | 0.07 | 53 | <1.0 | 1.3 |
| | May-98 | 8.29 | 802 | 54 | 312 | 360 | 0.27 | <0.02 | <1 | 0.20 | <0.02 | 3.0 | 0.06 | 3.9 | 0.04 | 36 | <1.0 | 1.4 |
| | Jul-98 | 8.11 | 703 | 62 | 240 | 301 | 0.64 | 0.05 | 2 | 0.50 | <0.02 | 46.0 | 1.30 | 4.0 | 0.14 | 37 | <1.0 | 2.8 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW3** | Apr-99 | 8.08 | 680 | 100 | 117 | 258 | 0.61 | <0.02 | <1 | 0.40 | <0.200 | 84 | 1.66 | 3.0 | 0.07 | 50 | <1.0 | 1.2 |
| | Nov-99 | 7.95 | 1142 | 112 | 333 | 509 | 0.34 | <0.02 | <1 | <0.20 | <0.200 | 2 | 0.03 | 4.6 | 0.07 | 57 | <1.0 | 1.0 |
| | Apr-00 | 8.19 | 931 | 121 | 251 | 381 | 0.33 | <0.03 | <1 | <0.4 | <0.4 | 3 | 0.06 | 3.9 | 0.00 | 67 | <1.0 | 1.0 |
| | Jun-00 | 8.15 | 382 | 35 | 168 | 191 | 0.57 | 0.08 | 3 | 0.40 | <0.2 | 141 | 6.62 | 6.6 | 0.20 | | <1.0 | <0.5 |
| | Sep-00 | 8.44 | 796 | 68 | 354 | 439 | 0.41 | 0.03 | 2 | 0.20 | <0.2 | 39 | 0.36 | 4.0 | 0.05 | 42 | <1.0 | 0.6 |
| | Nov-00 | 8.08 | 988 | 118 | 310 | 483 | 0.27 | <0.03 | <1 | 0.30 | <0.2 | 4 | 0.14 | 4.4 | 0.04 | 55 | <1.0 | 0.8 |
| | Apr-01 | 7.69 | 700 | 42 | 190 | 266 | 0.26 | <0.03 | <1 | <0.2 | <0.2 | 6 | 0.15 | 4.0 | 0.03 | 47 | <1.0 | 1.5 |
| | Nov-01 | 7.67 | 523 | 30 | 78 | 218 | 1.88 | 0.07 | <1 | 12.40 | <0.2 | 95 | 5.65 | 8.4 | 0.39 | 15 | <1.0 | 1.2 |
| | Apr-02 | 8.08 | 868 | 123 | 167 | 263 | 0.56 | <0.03 | <1 | <0.2 | <1.0 | 27 | 1.30 | 2.0 | 0.04 | 70 | <1.0 | <0.5 |
| | Jun-02 | 8.07 | 908 | 118 | 197 | 323 | 1.73 | 0.84 | 29 | 0.80 | <0.2 | 86 | 3.58 | 8.0 | 0.41 | 66 | <1.0 | 1.8 |
| | Nov-02 | 8.05 | 835 | 69 | 156 | 370 | 0.94 | 0.03 | <1 | 5.80 | <0.2 | 14 | 0.98 | 10.0 | 0.05 | 41 | <1.0 | 1.2 |
| | May-03 | 8.20 | 675 | 41 | 160 | 306 | 1.60 | 0.03 | <1 | 2.80 | <0.2 | 30 | 1.95 | 7.0 | 0.15 | 24 | <1.0 | 1.1 |
| | Nov-03 | 7.97 | 592 | 35 | 137 | 244 | 1.53 | <0.03 | <1 | 3.00 | <0.2 | 59 | 5.59 | 10.0 | 0.38 | 21 | <1.0 | <0.5 |
| | Apr-04 | 8.35 | 697 | 73 | 223 | 282 | 0.50 | <0.05 | <1 | 0.20 | <0.1 | 22 | 0.96 | 2.9 | <0.02 | 38 | <1.0 | <3 |
| | Jun-04 | 8.14 | 1980 | 74 | 253 | 1180 | 1.10 | <0.05 | <1 | 16.40 | <0.1 | 14 | 0.75 | | 0.05 | 74 | <1.0 | <4 |
| | Sep-04 | 8.15 | 1010 | 117 | 217 | 348 | 1.00 | <0.05 | <1 | 14.00 | 0.1 | 19 | 1.20 | 16.0 | 1.12 | 75 | 1.0 | <3 |
| | Dec-04 | 8.08 | 976 | 115 | 268 | 427 | 0.30 | 0.06 | <1 | 0.40 | <0.1 | 7 | 0.28 | 4.4 | | 52 | <1.0 | <2 |
| | Apr-05 | 8.29 | 688 | 82 | 196 | 261 | 0.50 | 0.05 | 2 | 0.20 | <0.1 | 5 | 0.10 | 3.0 | 0.04 | 48 | <1.0 | <2 |
| | Sep-05 | 8.20 | 868 | 82 | 297 | | 0.50 | <0.05 | <1 | <0.2 | <0.3 | 25 | 0.06 | 5.0 | 0.03 | 57 | <1.0 | <2 |
| | Dec-05 | 7.91 | 498 | 87 | 143 | 250 | 0.70 | <0.05 | <1 | 0.40 | <0.01 | 9 | 0.71 | 4.3 | 0.06 | 58 | | <2 |
| | Mar-06 | 8.40 | 772 | 77 | 250 | 280 | 0.20 | <0.05 | <1 | 0.20 | <0.01 | 3 | 0.14 | | 0.03 | 54 | <1.0 | <2 |
| | Jun-06 | 8.40 | 997 | 84 | 366 | 400 | 0.40 | 0.06 | 4 | <0.1 | <0.01 | 2 | 0.18 | 5.5 | 0.04 | 55 | <1.0 | <2 |
| | Sep-06 | 8.30 | 896 | 98 | 315 | 340 | 0.20 | <0.05 | <1 | 0.20 | <0.01 | 5 | 0.15 | 5.2 | 0.05 | 61 | <1.0 | <2 |
| | Nov-06 | 8.30 | 796 | 63 | 311 | 310 | 0.40 | 0.11 | 3 | <0.1 | <0.01 | 2 | 0.15 | 4.7 | 0.04 | 43 | <1.0 | <2 |
| | Apr-07 | 8.30 | 793 | 79 | 261 | 310 | 0.30 | 0.05 | 1 | <0.1 | <0.01 | 8 | 0.22 | 3.4 | 0.02 | 51 | <1.0 | <2 |
| | Apr-08 | 8.30 | 648 | 64 | 204 | 240 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | 10 | 0.41 | 3.0 | 0.02 | 43 | <1.0 | <2 |
| | Jul-08 | 8.20 | 797 | 75 | 269 | 300 | 0.40 | <0.05 | <1 | 0.20 | <0.01 | <10 | 0.17 | 4.3 | <0.10 | 49 | <1.0 | <2 |
| | Oct-08 | 8.20 | 927 | 87 | 319 | 350 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.07 | 4.0 | 0.04 | 54 | <1.0 | <2 |
| | Dec-08 | 8.20 | 730 | 79 | 227 | 260 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | 19 | 0.73 | 3.0 | 0.07 | 44 | <1.0 | <2 |
| | Apr-09 | 7.60 | 538 | 39 | 186 | 210 | 1.60 | 0.05 | <1 | 0.20 | <0.01 | 450 | 14.00 | 5.0 | 0.61 | 27 | <1 | <2 |
| | Jun-09 | 8.30 | 928 | 91 | 300 | 330 | 0.50 | 0.06 | 4 | 0.20 | <0.01 | 20 | 0.57 | 4.0 | 0.07 | 53 | 3.0 | <2 |
| | Oct-09 | 8.20 | 858 | 86 | 268 | 330 | 0.20 | <0.05 | <3 | 0.10 | <0.01 | <10 | 0.32 | 5.0 | 0.06 | 51 | <1 | <2 |
| | Dec-09 | 7.90 | 483 | 37 | 150 | 170 | 2.00 | <0.05 | <1 | 1.70 | 0.010 | 160 | 12.00 | 6.0 | 0.56 | 26 | <1 | <2 |
| | Apr-10 | 8.40 | 847 | 82 | 284 | 350 | | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.09 | 4.0 | | 52 | <1 | <2 |
| | Jun-10 | 8.40 | 761 | 62 | 271 | 300 | 0.40 | <0.05 | <1 | 0.30 | <0.01 | <10 | 0.18 | 5.0 | 0.04 | 44 | <1 | <2 |
| | Sep-10 | 8.20 | 578 | 43 | 180 | 220 | 1.40 | <0.05 | <1 | 0.40 | 0.010 | 350 | 10.00 | 7.0 | 0.39 | 32 | <1 | <2 |
| | Nov-10 | 8.09 | 490 | 40 | 156 | 180 | 1.00 | <0.05 | <1 | 0.40 | 0.010 | 67 | 3.20 | 5.0 | 0.26 | 28 | 2.0 | 2.0 |
| | Mar-11 | 8.12 | 538 | 54 | 162 | 200 | 0.70 | <0.05 | <1 | 0.10 | <0.01 | 140 | 4.10 | 4.0 | 0.16 | 35 | <1 | <2 |
| | Jun-11 | 8.37 | 696 | 45 | 263 | 290 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.26 | 4.0 | 0.06 | 38 | <1 | <2 |
| | Sep-11 | 8.23 | 822 | 46 | 287 | 350 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.12 | 5.0 | 0.06 | 39 | <1 | <2 |
| | Nov-11 | 7.81 | 300 | 19 | 101 | 120 | 3.00 | <0.05 | <1 | 0.40 | <0.01 | 910 | 36.00 | 9.0 | 1.50 | 11 | 4.0 | <2 |
| | Apr-12 | 8.28 | 860 | 75 | 290 | 340 | 0.30 | <0.05 | <1 | <0.10 | <0.010 | <10 | 0.12 | 3.0 | 0.56 | 52 | <1 | <2.0 |
| | Nov-12 | 8.13 | 1000 | 96 | 280 | 450 | 0.46 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.03 | 3.0 | 0.05 | 58 | <1 | <2.0 |
| | Apr-13 | 8.37 | 690 | 63 | 210 | 270 | 0.48 | 0.10 | 5 | <0.1 | <0.01 | <10 | 0.12 | 3.0 | 0.02 | 43 | 1.2 | <2 |
| | Jun-13 | 8.22 | 950 | 83 | 320 | 400 | 0.33 | 0.05 | 3 | <0.1 | <0.01 | <10 | 0.11 | 5.0 | 0.04 | 54 | <1 | <2 |
| | Dec-13 | 8.05 | 1200 | 110 | 350 | 500 | 0.41 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.26 | 5.0 | 0.04 | 63 | 1.5 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW3** | Apr-14 | 8.26 | 820 | 86 | 240 | 290 | 0.66 | 0.05 | 1 | <0.1 | <0.01 | 12 | 0.27 | 3.0 | <0.1 | 52 | <1 | <2 |
| | Jun-14 | 8.30 | 920 | 80 | 310 | 380 | 0.27 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.05 | 5.0 | <0.1 | 53 | <1 | <2 |
| | Sep-14 | 8.33 | 1000 | 92 | 330 | 430 | 0.29 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.10 | 5.0 | <0.1 | 60 | <1 | <2 |
| | Dec-14 | 8.18 | 1100 | 120 | 300 | 430 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.11 | 5.0 | <0.1 | 68 | <1 | <2 |
| | Apr-15 | 8.28 | 840 | 100 | 210 | 320 | 0.28 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.17 | 3 | 0.03 | 60 | <1 | <2 |
| | Jun-15 | 8.31 | 1000 | 130 | 260 | 370 | 0.45 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.16 | 4 | 0.06 | 73 | <1 | <2 |
| | Nov-15 | 7.90 | 1800 | 220 | 350 | 700 | 1.30 | 0.13 | 1 | <0.1 | <0.01 | 100 | 4.4 | 9 | 0.06 | 100 | <1 | 9.0 |
| | Apr-16 | 8.15 | 850 | 83 | 260 | 320 | 0.22 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.05 | 3.0 | 0.02 | 52 | <1 | <2 |
| | Jun-16 | 8.04 | 1100 | 110 | 340 | 440 | 0.25 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.02 | 5 | 0.05 | 64 | <1 | <2 |
| | Nov-16 | 8.14 | 1000 | 86 | 310 | 440 | 0.25 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.21 | 6 | 0.21 | 49 | <1 | 5.0 |
| | Apr-17 | 8.28 | 670 | 64 | 210 | 250 | 0.23 | <0.05 | <1 | <0.10 | <0.01 | 14 | 0.29 | 3 | 0.04 | 42 | <1 | <2 |
| | Jun-17 | 8.41 | 890 | 78 | 310 | 360 | 0.23 | <0.05 | <1 | 0.16 | <0.01 | <10 | 0.08 | 5 | 0.05 | 57 | <1 | <2 |
| | Apr-18 | 8.23 | 540 | 45 | 170 | 180 | 0.19 | <0.05 | <1 | 0.32 | <0.01 | 27 | 1.30 | 3 | 0.08 | 32 | <1 | <2 |
| | Jun-18 | 8.34 | 810 | 71 | 270 | 290 | 0.26 | <0.05 | <1 | 0.18 | <0.01 | <10 | 0.45 | 4 | 0.07 | 55 | <1 | <2 |
| | Sep-18 | 8.35 | 800 | 81 | 250 | 290 | 0.14 | <0.05 | <1 | 0.35 | <0.01 | 19 | 0.66 | 5 | 0.09 | 51 | <1 | <2 |
| | Dec-18 | 8.24 | 780 | 84 | 220 | 280 | 0.15 | <0.05 | <1 | 0.32 | <0.01 | <10 | 0.12 | 3 | 0.04 | 50 | <1 | <2 |
| | Apr-19 | 8.27 | 690 | 80 | 200 | 240 | 0.19 | <0.050 | <1 | 0.36 | <0.010 | 25 | 0.72 | 3 | 0.04 | 43 | <1 | <2 |
| | May-19 | 8.42 | 670 | 47 | 240 | 270 | 0.25 | <0.050 | <1 | 0.13 | 0.01 | 18 | 0.64 | 3 | 0.06 | 36 | <1 | <2 |
| | Sep-19 | 8.31 | 810 | 68 | 320 | 390 | 0.30 | 0.06 | 3 | <0.10 | <0.010 | 31 | 0.27 | 5 | 0.04 | 47 | <1 | <2 |
| | Nov-19 | 8.22 | 780 | 78 | 230 | 310 | 0.23 | 0.06 | 1 | <0.10 | <0.010 | <10 | 0.18 | 4 | 0.07 | 47 | <1 | <2 |
| | Apr-20 | 8.40 | 840 | 70 | 290 | 340 | 0.20 | <0.050 | <1 | <0.10 | <0.010 | 12 | 0.24 | 4 | 0.02 | 45 | <1 | <2 |
| | Jun-20 | 8.05 | 640 | 81 | 180 | 170 | 1.20 | <0.050 | <1 | <0.10 | <0.010 | 24 | 1.00 | 5 | 0.13 | 58 | <1 | 4 |
| | Dec-20 | 8.22 | 670 | 62 | 180 | 240 | 0.19 | 0.05 | <1 | 0.74 | <0.010 | 12 | 0.64 | 4 | 0.08 | 37 | <1 | <2 |
| | Mar-21 | 8.07 | 390 | 36 | 120 | 130 | 0.35 | <0.050 | <1 | 1.07 | <0.010 | 940 | 25.00 | 6 | 0.83 | 23 | <1 | 3 |
| | Jun-21 | 8.33 | 780 | 78 | 250 | 280 | 0.35 | <0.050 | | <0.10 | <0.010 | 39 | 0.94 | 6 | 0.13 | 54 | <1 | <2 |
| | Sep-21 | 8.46 | 690 | 46 | 260 | 320 | 0.29 | <0.050 | <1 | <0.10 | <0.010 | 15 | 0.34 | 4 | 0.08 | 33 | <1 | <2 |
| | Dec-21 | 8.27 | 660 | 44 | 250 | 290 | 0.10 | <0.050 | <1 | 0.14 | <0.010 | <10 | 0.28 | 3 | 0.05 | 31 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW5** | May-86 | 8.33 | 797 | 22 | 320 | 395 | 0.40 | <0.05 | <1 | <0.05 | 0.005 | 77.4 | | | 0.06 | | 1.0 | 0.3 |
| | Dec-86 | 8.26 | 931 | 21 | 362 | 297 | 0.20 | 0.15 | 3 | 0.15 | 0.005 | | | | 0.03 | | 0.2 | |
| | Dec-87 | 8.19 | 500 | 53 | 212 | 372 | 0.06 | 0.01 | <1 | 3.58 | <0.02 | 9.5 | 0.24 | | <0.02 | | 14.8 | <1.0 |
| | Apr-88 | 8.18 | 613 | 24 | 310 | 420 | 0.40 | 0.05 | 1 | 0.07 | 0.020 | 15.0 | 0.19 | | 0.03 | | 3.7 | 1.0 |
| | Nov-88 | 7.93 | | | 313 | | 0.61 | <0.01 | <1 | 0.19 | <0.02 | 11.5 | | | | | 3.1 | 2.0 |
| | Mar-89 | 7.96 | 661 | 19 | 236 | 319 | 1.37 | 0.10 | 1 | 0.49 | <0.02 | 11.0 | 0.59 | | 0.06 | 22 | 3.0 | 0.3 |
| | May-89 | 8.26 | 874 | 72 | 238 | 444 | 0.48 | 0.04 | 2 | 0.20 | 0.020 | 144.0 | 1.63 | | 0.30 | | <2.0 | 0.6 |
| | Apr-90 | 8.13 | 556 | | 206 | 285 | 0.37 | 0.24 | 6 | 0.20 | 0.020 | 22.8 | 1.61 | | 0.15 | 13 | 1.0 | 0.3 |
| | May-90 | 8.36 | 723 | 2 | 309 | 393 | 0.31 | 0.05 | 2 | 0.20 | 0.020 | 33.2 | 0.30 | | 0.18 | 19 | 2.0 | 0.5 |
| | Apr-91 | 8.23 | 583 | 25 | 249 | 358 | 0.47 | <0.05 | <1 | <0.10 | <0.01 | 23.2 | 0.54 | | 0.22 | 13 | <1.0 | <0.5 |
| | May-92 | 8.20 | 1290 | 119 | 324 | 450 | 0.60 | <0.05 | <1 | <0.10 | <0.01 | 93.0 | 0.87 | | 0.18 | 60 | <2.0 | 0.9 |
| | Oct-92 | 8.07 | 1590 | 205 | 496 | 690 | 0.87 | <0.02 | <1 | <0.10 | <0.01 | 23.2 | 0.63 | | 0.21 | 110 | <2.0 | <0.5 |
| | Apr-93 | 8.44 | 693 | 13 | 315 | 380 | 0.13 | <0.01 | <1 | <0.02 | <0.01 | 8.8 | 0.15 | | 0.17 | 25 | <2.0 | <0.3 |
| | Apr-94 | 8.13 | 1040 | 91 | 321 | 420 | 0.48 | <0.01 | <1 | <0.02 | <0.01 | 10.8 | 0.27 | | 0.07 | 50 | <1.0 | 1.8 |
| | May-96 | 8.29 | 723 | 11 | 281 | 360 | 0.28 | <0.02 | <1 | <0.10 | <0.20 | 14.1 | 0.15 | | 0.03 | 18 | <0.5 | 0.9 |
| | Jul-96 | 7.92 | 861 | 18 | 315 | 465 | 0.51 | 0.03 | 1 | <0.02 | <0.20 | 39.2 | 0.49 | | 0.20 | 23 | <0.5 | 2.3 |
| | Sep-96 | 7.88 | 919 | 28 | 325 | 471 | 0.42 | <0.02 | <1 | <0.10 | <0.20 | 6.1 | <0.10 | | 0.80 | 22 | <0.5 | 1.4 |
| | Nov-96 | 8.16 | 1019 | 26 | 365 | 543 | 0.21 | <0.02 | <1 | <0.10 | <0.20 | 3.5 | 0.07 | | <0.05 | 30 | <1.0 | 1.4 |
| | Apr-04 | 8.13 | 654 | 34 | 215 | 314 | 0.90 | <0.05 | <1 | 0.50 | <0.1 | 60 | 2.50 | 4.5 | 0.06 | 23 | <1.0 | <3 |
| | Dec-04 | 8.02 | 683 | 70 | 132 | 284 | 0.80 | 0.14 | 2 | 1.20 | <0.1 | 37 | 1.90 | 5.5 | | 31 | <1.0 | <2 |
| | Apr-05 | 8.32 | 690 | 44 | 199 | 314 | 0.70 | <0.05 | <1 | 0.20 | <0.1 | 5 | 1.20 | 6.0 | 0.05 | 31 | <1.0 | <2 |
| | Apr-05 | 8.30 | 522 | 41 | 146 | 234 | 0.50 | <0.05 | <1 | <0.2 | <0.3 | 9 | 0.51 | 4.9 | <0.05 | 29 | <1.0 | <2 |
| | Sep-05 | 7.84 | 2140 | 400 | 58 | | 0.50 | <0.05 | <1 | 2.40 | <0.3 | 9 | 0.09 | 21.0 | 0.04 | 220 | 1.0 | <2 |
| | Dec-05 | 8.10 | 778 | 68 | 182 | 300 | 4.00 | <0.05 | <1 | 0.20 | <0.01 | 13 | 3.00 | 8.0 | <0.02 | 45 | <1.0 | <2 |
| | Mar-06 | 8.00 | 1610 | 196 | 139 | 540 | 0.40 | 0.21 | 3 | 1.20 | 0.030 | 27 | 1.10 | | 0.02 | 130 | <1.0 | <2 |
| | Jun-06 | 8.10 | 395 | 13 | 156 | 170 | 0.40 | 0.08 | 4 | <0.1 | <0.01 | 36 | 3.40 | 4.2 | 0.10 | 12 | <1.0 | <2 |
| | Sep-06 | 7.80 | 2110 | 330 | 64 | 610 | 0.70 | <0.05 | <1 | 2.30 | 0.140 | 17 | 0.65 | 20.0 | 0.02 | 200 | <1.0 | <2 |
| | Nov-06 | 8.10 | 927 | 48 | 314 | 410 | 1.10 | 0.21 | 4 | 0.30 | <0.01 | 40 | 2.10 | 7.0 | 0.07 | 32 | <1.0 | <2 |
| | Apr-07 | 8.20 | 1250 | 170 | 245 | 390 | 0.90 | 0.06 | 1 | 0.40 | <0.01 | 21 | 1.10 | 7.3 | 0.04 | 110 | <1 | <2 |
| | Jul-07 | 8.00 | 754 | 110 | 154 | 210 | 0.90 | 0.13 | 5 | <0.1 | <0.01 | 11 | 0.96 | 6.1 | 0.04 | 74 | 1.0 | <2 |
| | Apr-08 | 8.30 | 966 | 100 | 200 | 320 | 0.70 | <0.05 | <1 | 0.20 | <0.01 | 18 | 0.64 | 6.0 | 0.03 | 74 | <1 | <2 |
| | Jul-08 | 7.70 | 1420 | 150 | 77 | 450 | 0.70 | 0.07 | 1 | 3.10 | 0.130 | 21 | 0.76 | 18.0 | <0.100 | 94 | <1 | <2 |
| | Oct-08 | 7.90 | 2280 | 290 | 87 | 720 | 1.20 | 0.05 | <1 | 1.90 | 0.050 | 55 | 1.10 | 22.0 | 0.06 | 190 | <1 | <2 |
| | Dec-08 | 8.10 | 803 | 98 | 192 | 260 | 0.90 | 0.06 | <1 | 0.50 | 0.020 | 27 | 1.20 | 5.0 | 0.11 | 54 | <1 | <2 |
| | Apr-09 | 7.30 | 552 | 54 | 158 | 180 | 2.10 | 0.08 | <1 | 0.20 | 0.010 | 240 | 7.30 | 5.0 | 0.32 | 33 | <1 | <2 |
| | Dec-09 | 8.00 | 553 | 33 | 185 | 200 | 1.20 | <0.05 | <1 | <0.1 | <0.01 | 35 | 2.50 | 6.0 | 0.24 | 32 | <1 | <2 |
| | Jun-10 | 7.70 | 717 | 100 | 157 | 88 | 3.20 | 0.20 | 5 | <0.1 | 0.010 | 180 | 5.40 | 4.0 | 0.53 | 110 | 1.0 | 7.0 |
| | Sep-10 | 7.80 | 151 | 17 | 38 | 40 | 0.50 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.32 | 2.0 | 0.11 | 13 | <1 | 3.0 |
| | Nov-10 | 8.17 | 804 | 47 | 271 | 240 | 1.00 | <0.05 | <1 | <0.1 | <0.01 | 85 | 1.30 | 5.0 | 0.17 | 80 | <1 | <2 |
| | Mar-11 | 7.95 | 1170 | 110 | 128 | 420 | 0.70 | 0.06 | <1 | 1.50 | 0.020 | 64 | 1.60 | 10.0 | 0.07 | 88 | <1 | <2 |
| | Jun-11 | 8.19 | 644 | 40 | 191 | 260 | 1.10 | <0.05 | <1 | 0.20 | <0.01 | 41 | 1.30 | 4.0 | 0.10 | 36 | <1 | <2 |
| | Sep-11 | 8.05 | 664 | 47 | 140 | 260 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.05 | 2.0 | 0.01 | 33 | <1 | <2 |
| | Nov-11 | 7.81 | 284 | 15 | 89 | 120 | 1.40 | <0.05 | <1 | 1.80 | <0.01 | 220 | 11.00 | 6.0 | 0.50 | 9 | 4.0 | <2 |
| | Apr-12 | 8.11 | 1000 | 130 | 200 | 290 | 0.59 | <0.05 | <1 | 0.13 | <0.010 | 28 | 1.20 | 5.0 | 0.61 | 91 | <1 | <2.0 |
| | Sep-12 | 7.83 | 1500 | 180 | 72 | 460 | 0.50 | 0.24 | 6 | 0.79 | 0.024 | 10 | 0.18 | 15.0 | 0.03 | 130 | <1 | <2.0 |
| | Nov-12 | 7.96 | 1500 | 150 | 250 | 590 | 0.58 | 0.06 | <1 | <0.1 | <0.01 | <10 | 0.03 | 8.0 | 0.01 | 110 | <1 | <2.0 |
| | Apr-13 | 8.16 | 910 | 98 | 220 | 300 | 0.49 | 0.08 | 2 | 0.14 | <0.01 | 110 | 0.47 | 5.0 | 0.04 | 69 | 1.2 | <2 |
| | Sep-13 | 7.64 | 1900 | 280 | 320 | 600 | 0.86 | 0.05 | <1 | <0.1 | <0.01 | 68 | 0.06 | 5.0 | 0.11 | 170 | <1 | 3.0 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
** - Indicates associated value is an estimated quantity.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW5** | Apr-14 | 8.13 | 1300 | 130 | 180 | 430 | 0.53 | 0.11 | 2 | 1.01 | <0.01 | 27 | 0.83 | 11.0 | <0.1 | 92 | <1 | <2 |
| | Jun-14 | 8.05 | 1600 | 220 | 210 | 450 | 0.53 | 0.07 | 1 | 0.19 | <0.01 | 25 | 1.30 | 9.0 | <0.1 | 180 | <1 | <2 |
| | Sep-14 | 8.15 | 1400 | 130 | 200 | 500 | 0.72 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.77 | 8.0 | <0.1 | 100 | <1 | <2 |
| | Dec-14 | 8.03 | 2100 | 480 | 190 | 350 | 0.39 | <0.05 | <1 | 0.16 | <0.01 | <10 | 0.17 | 5.0 | <0.1 | 290 | <1 | <2 |
| | Apr-15 | 8.08 | 6100 | 1800 | 260 | 640 | 0.48 | 0.14 | 2 | <0.1 | <0.01 | 16 | 0.58 | 7.0 | 0.06 | 1100 | <1 | <2 |
| | Jun-15 | 8.00 | 1300 | 150 | 200 | 420 | 0.41 | <0.05 | <1 | <0.1 | <0.01 | 11 | 0.32 | 9.0 | 0.04 | 110 | <1 | <2 |
| | Nov-15 | 8.06 | 1400 | 170 | 220 | 440 | 0.25 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.16 | 7.0 | 0.03 | 120 | <1 | <2 |
| | Apr-16 | 8.17 | 1500 | 140 | 210 | 520 | 0.27 | <0.05 | <1 | 0.59 | <0.01 | 19 | 0.76 | 12.0 | 0.04 | 120 | <1 | 3 |
| | Jun-16 | 7.91 | 4100 | 870 | 390 | 1100 | 0.36 | 0.08 | 2 | 0.38 | <0.01 | 13 | 0.19 | 10.0 | 0.08 | 480 | <1 | <2 |
| | Nov-16 | 8.13 | 450 | 64 | 95 | 130 | 0.23 | <0.05 | <1 | 0.11 | 0.01 | 10 | 0.25 | 2.0 | 0.02 | 40 | <1 | <2 |
| | Apr-17 | 8.08 | 1100 | 210 | 120 | 200 | 0.31 | <0.05 | <1 | 0.41 | <0.01 | 23 | 1.00 | 4.0 | 0.05 | 150 | <1 | <2 |
| | Jun-17 | 8.02 | 730 | 140 | 90 | 120 | 0.23 | <0.05 | <1 | 0.18 | <0.01 | 36 | 1.10 | 2.0 | 0.05 | 100 | <1 | <2 |
| | Nov-17 | 7.91 | 500 | 45 | 140 | 160 | 0.31 | <0.05 | <1 | 0.16 | 0.01 | 73 | 0.25 | 2.0 | 0.04 | 33 | <5 | <2 |
| | Apr-19 | 8.02 | 1200 | 260 | 110 | 170 | 0.21 | 0.07 | 1 | 0.41 | <0.010 | 11 | 0.85 | 4.0 | 0.04 | 150 | <1 | <2 |
| | May-19 | 8.10 | 620 | 110 | 98 | 130 | 0.36 | 0.15 | 5 | 0.31 | 0.02 | 24 | 0.89 | 3.0 | 0.06 | 65 | <1 | <2 |
| | Nov-19 | 7.89 | 1100 | 210 | 100 | 160 | 0.26 | <0.050 | <1 | 0.35 | 0.01 | 31 | 0.95 | 3.0 | 0.04 | 160 | <1 | <2 |
| | Jun-21 | 8.02 | 560 | 120 | 77 | 97 | 0.31 | <0.050 | | 0.23 | 0.01 | 17 | 0.52 | 1.0 | 0.03 | 67 | <1 | 2.0 |
| | Sep-21 | 8.14 | 420 | 66 | 87 | 100 | 0.26 | <0.050 | <1 | 0.15 | <0.010 | 10 | 0.18 | 2.0 | 0.02 | 44 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
** - Indicates associated value is an estimated quantity.
2) Blank indicates parameter not analysed.

Station had insufficient water for sampling, during the monitoring events in 2018.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW10** | Nov-85 | 8.27 | 975 | 46 | 270 | 471 | 1.05 | <0.05 | <1 | 1.15 | 0.24 | 57 | | | 1.42 | | 0.2 | 5.8 |
| | May-03 | 7.91 | 1659 | 112 | 372 | 754 | 4.42 | 2.78 | 43 | 7.00 | 3.30 | 41 | 1.00 | 22.0 | 0.10 | 84 | <1.0 | 1.3 |
| | Apr-04 | 8.20 | 808 | 25 | 325 | 427 | 1.30 | 0.39 | 9 | 0.80 | <0.1 | 57 | 1.50 | 6.9 | <0.02 | 18 | <1.0 | <3 |
| | Dec-04 | 8.13 | 769 | 35 | 297 | 422 | 1.40 | 0.06 | 1 | 3.40 | <0.1 | 30 | 0.47 | 6.1 | | 17 | 1.0 | 8.0 |
| | Dec-05 | 8.27 | 811 | 23 | 387 | 440 | 1.00 | 0.16 | 4 | 0.60 | 0.02 | 3 | 0.12 | 5.8 | 0.05 | 14 | <1.0 | 3.0 |
| | Sep-06 | 8.00 | 401 | 5 | 148 | 190 | 0.70 | 0.16 | 5 | 0.10 | 0.02 | 22 | 1.20 | 7.3 | 0.06 | 5 | <1.0 | 3.0 |
| | Nov-06 | 8.00 | 1140 | 25 | 332 | 550 | 1.90 | 0.28 | 4 | <0.1 | <0.01 | 66 | 0.84 | 11.0 | 0.06 | 28 | <1.0 | <2 |
| | Apr-07 | 8.30 | 819 | 18 | 250 | 390 | 1.00 | 0.06 | 2 | <0.1 | 0.01 | 55 | 0.56 | 7.2 | 0.08 | 19 | <1.0 | 3.0 |
| | Dec-08 | 8.10 | 869 | 23 | 409 | 460 | 0.90 | 0.27 | 4 | 0.70 | <0.01 | 34 | 0.04 | 5.0 | 0.07 | 13 | <1.0 | <2 |
| | Apr-09 | 7.90 | 522 | 11 | 245 | 260 | 1.30 | 0.23 | 4 | 0.90 | 0.04 | 50 | 1.30 | 6.0 | 0.19 | 10 | <1 | <2 |
| | Jun-09 | 7.70 | 315 | 4 | 128 | 140 | 0.90 | 0.13 | 2 | 0.50 | 0.03 | 42 | 1.00 | 5.0 | 0.12 | 5 | 2.0 | 3.0 |
| | Oct-09 | 7.70 | 347 | 2 | 121 | 160 | 0.20 | <0.05 | <1 | 0.40 | 0.02 | <10 | 0.57 | 3.0 | 0.06 | 5 | <1 | <2 |
| | Dec-09 | 8.20 | 669 | 15 | 297 | 330 | 1.20 | 0.13 | 3 | 2.10 | 0.02 | 10 | 0.30 | 8.0 | 0.13 | 9 | <1 | <2 |
| | Apr-10 | 8.00 | 891 | 32 | 308 | 420 | 1.50 | <0.05 | <1 | <0.1 | 0.02 | 24 | 0.55 | 10.0 | 0.13 | 35 | <1 | 3.0 |
| | Jun-10 | 7.90 | 801 | 3 | 364 | 410 | 1.70 | 0.13 | 3 | 0.10 | <0.01 | <10 | 0.51 | 4.0 | 0.13 | 15 | <1 | 4.0 |
| | Sep-10 | 7.90 | 217 | 4 | 39 | 94 | 1.90 | 0.06 | 2 | 0.50 | 0.01 | 160 | 9.70 | 9.0 | 0.50 | 2 | 1.0 | 7.0 |
| | Nov-10 | 8.25 | 683 | 18 | 302 | 360 | 1.10 | 0.06 | 2 | 0.70 | 0.02 | <10 | 0.11 | 6.0 | 0.11 | 11 | <1 | 2.0 |
| | Mar-11 | 8.23 | 706 | 18 | 330 | 370 | 1.00 | 0.30 | 5 | 0.70 | 0.01 | <10 | <0.02 | 6.0 | 0.07 | 13 | <1 | <2 |
| | Jun-11 | 8.30 | 619 | 8 | 309 | 320 | 0.80 | <0.05 | <1 | 0.20 | 0.02 | 35 | 0.17 | 6.0 | 0.07 | 12 | <1 | <2 |
| | Sep-11 | 8.03 | 828 | 13 | 351 | 420 | 1.20 | <0.05 | <1 | <0.1 | <0.01 | 20 | 1.00 | 5.0 | 0.28 | 17 | 3.0 | <2 |
| | Nov-11 | 8.16 | 553 | 15 | 241 | 270 | 1.30 | <0.05 | <1 | 1.80 | 0.01 | 14 | 0.40 | 8.0 | 0.15 | 7 | 3.0 | 4.0 |
| | Apr-12 | 8.27 | 670 | 9 | 300 | 340 | 0.80 | <0.05 | <1 | 0.61 | <0.01 | <10 | 0.15 | 4.0 | 0.64 | 10 | <1 | <2.0 |
| | Nov-12 | 8.14 | 900 | 48 | 250 | 440 | 1.80 | 0.14 | 3 | 3.20 | 0.01 | 73 | 0.17 | 8.0 | 0.12 | 29 | <1 | <2.0 |
| | Apr-13 | 8.27 | 760 | 21 | 360 | 390 | 0.98 | 0.13 | 4 | 0.70 | <0.01 | 25 | <0.02 | 6.0 | 0.03 | 13 | <1 | <2 |
| | Jun-13 | 7.57 | 190 | 3 | 84 | 88 | 0.49 | 0.19 | 2 | 0.36 | 0.02 | 11 | 0.28 | 2.0 | 0.06 | 4 | <1 | 2.0 |
| | Sep-13 | 7.96 | 400 | 12 | 170 | 180 | 1.60 | 0.26 | 6 | 0.31 | <0.01 | 140 | 4.30 | 7.0 | 0.25 | 14 | <1 | <2 |
| | Apr-14 | 8.23 | 900 | 49 | 350 | 400 | 0.64 | 0.12 | 3 | 0.50 | <0.01 | 26 | 0.14 | 9.0 | <0.1 | 40 | <1 | <2 |
| | Jun-14 | 7.76 | 400 | 28 | 140 | 150 | 1.20 | 0.40 | 4 | 0.51 | 0.05 | 20 | 0.92 | 4.0 | 0.40 | 26 | 1.7 | 4.0 |
| | Sep-14 | 8.22 | 500 | 9 | 200 | 260 | 1.00 | 0.08 | 2 | 0.28 | <0.01 | <10 | 0.23 | 6.0 | 0.10 | 10 | <1 | <2 |
| | Dec-14 | 7.78 | * 3500 | * 910 | 190 | 420 | * 61 | 0.48 | 7 | 0.46 | 0.03 | 410 | 2.50 | 12.0 | | * 590 | 1.7 | 2.0 |
| | Apr-15 | 8.13 | 870 | 37 | 380 | 450 | 0.59 | 0.08 | 1 | 0.28 | <0.01 | <10 | 0.04 | 7.0 | 0.04 | 19 | <1 | <2 |
| | Jun-15 | 8.27 | 880 | 42 | 360 | 430 | 0.95 | 0.06 | 3 | 1.90 | 0.01 | <10 | 0.07 | 6.0 | 0.09 | 31 | <1 | <2 |
| | Nov-15 | 7.97 | 370 | 27 | 110 | 140 | 1.00 | 0.06 | <1 | 0.29 | <0.010 | 14 | 1.80 | 4.0 | 0.16 | 23 | <1 | <2 |
| | Apr-16 | 8.13 | 690 | 32 | 280 | 300 | 0.50 | 0.12 | 2 | 0.67 | 0.02 | 25 | 0.56 | 7.0 | 0.07 | 25 | <1 | 4.0 |
| | Nov-16 | 8.08 | 280 | 17 | 89 | 97 | 0.35 | <0.05 | <1 | 0.86 | <0.01 | 60 | 4.00 | 5.0 | 0.24 | 19 | <1 | <2 |
| | Apr-17 | 8.33 | 750 | 21 | 350 | 370 | 0.62 | <0.05 | <1 | 0.85 | 0.06 | 19 | 0.44 | 10.0 | 0.05 | 20 | <1 | <2 |
| | Jun-17 | 8.12 | 440 | 9 | 190 | 200 | 0.63 | 0.12 | 2 | 0.43 | 0.02 | 14 | 0.48 | 5.0 | 0.12 | 12 | <1 | <2 |
| | Nov-17 | 8.41 | 570 | 18 | 220 | 270 | 0.66 | <0.05 | <1 | 0.47 | 0.01 | 38 | 0.20 | 7.0 | 0.10 | 11 | <5 | 2.0 |
| | Apr-18 | 8.33 | 760 | 34 | 330 | 350 | 0.86 | 0.07 | 2 | 1.57 | <0.01 | <10 | 0.05 | 6.0 | 0.04 | 16 | <1 | <2 |
| | Apr-19 | 8.27 | 840 | 42 | 360 | 390 | 0.91 | 0.12 | 2 | 0.89 | 0.01 | <10 | 0.06 | 7.0 | 0.03 | 22 | <1 | <2 |
| | May-19 | 8.41 | 790 | 36 | 340 | 390 | 0.52 | <0.050 | <1 | 0.21 | <0.010 | 36 | 0.51 | 6.0 | 0.08 | 24 | <1 | <2 |
| | Nov-19 | 8.21 | 910 | 56 | 350 | 430 | 0.45 | <0.050 | <1 | 0.44 | <0.010 | 360 | 0.31 | 8.0 | 0.06 | 32 | <1 | <2 |
| | Mar-21 | 8.24 | 610 | 25 | 250 | 280 | 0.68 | 0.09 | 2 | 0.92 | 0.01 | 32 | 1.10 | 8.0 | 0.14 | 17 | <1 | 2.0 |
| | Jun-21 | 7.90 | 210 | 12 | 74 | 81 | 0.42 | 0.09 | | 0.49 | 0.02 | 70 | 2.60 | 3.0 | 0.13 | 9 | <1 | 3.0 |
| | Sep-21 | 8.17 | 490 | 19 | 190 | 220 | 0.74 | 0.13 | 5 | 0.40 | 0.02 | 75 | 0.93 | 7.0 | 0.13 | 14 | <1 | <2 |
| | Dec-21 | 8.24 | 850 | 29 | 400 | 420 | 0.38 | 0.06 | 1 | 0.33 | <0.010 | 12 | 0.08 | 6.0 | 0.02 | 29 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW11** | Apr-04 | 8.31 | 921 | 59 | 321 | 429 | 1.40 | <0.05 | <1 | 0.90 | <0.1 | 135 | 3.50 | 6.9 | 0.06 | 34 | <1.0 | <3 |
| | Dec-04 | 8.06 | 1090 | 120 | 218 | 432 | 1.10 | 0.21 | 3 | 0.60 | <0.1 | 21 | 1.10 | 5.3 | | 91 | 1.0 | <2 |
| | Apr-05 | 8.24 | 1250 | 151 | 238 | 457 | 0.70 | 0.05 | 2 | 0.30 | <0.1 | 10 | 0.30 | 8.2 | 0.04 | 85 | <1.0 | <2 |
| | Dec-05 | 8.23 | 872 | 28 | 373 | 470 | 0.90 | <0.05 | <1 | 0.70 | 0.030 | 9 | 0.50 | 6.6 | 0.05 | 20 | <1.0 | 3.0 |
| | Sep-06 | 8.20 | 905 | 49 | 304 | 360 | 1.00 | 0.06 | 3 | <0.1 | <0.01 | 160 | 2.90 | 6.2 | 0.23 | 58 | <1.0 | <2 |
| | Apr-07 | 8.30 | 1250 | 140 | 297 | 460 | 0.70 | 0.07 | 2 | 0.30 | <0.01 | 31 | 0.39 | 7.2 | 0.04 | 96 | <1.0 | <2 |
| | Dec-08 | 8.20 | 926 | 35 | 379 | 430 | 0.70 | 0.12 | 2 | 0.80 | 0.010 | 21 | 0.09 | 6.0 | 0.06 | 25 | <1.0 | <2 |
| | Apr-09 | 8.00 | 591 | 16 | 249 | 270 | 1.70 | 0.58 | 14 | 0.60 | 0.040 | 77 | 2.30 | 6.0 | 0.16 | 15 | <1 | <2 |
| | Jun-09 | 8.30 | 1050 | 46 | 343 | 420 | 1.20 | 0.08 | 5 | 0.20 | <0.01 | 110 | 3.70 | 7.0 | 0.15 | 56 | <1 | 2.0 |
| | Oct-09 | 8.20 | 955 | 39 | 298 | 420 | 0.20 | <0.05 | <3 | <0.1 | <0.01 | 35 | 0.96 | 5.0 | 0.06 | 45 | <1 | <2 |
| | Dec-09 | 8.20 | 669 | 18 | 281 | 330 | 1.30 | 0.05 | 1 | 2.30 | 0.030 | 15 | 0.46 | 9.0 | 0.14 | 13 | <1 | <2 |
| | Apr-10 | 8.00 | 822 | 74 | 196 | 330 | 4.50 | 0.28 | 6 | 2.30 | 0.420 | 390 | 4.70 | 18.0 | 0.59 | 36 | <1 | 7.0 |
| | Jun-10 | 8.40 | 1470 | 140 | 365 | 400 | 6.70 | 2.90 | 229 | 1.00 | 1.200 | 51 | 0.82 | 80.0 | 0.17 | 110 | 6.0 | 12.0 |
| | Sep-10 | 7.90 | 531 | 34 | 103 | 200 | 2.50 | 0.33 | 11 | 1.20 | 0.050 | 56 | 1.20 | 15.0 | 0.27 | 21 | 2.0 | 6.0 |
| | Nov-10 | 8.22 | 744 | 27 | 293 | 370 | 1.30 | <0.05 | <1 | 0.50 | 0.020 | <10 | 0.34 | 10.0 | 0.12 | 20 | <1 | 3.0 |
| | Mar-11 | 8.25 | 694 | 19 | 315 | 360 | 0.80 | 0.12 | 2 | 0.70 | 0.030 | 12 | 0.03 | 6.0 | 0.07 | 14 | <1 | <2 |
| | Jun-11 | 8.12 | 782 | 39 | 278 | 320 | 2.10 | 0.32 | 14 | 1.10 | 0.050 | 100 | 1.30 | 21.0 | 0.15 | 37 | <1 | <2 |
| | Nov-11 | 8.16 | 495 | 12 | 210 | 230 | 1.40 | 0.06 | 1 | 1.80 | 0.020 | 10 | 0.49 | 8.0 | 0.16 | 7 | 2.0 | 3.0 |
| | Apr-12 | 8.22 | 1200 | 84 | 310 | 460 | 0.75 | <0.05 | <1 | 0.88 | 0.020 | 200 | 1.20 | 18.0 | 0.62 | 84 | <1 | <2.0 |
| | Apr-13 | 8.27 | 920 | 47 | 320 | 440 | 0.58 | 0.08 | 3 | 0.38 | <0.01 | 110 | 0.71 | 9.0 | 0.06 | 37 | <1 | <2 |
| | Apr-14 | 8.20 | 1600 | 150 | 360 | 580 | 0.49 | 0.08 | 2 | 0.16 | <0.01 | 34 | 0.58 | 12.0 | <0.1 | 110 | <1 | 2.0 |
| | Dec-14 | 8.09 | 1400 | 110 | 320 | 490 | 4.10 | <0.05 | <1 | 0.19 | <0.01 | 740 | 11.00 | 10.0 | | 99 | 2.6 | <2 |
| | Apr-15 | 8.23 | 1100 | 72 | 320 | 480 | 0.74 | 0.06 | 1 | 0.31 | <0.01 | 90 | 2.6 | 10 | 0.10 | 45 | <1 | <2 |
| | Jun-15 | 8.30 | 1300 | 100 | 350 | 500 | 0.91 | 0.09 | 6 | 0.25 | <0.01 | 970 | 37.0 | 22 | 0.86 | 88 | <1 | <2 |
| | Apr-17 | 8.29 | 1100 | 48 | 370 | 460 | 1.50 | 0.76 | 21 | 0.45 | 0.06 | 83 | 15 | 11 | 0.29 | 54 | <1 | <2 |
| | Apr-18 | 8.32 | 830 | 40 | 330 | 360 | 0.54 | <0.05 | <1 | 1.52 | <0.01 | <10 | 0 | 6 | 0.05 | 25 | <1 | <2 |
| | Apr-19 | 8.16 | 960 | 73 | 360 | 410 | 0.38 | 0.08 | 2 | 0.37 | <0.010 | 160 | 4 | 8 | 0.09 | 41 | <1 | <2 |
| | May-19 | 8.38 | 920 | 44 | 370 | 420 | 0.42 | 0.08 | 4 | 0.20 | 0.02 | 580 | 4 | 7 | 0.36 | 38 | <1 | <2 |
| | Mar-21 | 8.28 | 600 | 31 | 230 | 260 | 0.63 | 0.06 | <1 | 0.88 | 0.01 | 42 | 1.30 | 8 | 0.15 | 20 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW12** | Jul-85 | 8.07 | 928 | 132 | 68 | | | | | 0.55 | 0.050 | 35.4 | 0.96 | | | | 1.4 | 1.2 |
| | Oct-85 | 8.04 | 1560 | 207 | 119 | 643 | | | | | | | <0.03 | | | | 0.2 | 5.5 |
| | Nov-85 | 7.88 | 781 | 57 | 177 | 317 | 1.35 | <0.05 | <1 | 1.50 | 0.130 | 66.9 | | | 0.50 | | 8.2 | 2.0 |
| | Dec-85 | 7.64 | 2750 | 418 | 481 | 927 | 9.60 | 7.10 | 38 | <0.05 | 0.025 | | | | 0.15 | | 68.0 | 130.0 |
| | Apr-86 | 8.16 | 2840 | | 217 | 843 | | | | | | 82.6 | | | | | 3.2 | 2.3 |
| | Apr-86 | 8.34 | 1930 | 172 | 199 | 548 | 1.00 | <0.05 | <1 | 0.40 | 0.025 | 229.0 | | | 0.15 | | 5.2 | 7.5 |
| | May-86 | 8.36 | 2060 | 342 | 274 | 584 | 1.20 | <0.05 | <1 | 0.45 | 0.015 | 376.0 | | | 0.44 | | 6.2 | 1.8 |
| | Dec-86 | 7.98 | 1395 | 142 | 319 | 556 | 2.00 | 1.30 | 15 | 0.90 | 0.320 | | | | 0.06 | | 4.0 | |
| | Apr-88 | 8.09 | 1270 | 154 | 274 | 584 | | 0.21 | 5 | | 0.020 | 46.0 | | | | | 4.8 | 1.0 |
| | Nov-88 | 7.61 | | 105 | 133 | 302 | 0.88 | <0.01 | <1 | 1.35 | <0.02 | 96.5 | | | | | 7.9 | 11.0 |
| | Mar-89 | 7.82 | 759 | 78 | 186 | 276 | 1.55 | 0.49 | 4 | 0.86 | 0.020 | 23.0 | 0.80 | | 0.13 | 28 | <2.0 | 2.3 |
| | May-89 | 7.70 | 1330 | 192 | 300 | 397 | 1.27 | 0.22 | 2 | 0.26 | 0.020 | 69.0 | 2.62 | | 0.48 | | 3.0 | 5.6 |
| | Apr-90 | 8.01 | 1040 | 128 | 308 | 488 | 1.88 | 0.64 | 12 | 0.40 | 0.020 | 22.8 | 0.70 | | 0.10 | 51 | 1.3 | 0.3 |
| | May-90 | 7.89 | 933 | 5 | 358 | 445 | 2.32 | 1.58 | 26 | 0.20 | 0.020 | 9.2 | 0.54 | | 0.10 | 37 | 2.0 | 2.6 |
| | Jul-90 | 7.75 | 634 | 69 | 186 | 211 | 4.70 | 0.61 | 12 | 0.30 | 0.070 | 556.0 | 13.50 | | 2.73 | 47 | 16.0 | 32.0 |
| | Apr-91 | 8.01 | 767 | 62 | 288 | 444 | 1.67 | <0.05 | <1 | 0.30 | <0.02 | 69.6 | 2.65 | | 0.29 | 23 | <1.0 | 5.5 |
| | May-92 | 8.14 | 1160 | 61 | 368 | 490 | 1.02 | 0.50 | 15 | 0.30 | <0.01 | 52.0 | 0.36 | | 0.11 | 41 | <2.0 | <0.7 |
| | Jun-92 | 9.82 | 830 | 138 | 163 | 270 | 1.71 | <0.05 | <1 | <0.1 | <0.01 | 5.6 | 0.15 | | 0.12 | 76 | 3.4 | 3.4 |
| | Aug-92 | 8.93 | 547 | 48 | 155 | 190 | 1.19 | <0.02 | <1 | <0.1 | <0.01 | 20.3 | <0.08 | | 0.15 | 29 | <2.0 | 2.8 |
| | Oct-92 | 7.96 | 764 | 75 | 229 | 300 | 0.74 | <0.02 | <1 | <0.1 | <0.01 | 9.2 | 0.34 | | 0.08 | 48 | 2.2 | 2.1 |
| | Apr-93 | 8.21 | 918 | 59 | 356 | 420 | 1.04 | 0.44 | 13 | 0.66 | 0.010 | 25.6 | 0.26 | | 0.09 | 48 | <2.0 | <0.3 |
| | Apr-94 | 8.00 | 1160 | 96 | 358 | 490 | 0.53 | 0.09 | 2 | <0.02 | <0.01 | 12.4 | 0.22 | | 0.09 | 72 | <1.0 | 2.1 |
| | May-96 | 8.07 | 1108 | 63 | 367 | 448 | 0.68 | 0.05 | 1 | 0.80 | <0.20 | 4.9 | 0.18 | | 0.02 | 45 | <0.5 | 1.1 |
| | Jul-96 | 7.58 | 1375 | 98 | 394 | 590 | 0.92 | 0.18 | 2 | 0.06 | <0.20 | 33.5 | 0.98 | | 0.20 | 11 | <0.5 | 3.5 |
| | Sep-96 | 7.40 | 1183 | 96 | 259 | 523 | 3.30 | 0.09 | <1 | <0.10 | <0.20 | 819.0 | 5.20 | | <0.10 | 72 | <0.5 | 11.7 |
| | Nov-96 | 7.77 | 1449 | 121 | 406 | 592 | 0.74 | 0.03 | <1 | <0.10 | <0.20 | 36.5 | 0.98 | | 0.11 | 82 | <1.0 | 1.4 |
| | Dec-97 | 8.05 | 1005 | 68 | 372 | 553 | 0.94 | 0.08 | 1 | 1.00 | <0.20 | 168.0 | 0.75 | | 0.13 | 43 | <1.0 | 1.3 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW12** | Jul-98 | 7.59 | 580 | 30 | 132 | 238 | 1.06 | 0.06 | 1 | 0.20 | <0.20 | 71 | 6.06 | 6.1 | 0.27 | 29 | <1.0 | 4.4 |
| | Apr-99 | 8.15 | 940 | 85 | 307 | 435 | 1.76 | 0.28 | 9 | 1.50 | <0.2 | 39 | 3.84 | 22.0 | 0.14 | 49 | <1.0 | <0.5 |
| | Apr-00 | 8.07 | 1580 | 145 | 453 | 619 | 0.71 | 0.03 | <1 | 0.50 | <0.4 | 46 | 0.13 | 20.2 | 0.02 | 112 | <1.0 | 2.0 |
| | Jun-00 | 8.11 | 669 | 28 | 302 | 346 | 0.93 | 0.16 | 7 | 0.40 | <0.2 | 121 | 9.60 | 17.0 | 0.17 | | <1.0 | 1.4 |
| | Apr-01 | 7.49 | 1273 | 98 | 339 | 355 | 0.63 | <0.03 | <1 | <0.2 | <0.2 | 33 | 0.72 | 18.0 | 0.06 | 109 | <1.0 | 3.0 |
| | Apr-02 | 8.12 | 838 | 122 | 170 | 262 | 0.59 | <0.03 | <1 | <0.2 | <1.0 | 54 | 2.43 | 3.0 | 0.04 | 70 | <1.0 | <0.5 |
| | Nov-03 | 8.24 | 991 | 117 | 237 | 375 | 1.44 | 0.55 | 24 | 4.70 | <0.2 | 38 | 1.56 | 8.2 | 0.19 | 73 | <1.0 | 0.7 |
| | Apr-04 | 8.26 | 1100 | 58 | 427 | 527 | 1.30 | <0.05 | <1 | 2.30 | <0.1 | 1830 | 18.00 | 18.0 | 0.19 | 42 | <1.0 | <3 |
| | Dec-04 | 7.98 | 880 | 92 | 147 | 342 | 6.30 | <0.05 | <1 | 2.30 | <0.1 | 2720 | 69.00 | 16.0 | | 56 | <1.0 | <2 |
| | Apr-05 | 8.24 | 1180 | 94 | 367 | 530 | 0.60 | <0.05 | <1 | 0.60 | <0.1 | 12 | 0.40 | 14.0 | <0.02 | 66 | <1.0 | <2 |
| | Dec-05 | 8.21 | 1060 | 41 | 426 | 520 | 1.70 | 0.36 | 7 | 1.80 | 0.08 | 33 | 0.72 | 22.0 | 0.05 | 46 | <1.0 | 4.0 |
| | Mar-06 | 8.20 | 1220 | 81 | 441 | 520 | 0.80 | 0.06 | 1 | 4.20 | 0.01 | 18 | 0.34 | | 0.02 | 68 | <1.0 | <2 |
| | Sep-06 | 7.90 | 1270 | 80 | 420 | 530 | 1.50 | 0.16 | 4 | 0.10 | 0.01 | 1300 | 2.40 | 14.0 | 0.34 | 59 | <1.0 | <2 |
| | Nov-06 | 8.00 | 1220 | 82 | 463 | 510 | 0.80 | 0.12 | 2 | 1.70 | <0.01 | 17 | 0.36 | 15.0 | 0.01 | 62 | <1.0 | <2 |
| | Apr-07 | 8.20 | 1020 | 54 | 389 | 460 | 0.80 | <0.05 | <1 | 4.60 | <0.01 | 83 | 0.26 | 16.0 | 0.01 | 52 | <1.0 | <2 |
| | Apr-08 | 8.30 | 1070 | 58 | 404 | 450 | 1.00 | <0.05 | <1 | 1.90 | 0.02 | 40 | 0.19 | 14.0 | 0.03 | 45 | <1.0 | <2 |
| | Oct-08 | 8.00 | 1390 | 120 | 333 | 560 | 2.00 | 0.52 | 11 | 0.40 | 0.19 | 220 | 0.62 | 15.0 | 0.10 | 78 | 1.0 | 3.0 |
| | Dec-08 | 8.20 | 994 | 35 | 419 | 460 | 1.50 | 0.71 | 13 | 1.30 | 0.02 | <10 | 0.06 | 13.0 | 0.05 | 27 | <1.0 | <2 |
| | Apr-09 | 8.00 | 716 | 23 | 308 | 310 | 1.70 | 0.11 | 3 | 1.90 | 0.06 | 48 | 1.50 | 12.0 | 0.19 | 22 | <1 | <2 |
| | Jun-09 | 8.00 | 767 | 51 | 184 | 250 | 3.90 | * 1.5 | * 56 | 0.80 | 0.14 | 30 | 0.75 | 12.0 | 0.14 | 42 | <1 | 9.0 |
| | Oct-09 | 8.30 | 937 | 51 | 289 | 410 | 0.60 | 0.11 | 5 | 0.70 | 0.03 | 20 | 1.20 | 14.0 | 0.09 | 39 | <1 | <2 |
| | Dec-09 | 8.20 | 744 | 19 | 316 | 370 | 1.30 | 0.23 | 5 | 1.80 | 0.04 | 11 | 0.39 | 11.0 | 0.09 | 15 | <1 | <2 |
| | Apr-10 | 8.20 | 1130 | 81 | 384 | 500 | 0.90 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.22 | 11.0 | 0.02 | 66 | <1 | <2 |
| | Jun-10 | 8.20 | 1100 | 68 | 392 | 450 | 1.30 | 0.12 | 7 | 0.30 | 0.05 | 10 | 0.95 | 10.0 | 0.11 | 65 | <1 | <2 |
| | Sep-10 | 7.90 | 606 | 30 | 137 | 240 | 2.60 | 0.06 | 2 | 0.70 | 0.03 | <10 | 0.34 | 11.0 | 0.26 | 28 | <1 | 8.0 |
| | Nov-10 | 8.26 | 789 | 28 | 298 | 360 | 1.20 | <0.05 | <1 | 1.70 | 0.03 | 14 | 0.30 | 13.0 | 0.09 | 22 | 2.0 | <2 |
| | Mar-11 | 8.23 | 844 | 24 | 367 | 420 | 1.40 | 0.59 | 15 | 1.90 | 0.03 | <10 | 0.04 | 10.0 | 0.04 | 22 | <1 | <2 |
| | Jun-11 | 8.17 | 915 | 32 | 407 | 430 | 3.00 | 0.13 | 9 | 0.90 | 0.02 | 28 | 1.10 | 12.0 | 0.19 | 36 | <1 | <2 |
| | Nov-11 | 8.17 | 452 | 9 | 193 | 210 | 1.70 | <0.05 | <1 | 1.10 | 0.02 | 150 | 3.80 | 9.0 | 0.29 | 6 | 3.0 | 3.0 |
| | Apr-12 | 7.99 | 1200 | 82 | 410 | 500 | 0.79 | <0.05 | <1 | <0.10 | <0.01 | 180 | 1.50 | 10.0 | 0.65 | 64 | <1 | 3.0 |
| | Apr-13 | 8.20 | 940 | 39 | 380 | 450 | 0.94 | 0.10 | 4 | 2.00 | <0.01 | 120 | 0.33 | 13.0 | 0.04 | 33 | <1 | <2 |
| | Apr-14 | 8.06 | 1100 | 64 | 400 | 470 | 2.50 | 0.08 | 2 | 0.39 | <0.01 | 68 | 2.20 | 13.0 | 0.20 | 44 | <1 | 3.0 |
| | Dec-14 | 7.92 | 1100 | 97 | 340 | 470 | * 35 | 0.11 | <1 | <0.1 | <0.01 | 67 | 1.40 | 18.0 | | 51 | 8.9 | 3.0 |
| | Apr-15 | 8.06 | 910 | 55 | 320 | 420 | 0.64 | 0.09 | 2 | <0.10 | <0.01 | 10 | 0.57 | 6 | 0.14 | 44 | <1 | <2 |
| | Jun-15 | 7.84 | 1000 | 47 | 450 | 480 | 1.40 | 0.06 | 1 | <0.05 | <0.05 | 95 | 4.00 | 6 | 0.63 | 51 | <1 | 2.0 |
| | Apr-16 | 7.77 | 1400 | 110 | 490 | 570 | 0.77 | <0.05 | 1 | <0.10 | <0.01 | 87 | 1.40 | 5 | 0.17 | 81 | <1 | 5.0 |
| | Apr-17 | 8.21 | 920 | 24 | 380 | 480 | 0.70 | <0.05 | <1 | 1.76 | 0.02 | 14 | 0.13 | 13 | 0.03 | 31 | <1 | 2.0 |
| | Nov-17 | 8.04 | 1000 | 46 | 310 | 450 | 0.51 | <0.05 | <1 | 0.11 | <0.01 | 240 | 0 | 7 | 0.04 | 32 | <2 | <2 |
| | Apr-18 | 8.21 | 800 | 12 | 350 | 370 | 1.10 | 0.52 | 12 | 1.42 | 0.02 | 14 | 0.47 | 8 | 0.05 | 21 | <1 | <2 |
| | Dec-18 | 8.14 | 1100 | 44 | 430 | 520 | 0.45 | 0.15 | 3 | 1.92 | 0.02 | 66 | 0.44 | 10 | 0.08 | 34 | <1 | <2 |
| | Apr-19 | 7.96 | 940 | 37 | 390 | 450 | 0.56 | 0.19 | 3 | 1.20 | 0.04 | 45 | 0.87 | 8 | 0.04 | 31 | <1 | <2 |
| | May-19 | 8.17 | 900 | 32 | 410 | 450 | 0.43 | <0.050 | <1 | 1.55 | 0.03 | 210 | 5.00 | 11 | 0.16 | 29 | <1 | <2 |
| | Nov-19 | 8.25 | 1000 | 47 | 400 | 510 | 0.68 | 0.05 | 1 | 1.83 | 0.01 | 10 | 1.50 | 11 | 0.06 | 36 | <1 | <2 |
| | Apr-20 | 8.17 | 1100 | 92 | 360 | 500 | 0.27 | <0.050 | <1 | <0.10 | <0.010 | <10 | 0.08 | 9 | 0.04 | 63 | <1 | <2 |
| | Jun-20 | 8.12 | 880 | 62 | 320 | 380 | 0.56 | 0.10 | 4 | 0.42 | 0.08 | 53 | 1.70 | 7 | 0.11 | 40 | <1 | 2.0 |
| | Dec-20 | 8.19 | 860 | 28 | 300 | 400 | 0.29 | 0.06 | <1 | 1.55 | <0.010 | 13 | 0.07 | 8 | 0.06 | 21 | <1 | <2 |
| | Mar-21 | 8.20 | 570 | 19 | 240 | 270 | 0.69 | 0.12 | | 1.31 | 0.03 | 56 | 1.30 | 8 | 0.11 | 12 | <1 | <2 |
| | Sep-21 | 8.16 | 970 | 40 | 400 | 500 | 0.47 | <0.050 | <1 | <0.10 | <0.010 | 110 | 1.30 | 9 | 0.15 | 33 | <1 | <2 |
| | Dec-21 | 8.16 | 1100 | 31 | 490 | 550 | 0.75 | 0.32 | 6 | 1.43 | 0.02 | <10 | 0.13 | 8 | 0.02 | 28 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW13** | Nov-85 | 8.05 | 557 | 32 | 178 | 215 | 0.50 | <0.05 | <1 | <0.05 | 0.02 | 28.6 | | | 0.16 | | 0.2 | 0.7 |
| | Apr-86 | 8.18 | 3820 | 487 | 314 | 841 | 0.20 | <0.05 | <1 | 0.05 | 0.01 | 53.7 | | | <0.02 | | 2.0 | 1.8 |
| | May-86 | 8.18 | 4780 | 1101 | 330 | 1069 | 0.60 | <0.05 | <1 | <0.05 | 0.01 | 103.0 | | | 0.08 | | 6.2 | 0.5 |
| | Aug-87 | 7.98 | 930 | 83 | 262 | 275 | 0.50 | 0.10 | 3 | 0.15 | 0.01 | | | | 0.06 | | 0.4 | |
| | Dec-87 | 8.19 | 660 | 120 | 200 | 395 | 0.10 | 0.11 | 2 | 0.92 | <0.02 | 43.0 | 1.12 | | <0.02 | | 4.2 | <1.0 |
| | Apr-88 | 7.79 | 854 | 74 | 345 | 462 | 0.90 | 0.08 | <1 | 0.15 | 0.02 | 8.0 | 0.32 | | 0.08 | | 0.5 | 1.0 |
| | Nov-88 | 7.62 | 732 | 135 | 232 | 438 | 0.59 | <0.01 | <1 | 0.61 | <0.02 | 62.0 | | | | | 7.8 | 2.0 |
| | Mar-89 | 7.68 | 554 | 51 | 151 | 207 | 1.49 | 0.03 | <1 | 0.43 | <0.02 | 9.0 | <0.41 | | 0.19 | 32 | <2.0 | 2.4 |
| | Apr-90 | 8.15 | 796 | 109 | 216 | 355 | 0.44 | 0.05 | 1 | 0.20 | 0.02 | 7.6 | 0.16 | | 0.08 | 46 | 1.0 | 0.3 |
| | May-90 | 8.15 | 1260 | 9 | 336 | 540 | 0.71 | 0.05 | 1 | 0.20 | 0.02 | 46.8 | 0.48 | | 0.17 | 77 | 2.0 | 1.1 |
| | Apr-91 | 8.18 | 887 | 72 | 283 | 428 | 0.70 | <0.05 | <1 | <0.10 | <0.01 | 13.6 | 0.52 | | 0.12 | 41 | <1.0 | 0.7 |
| | May-92 | 7.96 | 996 | 69 | 265 | 380 | 0.79 | <0.05 | <1 | <0.10 | <0.01 | 15.0 | 0.15 | | 0.10 | 50 | <2.0 | <0.7 |
| | Oct-92 | 7.80 | 1880 | 297 | 491 | 810 | 2.01 | <0.02 | <1 | <0.10 | <0.01 | 286.0 | 3.53 | | 0.48 | 150 | <2.0 | 2.0 |
| | Apr-93 | 7.93 | 968 | 108 | 320 | 440 | 0.99 | <0.01 | <1 | <0.02 | <0.01 | 188.0 | 0.89 | | 0.41 | 79 | <2.0 | <0.3 |
| | Apr-94 | 7.81 | 1550 | 244 | 317 | 510 | 0.97 | 0.17 | 2 | <0.02 | <0.01 | 87.9 | 0.89 | | 0.23 | 147 | <1.0 | 2.1 |
| | May-96 | 7.92 | 1056 | 80 | 295 | 434 | 0.74 | 0.04 | <1 | 0.20 | <0.20 | 33.1 | 0.22 | | 0.06 | 60 | <0.5 | 1.3 |
| | Jul-96 | 7.36 | 1540 | 136 | 282 | 668 | 1.77 | 0.06 | <1 | 0.05 | <0.20 | 841 | 10.20 | | 0.50 | 103 | <0.5 | 7.0 |
| | Nov-96 | 8.14 | 877 | 60 | 299 | 693 | 3.03 | <0.02 | <1 | <0.10 | <0.20 | 1060 | 3.17 | | 0.47 | 77 | <1.0 | 2.0 |
| | Jul-98 | 7.99 | 2736 | 787 | 319 | 447 | 1.91 | 0.05 | 3 | 0.10 | <0.20 | 232 | 4.22 | 4.0 | 0.33 | 408 | <1.0 | 3.7 |
| | Apr-99 | 8.03 | 593 | 38 | 181 | 259 | 0.85 | <0.02 | <1 | <0.20 | <0.20 | 73 | 2.98 | 4.0 | 0.13 | 35 | <1.0 | 1.7 |
| | Jun-00 | 8.15 | 604 | 38 | 241 | 280 | 0.80 | 0.06 | 3 | 0.30 | <0.2 | 151 | 5.53 | 8.4 | 0.09 | | <1.0 | 1.9 |
| | May-03 | 8.15 | 1161 | 129 | 297 | 430 | 1.71 | 0.03 | <1 | 0.20 | <0.2 | 466 | 19.50 | 11.0 | 0.40 | 84 | <1.0 | <0.5 |
| | Nov-03 | 7.94 | 666 | 40 | 139 | 303 | 1.43 | 0.03 | <1 | 6.10 | <0.2 | 120 | 6.77 | 9.9 | 0.42 | 23 | <1.0 | 0.9 |
| | Apr-04 | 8.32 | 927 | 61 | 319 | 423 | 2.00 | <0.05 | <1 | 0.50 | <0.1 | 800 | 11.00 | 6.9 | 0.11 | 44 | <1.0 | <3 |
| | Dec-04 | 8.14 | 977 | 88 | 270 | 450 | 1.30 | 0.22 | 4 | 1.40 | <0.1 | 68 | 1.60 | 5.5 | | 40 | <1.0 | 4.0 |
| | Apr-05 | 8.23 | 1720 | 331 | 231 | 422 | 0.50 | <0.05 | <1 | 0.10 | <0.1 | 5 | 0.30 | 6.1 | 0.02 | 220 | <1.0 | <2 |
| | Jul-05 | 8.20 | 3480 | 828 | 292 | 704 | 0.70 | <0.05 | <1 | <0.2 | <0.3 | 23 | 0.66 | 10.0 | <0.05 | 600 | <1.0 | <2 |
| | Dec-05 | 8.17 | 949 | 55 | 331 | 430 | 1.00 | <0.05 | <1 | 0.30 | 0.01 | 190 | 1.50 | 6.6 | 0.08 | 43 | <1.0 | 2.0 |
| | Mar-06 | 8.20 | 1150 | 114 | 288 | 450 | 0.50 | <0.05 | <1 | <0.1 | <0.01 | 31 | 0.25 | | 0.04 | 68 | <1.0 | <2 |
| | Jun-06 | 8.00 | 3260 | 513 | 402 | 810 | 2.80 | * 1.73 | * 44 | 0.20 | 0.03 | 83 | 2.60 | 13.0 | 0.36 | 350 | 2.0 | <2 |
| | Sep-06 | 8.10 | 861 | 37 | 293 | 360 | 1.40 | <0.05 | <1 | <0.1 | <0.01 | 710 | 4.50 | 6.6 | 0.24 | 50 | <1.0 | <2 |
| | Nov-06 | 8.20 | 1190 | 93 | 370 | 500 | 1.10 | 0.12 | 3 | <0.1 | <0.01 | 200 | 1.50 | 5.3 | 0.07 | 61 | <1.0 | <2 |
| | Apr-07 | 8.20 | 1060 | 110 | 279 | 410 | 0.70 | 0.10 | 2 | <0.1 | <0.01 | 58 | 0.21 | 5.5 | 0.20 | 70 | <1.0 | <2 |
| | Apr-08 | 8.20 | 1480 | 200 | 275 | 420 | 1.50 | <0.05 | <1 | <0.1 | <0.01 | 37 | 0.80 | 7.0 | 0.04 | 79 | <1.0 | <2 |
| | Oct-08 | 8.20 | 1860 | 160 | 352 | 720 | 1.20 | <0.05 | <1 | <0.1 | <0.01 | 56 | 0.89 | 18.0 | 0.07 | 120 | <1.0 | <2 |
| | Dec-08 | 8.20 | 1090 | 77 | 359 | 430 | 1.60 | 0.13 | 2 | 0.60 | 0.02 | 60 | 5.40 | 12.0 | 0.33 | 51 | <1.0 | <2 |
| | Apr-09 | 7.20 | 250 | 7 | 114 | 110 | 1.70 | 0.06 | <1 | <0.1 | 0.02 | 58 | 4.70 | 3.0 | 0.35 | 6 | <1 | <2 |
| | Dec-09 | 8.00 | 568 | 29 | 176 | 240 | 1.20 | <0.05 | <1 | <0.1 | <0.01 | 26 | 1.40 | 6.0 | 0.23 | 20 | <1 | <2 |
| | Jun-10 | 8.00 | 684 | 71 | 200 | 210 | 1.30 | 0.06 | 2 | 0.10 | 0.01 | 100 | 2.30 | 6.0 | 0.13 | 65 | <1 | 4.0 |
| | Sep-10 | 7.90 | 749 | 120 | 75 | 210 | 1.00 | 0.11 | 4 | 0.20 | 0.03 | 29 | 0.79 | 6.0 | 0.09 | 47 | <1 | 4.0 |
| | Nov-10 | 8.14 | 732 | 39 | 233 | 320 | 1.60 | <0.05 | <1 | 0.70 | 0.02 | 33 | 1.40 | 10.0 | 0.16 | 28 | 5.0 | <2 |
| | Mar-11 | 8.07 | 648 | 35 | 224 | 290 | 0.90 | 0.12 | 2 | 0.70 | 0.03 | 62 | 0.22 | 6.0 | 0.06 | 29 | <1 | <2 |
| | Jun-11 | 8.07 | 1050 | 64 | 439 | 270 | 1.50 | 0.06 | 3 | 0.90 | <0.01 | 130 | 3.10 | 25.0 | 0.11 | 60 | <1 | <2 |
| | Sep-11 | 8.13 | 552 | 42 | 121 | 190 | 0.40 | <0.05 | <1 | 0.40 | 0.02 | <10 | 0.13 | 8.0 | 0.03 | 32 | <1 | <2 |
| | Nov-11 | 8.14 | 396 | 8 | 168 | 190 | 1.20 | <0.05 | <1 | 0.90 | 0.02 | 26 | 1.30 | 8.0 | 0.20 | 6 | 3.0 | 3.0 |
| | Apr-12 | 8.13 | 930 | 98 | 190 | 290 | 0.48 | <0.05 | <1 | 0.73 | 0.01 | 31 | 0.58 | 14.0 | 0.58 | 71 | <1 | <2.0 |
| | Apr-13 | 8.24 | 1200 | 120 | 290 | 460 | 1.00 | 0.10 | 3 | 0.39 | 0.01 | 210 | 1.60 | 11.0 | 0.10 | 73 | <1 | <2 |
| | Jun-13 | 7.86 | 970 | 110 | 180 | 300 | 1.00 | 0.12 | 3 | 0.57 | <0.01 | 210 | 3.10 | 17.0 | 0.19 | 84 | <1 | 2.0 |
| | Sep-13 | 7.78 | 920 | 95 | 160 | 320 | 0.83 | 0.14 | 3 | 0.15 | 0.03 | 53 | 0.87 | 15.0 | 0.04 | 68 | <1 | 2.0 |
| | Dec-13 | 7.62 | 6900 | 2200 | 66 | 170 | 2.20 | 0.80 | 5 | 1.30 | 0.08 | 580 | 3.40 | <10 | 0.17 | 1200 | 15.0 | 19.0 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
** - Indicates associated value is an estimated quantity.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW13** | Apr-14 | 7.89 | 2500 | 420 | 290 | 620 | 0.73 | 0.30 | 4 | <0.1 | 0.036 | 19 | 0.54 | 20.0 | <0.1 | 270 | 1.1 | 6.0 |
| | Jun-14 | 7.85 | 1700 | 250 | 250 | 470 | 1.00 | 0.46 | 5 | 0.12 | 0.044 | <10 | 0.41 | 25.0 | <0.1 | 180 | 1.7 | 6.0 |
| | Sep-14 | 7.90 | 1400 | 160 | 240 | 470 | 2.50 | 1.10 | 14 | <0.1 | <0.01 | 27 | 0.48 | 20.0 | <0.1 | 120 | 3.5 | 33.0 |
| | Dec-14 | 7.72 | 4700 | 1300 | 180 | 340 | 2.50 | 0.76 | 4 | 0.12 | 0.045 | 48 | 1.30 | 12.0 | | 800 | 6.9 | 16.0 |
| | Apr-15 | 8.00 | 2500 | 470 | 280 | 610 | 0.92 | 0.36 | 5 | 0.21 | 0.10 | 35 | 0.61 | 19 | 0.04 | 280 | <1 | 4 |
| | Jun-15 | 8.02 | 1900 | 330 | 250 | 440 | 1.60 | 0.39 | 13 | 0.17 | 0.12 | <10 | 0.17 | 22 | 0.03 | 210 | <1 | 4 |
| | Sep-15 | 7.71 | 1300 | 150 | 250 | 450 | 1.20 | 0.56 | 13 | <0.10 | <0.01 | <10 | 0.3 | 13 | 0.06 | 91 | 1.0 | 6 |
| | Nov-15 | 7.95 | 2000 | 310 | 310 | 610 | 0.67 | 0.16 | 2 | 0.08 | 0.10 | 30 | 1.5 | 10 | 0.05 | 180 | <1 | <2 |
| | Apr-16 | 7.90 | 1200 | 170 | 180 | 330 | 0.63 | 0.11 | 2 | 0.26 | 0.03 | <10 | 0.44 | 8 | 0.03 | 110 | <1 | 11 |
| | Jun-16 | 7.93 | 790 | 83 | 190 | 250 | 0.73 | 0.40 | 11 | <0.10 | 0.08 | 18 | 0.83 | 5 | 0.09 | 79 | <1 | <2.0 |
| | Sep-16 | 7.98 | 600 | 57 | 150 | 220 | 0.24 | <0.05 | <1 | <0.10 | <0.01 | <10 | 0.3 | 4 | 0.01 | 36 | <1 | <2.0 |
| | Nov-16 | 7.93 | 1800 | 390 | 140 | 220 | 0.45 | 0.06 | <1 | 0.28 | 0.02 | 54 | 3.4 | 5 | 0.09 | 250 | <1 | <2.0 |
| | Apr-17 | 8.27 | 1100 | 99 | 300 | 350 | 0.81 | <0.05 | <1 | 0.13 | <0.01 | 370 | 30.0 | 11 | 1.00 | 61 | <2 | <2 |
| | Jun-17 | 8.01 | 1100 | 160 | 160 | 270 | 0.41 | <0.05 | <1 | 0.36 | <0.01 | 150 | 4.6 | 9 | 0.25 | 120 | <1 | <2 |
| | Sep-17 | 8.02 | 1000 | 130 | 240 | 330 | 0.38 | <0.05 | <1 | <0.10 | <0.01 | 140 | 0.5 | 6 | 0.10 | 64 | <1 | <2 |
| | Nov-17 | 7.93 | 4100 | 990 | 300 | 560 | 0.43 | 0.14 | 2 | <0.10 | <0.01 | 390 | 1.6 | 11 | 0.16 | 610 | <2 | <2 |
| | Apr-18 | 8.25 | 1200 | 150 | 280 | 330 | 0.45 | 0.07 | 2 | 0.62 | <0.01 | <10 | 0.1 | 7 | 0.04 | 97 | <1 | 12 |
| | Dec-18 | 7.96 | 2000 | 300 | 280 | 620 | 0.27 | 0.08 | 1 | 0.82 | 0.02 | 31 | 0.2 | 10 | 0.02 | 180 | <1 | <2 |
| | Apr-19 | 8.29 | 740 | 31 | 300 | 320 | 0.19 | 0.06 | 1 | 0.36 | <0.010 | 13 | 0.5 | 6 | 0.03 | 24 | <1 | <2 |
| | May-19 | 8.24 | 1100 | 140 | 260 | 350 | 0.52 | 0.08 | 3 | 0.33 | 0.03 | 180 | 4.1 | 6 | 0.31 | 74 | 1.1 | 4 |
| | Nov-19 | 8.01 | 1300 | 170 | 280 | 470 | 0.65 | 0.16 | 2 | <0.10 | <0.010 | 2100 | 52.0 | 12 | 2.50 | 110 | <1 | 12 |
| | Jun-20 | 7.72 | 1000 | 150 | 160 | 260 | 0.40 | <0.050 | <1 | 0.14 | <0.010 | 27 | 0.7 | 5 | 0.26 | 97 | <1 | 2 |
| | Dec-20 | 8.01 | 11000 | 3300 | 140 | 380 | 0.33 | 0.21 | 3 | 0.29 | 0.03 | 29 | 0.4 | 9 | 0.07 | 2200 | 1.0 | <2 |
| | Mar-21 | 8.20 | 480 | 27 | 180 | 200 | 0.57 | <0.050 | <1 | 0.63 | 0.01 | 19 | 1.1 | 6 | 0.09 | 18 | <1 | 2 |
| | Jun-21 | 8.10 | 1300 | 210 | 160 | 310 | 0.28 | <0.050 | | <0.10 | <0.010 | 220 | 6.8 | 7 | 0.24 | 130 | <1 | 3 |
| | Sep-21 | 8.04 | 1400 | 220 | 200 | 370 | 0.40 | <0.050 | <1 | 0.46 | <0.010 | 70 | 2.1 | 9 | 0.08 | 150 | <1 | 2 |
| | Dec-21 | 8.18 | 1600 | 230 | 350 | 530 | 0.31 | <0.050 | <1 | 0.37 | <0.010 | 13 | 0.3 | 8 | 0.05 | 140 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
** - Indicates associated value is an estimated quantity.
2) Blank indicates parameter not analysed.
3) Sample for December 2020 exhibits road salt influence. Chloride value is excluded from time-concentration graph.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW14** | May-85 | 8.19 | 826 | 55 | 263 | 362 | 0.20 | <0.05 | <1 | 0.10 | <0.005 | 0.0 | 0.04 | | 0.02 | | 1.0 | 0.4 |
| | Jul-85 | 8.13 | 837 | 99 | 247 | 321 | | <0.05 | <1 | 0.10 | 0.010 | 34.0 | 0.86 | | | | 7.4 | 2.6 |
| | Sep-85 | 7.62 | 6660 | 448 | 321 | 822 | 0.70 | <0.05 | <1 | <0.05 | <0.005 | 31.2 | 0.09 | | 0.04 | | 0.2 | 1.1 |
| | Oct-85 | 8.07 | 3020 | 621 | 238 | 721 | 0.80 | <0.05 | <1 | <0.05 | 0.01 | | 0.05 | | | | 2.4 | 4.6 |
| | Nov-85 | 8.11 | 459 | 22 | 159 | 200 | 0.50 | <0.05 | <1 | 0.35 | 0.015 | 20.7 | | | 0.14 | | 0.8 | 1.0 |
| | Dec-85 | 7.96 | 750 | 51 | 247 | 338 | 0.30 | <0.05 | <1 | 0.30 | 0.015 | 11.1 | | | 0.02 | | 1.0 | 0.7 |
| | Apr-86 | 8.60 | 650 | 57 | 222 | 291 | 0.20 | <0.05 | <1 | 0.05 | <0.005 | 36.3 | | | 0.04 | | 0.2 | 0.1 |
| | Apr-86 | 8.48 | 726 | 52 | 270 | 324 | <0.20 | <0.05 | <1 | 0.05 | 0.01 | 30.2 | | | <0.02 | | 0.8 | 0.8 |
| | May-86 | 8.46 | 771 | 51 | 295 | 369 | 0.40 | <0.05 | <1 | <0.05 | 0.05 | 30.9 | | | 0.06 | | 1.2 | 0.2 |
| | Jul-86 | 8.29 | 861 | 74 | 303 | 399 | 0.60 | <0.05 | <1 | 0.10 | 0.03 | 113.0 | | | 0.14 | | 0.6 | 2.2 |
| | May-87 | 8.07 | 885 | 45 | 320 | 156 | <0.05 | 0.05 | 1 | 0.05 | <0.005 | | 0.09 | | <0.010 | | <0.2 | |
| | Aug-87 | 8.55 | 1620 | 382 | 121 | 487 | 0.25 | | | 0.24 | <0.02 | 41.0 | <0.4 | | <0.02 | | 2.6 | 10.2 |
| | Oct-87 | 7.97 | 1380 | 445 | 4120 | 774 | 0.06 | <0.01 | <1 | 0.77 | <0.02 | 3.6 | 0.20 | | 0.03 | | | <1.0 |
| | Dec-87 | 8.31 | 470 | 78 | 200 | 286 | 0.13 | 0.09 | 2 | 0.62 | <0.02 | 31.0 | 1.60 | | <0.02 | | 1.3 | <1.0 |
| | Apr-88 | 8.31 | 545 | 44 | 221 | 286 | 0.50 | 0.08 | 3 | 0.07 | 0.02 | 14.5 | 0.35 | | 0.05 | | 2.0 | 1.0 |
| | Sep-88 | 7.70 | 1160 | 305 | 279 | | 0.66 | 0.02 | <1 | 0.28 | <0.02 | 8.4 | <0.05 | | | | 2.3 | 3.0 |
| | Nov-88 | 7.93 | 678 | 111 | 241 | 381 | 0.52 | <0.01 | <1 | 0.53 | <0.02 | 44.7 | | | | | 6.8 | 2.0 |
| | Mar-89 | 7.75 | 1438 | 354 | 181 | 345 | 1.52 | 0.27 | 2 | 0.76 | 0.05 | 165.7 | 4.13 | | 0.30 | 206 | 3.0 | 2.0 |
| | May-89 | 8.47 | 758 | 29 | 234 | 450 | 0.48 | <0.01 | <1 | <0.19 | <0.02 | 3.6 | 0.82 | | 0.05 | | <2.0 | 0.3 |
| | Jul-89 | 8.11 | 1770 | 298 | 257 | 561 | 0.60 | 0.40 | 17 | 0.25 | 0.03 | 12.8 | <0.05 | | 0.07 | 116 | <2.0 | 0.3 |
| | Sep-89 | 7.85 | 2130 | 431 | 278 | 433 | 0.86 | 0.07 | 1 | 0.20 | <0.02 | 8.6 | 0.28 | | 0.05 | 295 | <2.0 | 1.4 |
| | Apr-90 | 8.12 | 640 | 119 | 194 | 272 | 0.33 | 0.16 | 4 | 0.20 | 0.02 | 17.6 | 0.27 | | 0.12 | 37 | 1.0 | 0.3 |
| | May-90 | 8.38 | 675 | 47 | 238 | 304 | 0.35 | 0.05 | 2 | 0.20 | 0.02 | 11.6 | <0.06 | | 0.09 | 27 | 2.0 | 0.5 |
| | Jul-90 | 8.52 | 939 | 94 | 299 | 375 | 0.32 | 0.05 | 5 | 0.20 | 0.02 | 15.6 | 0.24 | | 0.05 | 65 | 2.0 | 0.5 |
| | Apr-91 | 8.35 | 684 | 78 | 223 | 307 | 0.54 | <0.05 | <1 | <0.10 | <0.01 | 34.0 | 0.96 | | 0.18 | 38 | <1.0 | <0.5 |
| | Jun-91 | 8.43 | 1210 | 63 | 313 | 410 | 0.40 | <0.05 | <1 | <0.1 | 0.01 | 7.6 | <0.06 | | 0.18 | 42 | <2.0 | 1.0 |
| | Oct-91 | 8.10 | 2190 | 338 | 316 | 640 | 0.54 | <0.05 | <1 | <0.1 | <0.01 | 8.0 | 0.19 | | 0.33 | 220 | 4.8 | <0.5 |
| | May-96 | 8.33 | 768 | 68 | 234 | 299 | 0.39 | 0.03 | 1 | 0.10 | <0.20 | 5.8 | 0.19 | | 0.02 | 44 | <0.5 | 0.9 |
| | Jul-96 | 7.92 | 881 | 85 | 270 | 352 | 0.56 | 0.03 | <1 | 0.45 | <0.20 | 10.8 | 0.27 | | 0.20 | 50 | <0.5 | 1.6 |
| | Sep-96 | 8.01 | 1018 | 96 | 308 | 464 | 0.29 | <0.02 | <1 | <0.10 | <0.20 | 4.4 | <0.10 | | 0.20 | 57 | <0.5 | 1.5 |
| | Nov-96 | 7.59 | 1402 | 130 | 361 | 416 | 0.21 | <0.02 | <1 | <0.10 | <0.20 | 4.0 | 0.14 | | <0.05 | 47 | <1.0 | 1.2 |
| | Jul-98 | 8.19 | 845 | 103 | 262 | 337 | 0.52 | 0.04 | 2 | 0.30 | <0.20 | 19 | 0.42 | 5.2 | 0.10 | 55 | <1.0 | 1.7 |
| | Apr-99 | 8.17 | 1094 | 209 | 170 | 346 | 0.82 | <0.02 | <1 | <0.20 | <0.20 | 37 | 2.13 | 5.0 | 0.11 | 111 | <1.0 | 1.6 |
| | Apr-00 | 7.81 | 1520 | 135 | 450 | 615 | 0.71 | 0.05 | <1 | 0.50 | <0.4 | 29 | 0.65 | 19.2 | 0.02 | 103 | <1.0 | 2.4 |
| | Jun-00 | 8.10 | 509 | 52 | 174 | 203 | 0.62 | 0.06 | 2 | 0.40 | <0.2 | 577 | 24.60 | 11.0 | 0.39 | | <1.0 | 2.0 |
| | Apr-01 | 7.34 | 427 | 44 | 209 | 288 | 0.25 | 0.04 | <1 | <0.2 | <0.2 | 5 | 0.12 | 4.0 | 0.02 | 59 | <1.0 | 1.4 |
| | Apr-01 | 7.34 | 427 | 44 | 209 | 288 | 0.25 | 0.04 | <1 | <0.2 | <0.2 | 5 | 0.12 | 4.0 | 0.02 | 59 | <1.0 | 1.4 |
| | Apr-02 | 8.02 | 864 | 117 | 176 | 272 | 0.54 | <0.03 | <1 | <0.2 | <1.0 | 17 | 0.98 | 3.0 | 0.04 | 69 | <1.0 | 0.8 |
| | May-03 | 8.17 | 1003 | 124 | 225 | 338 | 1.55 | 0.12 | 3 | 3.90 | <0.2 | 88 | 3.47 | 9.0 | 0.22 | 77 | <1.0 | 2.0 |
| | Nov-03 | 7.95 | 710 | 65 | 173 | 261 | 1.64 | 0.24 | 5 | 5.00 | <0.2 | 215 | 9.44 | 10.5 | 0.54 | 43 | <1.0 | 1.7 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW14** | Apr-04 | 7.79 | 776 | 91 | 233 | 299 | 0.70 | <0.05 | <1 | 0.30 | <0.1 | 32 | 1.00 | 3.1 | <0.02 | 48 | <1.0 | <3 |
| | Dec-04 | 8.17 | 1240 | 206 | 253 | 410 | 0.50 | 0.07 | 1 | 0.40 | <0.1 | 5 | 0.02 | 5.3 | | 120 | <1.0 | <2 |
| | Apr-05 | 8.29 | 768 | 96 | 199 | 279 | 0.40 | <0.05 | <1 | 0.20 | <0.1 | 6 | 0.20 | 3.1 | 0.03 | 60 | <1.0 | <2 |
| | Dec-05 | 8.31 | 819 | 101 | 222 | 270 | 0.60 | <0.05 | <1 | 0.50 | <0.01 | 7 | 0.74 | 4.7 | 0.07 | 64 | <1.0 | <2 |
| | Mar-06 | 8.40 | 851 | 93 | 258 | 300 | 0.30 | <0.05 | <1 | 0.20 | <0.01 | 4 | 0.13 | | 0.02 | 62 | <1.0 | <2 |
| | Jun-06 | 8.20 | 1160 | 128 | 354 | 430 | 0.80 | 0.08 | 4 | <0.1 | <0.01 | 1 | 0.15 | 5.4 | 0.04 | 79 | <1.0 | <2 |
| | Sep-06 | 8.30 | 1080 | 160 | 271 | 290 | 0.90 | <0.05 | <1 | 0.30 | 0.01 | 12 | 0.86 | 5.5 | 0.07 | 110 | <1.0 | <2 |
| | Nov-06 | 8.40 | 864 | 74 | 322 | 330 | 0.40 | 0.10 | 3 | <0.1 | <0.01 | <1 | 0.12 | 5.1 | 0.04 | 51 | <1.0 | <2 |
| | Apr-07 | 8.40 | 914 | 110 | 272 | 330 | 1.00 | <0.05 | <1 | <0.1 | <0.01 | 14 | 0.64 | 3.5 | 0.03 | 63 | <1.0 | <2 |
| | Apr-08 | 8.40 | 708 | 73 | 211 | 250 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | 10 | 0.11 | 3.0 | 0.02 | 48 | <1.0 | <2 |
| | Jul-08 | 8.20 | 859 | 92 | 258 | 310 | 0.50 | <0.05 | <1 | 0.20 | <0.01 | 38 | 0.38 | 5.0 | <0.100 | 62 | <1.0 | <2 |
| | Oct-08 | 8.40 | 1100 | 130 | 306 | 380 | 0.30 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.09 | 4.0 | 0.03 | 79 | <1.0 | <2 |
| | Dec-08 | 8.20 | 790 | 88 | 238 | 270 | 0.50 | 0.08 | 1 | 0.10 | <0.01 | 14 | 0.45 | 4.0 | 0.07 | 51 | <1.0 | <2 |
| | Apr-09 | 7.60 | 597 | 60 | 184 | 200 | 1.40 | 0.07 | <1 | 0.20 | <0.01 | 300 | 12.00 | 6.0 | 0.53 | 39 | <1 | <2 |
| | Jun-09 | 8.20 | 935 | 110 | 266 | 310 | 0.70 | 0.08 | 4 | 0.20 | <0.01 | 32 | 0.90 | 6.0 | 0.07 | 65 | 3.0 | <2 |
| | Oct-09 | 8.20 | 1110 | 150 | 259 | 320 | 0.30 | <0.05 | <3 | <0.1 | <0.01 | 12 | 0.54 | 6.0 | 0.06 | 100 | <1 | <2 |
| | Dec-09 | 8.00 | 548 | 42 | 172 | 210 | 1.70 | <0.05 | <1 | 1.60 | 0.02 | 140 | 9.80 | 6.0 | 0.48 | 31 | <1 | <2 |
| | Apr-10 | 8.40 | 883 | 90 | 279 | 350 | 0.50 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.09 | 5.0 | 0.02 | 53 | <1 | <2 |
| | Jun-10 | 8.30 | 779 | 72 | 254 | 290 | 0.60 | 0.09 | 7 | 0.20 | <0.01 | 20 | 0.50 | 8.0 | 0.05 | 47 | <1 | <2 |
| | Sep-10 | 7.90 | 526 | 82 | 84 | 140 | 1.00 | <0.05 | <1 | 0.40 | 0.02 | 84 | 2.70 | 7.0 | 0.16 | 48 | <1 | 3 |
| | Nov-10 | 8.14 | 545 | 45 | 166 | 190 | 2.00 | <0.05 | <1 | 0.50 | <0.01 | 52 | 3.20 | 6.0 | 0.25 | 34 | 2.0 | 2 |
| | Mar-11 | 8.25 | 628 | 72 | 174 | 220 | 1.00 | 0.09 | 3 | 0.20 | 0.01 | 59 | 2.90 | 4.0 | 0.11 | 44 | <1 | <2 |
| | Jun-11 | 8.40 | 740 | 58 | 257 | 300 | 0.40 | <0.05 | <1 | <0.1 | <0.01 | 10 | 0.17 | 5.0 | 0.06 | 46 | <1 | <3 |
| | Sep-11 | 8.27 | 851 | 110 | 176 | 240 | 0.40 | <0.05 | <1 | 0.20 | <0.01 | <10 | <0.02 | 6.0 | 0.05 | 77 | 1.0 | <2 |
| | Nov-11 | 7.98 | 316 | 18 | 110 | 120 | 1.90 | <0.05 | <1 | 0.60 | <0.01 | 820 | 19.00 | 8.0 | 0.80 | 13 | 2.0 | <2 |
| | Apr-12 | 8.37 | 940 | 110 | 270 | 350 | 0.43 | <0.05 | <1 | <0.10 | <0.010 | <10 | 0.13 | 4.0 | 0.56 | 62 | <1 | <2 |
| | Nov-12 | 8.16 | 1000 | 100 | 240 | 400 | 0.45 | 0.06 | 1 | <0.1 | <0.01 | 11 | 0.03 | 4.0 | 0.03 | 67 | <1 | <2 |
| | Apr-13 | 8.53 | 770 | 82 | 220 | 300 | 0.47 | <0.05 | <1 | <0.1 | <0.01 | 15 | 0.10 | 4.0 | 0.02 | 53 | <1 | <2 |
| | Jun-13 | 8.30 | 960 | 110 | 270 | 360 | 0.34 | 0.07 | 5 | <0.1 | <0.01 | <10 | 0.19 | 5.0 | 0.04 | 69 | <1 | <2 |
| | Dec-13 | 8.00 | 2400 | 540 | 260 | 410 | 0.52 | 0.15 | 2 | 0.33 | 0.016 | <10 | 0.16 | <10 | 0.08 | 350 | 5.1 | 3 |
| | Apr-14 | 8.38 | 930 | 110 | 240 | 320 | 0.30 | 0.06 | 2 | <0.1 | <0.01 | <10 | 0.20 | 4.0 | <0.1 | 66 | <1 | <2 |
| | Jun-14 | 8.24 | 1100 | 130 | 290 | 380 | 0.19 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.09 | 6.0 | <0.1 | 83 | <1 | <2 |
| | Sep-14 | 8.29 | 1400 | 220 | 270 | 420 | 0.35 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.11 | 7.0 | <0.1 | 140 | 1.3 | <2 |
| | Dec-14 | 8.09 | 4100 | 1100 | 270 | 500 | 0.51 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.08 | 9.0 | | 620 | 2.1 | 3 |
| | Apr-15 | 8.30 | 1000 | 130 | 220 | 340 | 0.34 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.11 | 4 | 0.02 | 89 | <1 | <2 |
| | Jun-15 | 8.39 | 1200 | 160 | 270 | 380 | 0.42 | <0.05 | <1 | <0.1 | <0.01 | <10 | 0.21 | 5 | 0.05 | 100 | <1 | <2 |
| | Nov-15 | 8.14 | 1800 | 300 | 280 | 440 | 0.28 | <0.05 | <1 | <0.1 | <0.01 | 64 | 0.61 | 7 | 0.05 | 200 | <1 | <2 |
| | Apr-16 | 8.34 | 900 | 100 | 260 | 330 | 0.11 | <0.05 | <1 | <0.10 | <0.01 | <10 | 0.05 | 4.0 | 0.01 | 62 | <1 | 2.0 |
| | Nov-16 | 8.17 | 1400 | 230 | 220 | 420 | 0.40 | <0.05 | <1 | <0.10 | <0.01 | <10 | 0.09 | 9.0 | 0.17 | 140 | <1 | 4.0 |
| | Apr-17 | 8.36 | 800 | 93 | 220 | 270 | 0.30 | <0.05 | <1 | 0.18 | <0.01 | 18 | 0.24 | 4.0 | 0.04 | 58 | <1 | <2 |
| | Jun-17 | 8.24 | 1100 | 130 | 250 | 320 | 0.41 | <0.05 | <1 | <0.10 | <0.01 | 220 | 0.59 | 5.0 | 0.06 | 160 | <1 | <2 |
| | Nov-17 | 8.10 | 1600 | 290 | 260 | 380 | 0.21 | <0.05 | <1 | <0.10 | <0.01 | 31 | 0.31 | 6 | 0.07 | 160 | <5 | <2 |
| | Apr-18 | 8.23 | 630 | 65 | 180 | 210 | 0.22 | <0.05 | <1 | 0.40 | <0.01 | 27 | 1.00 | 3.0 | 0.07 | 39 | <1 | <2 |
| | Jun-18 | 8.34 | 950 | 110 | 270 | 300 | 0.25 | <0.05 | <1 | 0.18 | <0.01 | 11 | 0.36 | 5.0 | 0.06 | 81 | <1 | <2 |
| | Sep-18 | 8.19 | 1100 | 190 | 180 | 240 | 0.22 | <0.05 | <1 | 0.19 | <0.01 | 11 | 0.62 | 5.0 | 0.07 | 130 | 0.001 | <2 |
| | Dec-18 | 8.28 | 940 | 120 | 240 | 300 | 0.19 | <0.05 | <1 | 0.34 | <0.01 | <10 | 0.10 | 4.0 | 0.03 | 73 | <1 | <2 |
| | Apr-19 | 8.29 | 820 | 110 | 210 | 250 | 0.24 | 0.10 | 3 | 0.36 | <0.010 | 22 | 2.00 | 4.0 | 0.04 | 61 | <1 | <2 |
| | May-19 | 8.41 | 770 | 77 | 260 | 290 | 0.20 | <0.050 | <1 | 0.17 | <0.010 | 16 | 0.59 | 4.0 | 0.05 | 50 | <1 | <2 |
| | Nov-19 | 8.29 | 950 | 120 | 240 | 320 | 0.34 | <0.050 | <1 | <0.10 | <0.010 | <10 | 0.27 | 5.0 | 0.07 | 76 | <1 | <2 |
| | Apr-20 | 8.38 | 1000 | 120 | 290 | 400 | 0.14 | <0.050 | <1 | <0.10 | <0.010 | <10 | 0.14 | 4.0 | 0.01 | 73 | <1 | <2 |
| | Jun-20 | 8.11 | 740 | 87 | 200 | 250 | 0.37 | <0.050 | <1 | 0.19 | <0.010 | 51 | 1.90 | 5.0 | 0.12 | 56 | <1 | 2.0 |
| | Dec-20 | 8.18 | 1100 | 160 | 190 | 260 | 0.20 | <0.050 | <1 | 0.54 | <0.010 | <10 | 0.36 | 4.0 | 0.09 | 110 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW14** | Mar-21 | 8.13 | 570 | 76 | 130 | 170 | 0.37 | 0.06 | 1 | 0.96 | <0.010 | 850 | 22.00 | 7.0 | 0.66 | 46 | <1 | 2.0 |
| | Jun-21 | 8.27 | 1200 | 220 | 210 | 280 | 0.37 | <0.050 | | <0.10 | <0.010 | 31 | 1.70 | 6.0 | 0.12 | 140 | <1 | <2 |
| | Sep-21 | 8.43 | 930 | 120 | 270 | 330 | 0.33 | <0.050 | <1 | 0.11 | <0.010 | <10 | 0.17 | 5.0 | 0.06 | 77 | <1 | <2 |
| | Dec-21 | 8.29 | 760 | 67 | 270 | 310 | 0.18 | <0.050 | <1 | 0.17 | <0.010 | <10 | 0.19 | 4.0 | 0.05 | 42 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

**TABLE D-2**
**SURFACE WATER CHEMISTRY RESULTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| | DATE | pH | SPEC. COND. | CHLORIDE | ALKALINITY (as CaCO3) | HARDNESS (as CaCO3) | TKN | AMMONIA | | NITRATE | NITRITE | SUSPENDED SOLIDS | IRON | POTASSIUM | PHOSPHORUS (Total) | SODIUM | PHENOLICS | BOD |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | Total | Free | | | | | | | | | |
| | | units | µS/cm | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | mg/L | µg/L | mg/L |
| **PWQO** | | 6.5-8.5 | | | | | | | 20 | | | | 0.300 | | 0.030 | | 1 | |
| **SW16** | May-03 | 7.28 | * 2497 | 211 | * 1360 | 782 | 66.7 | * 58.1 | * 249 | <0.2 | <0.2 | 475 | * 31.3 | 58.9 | 0.85 | 125 | 6.0 | 19.1 |
| | Apr-04 | 8.29 | 703 | 19 | 321 | 377 | 1.10 | 0.22 | 7 | 0.20 | <0.1 | 100 | 1.90 | 4.9 | <0.02 | 12 | <1.0 | <3 |
| | Dec-04 | 8.18 | 854 | 33 | 357 | 483 | 1.60 | 0.05 | <1 | 2.20 | <0.1 | 129 | 1.80 | 6.0 | | 13 | <1.0 | 7 |
| | Dec-05 | 8.22 | 818 | 22 | 393 | 440 | 1.00 | 0.13 | 3 | 0.40 | 0.01 | 29 | 0.44 | 5.6 | 0.06 | 15 | <1.0 | 3 |
| | Dec-08 | 8.20 | 854 | 21 | 416 | 430 | 0.90 | 0.22 | 4 | 0.60 | <0.01 | 24 | 0.25 | 5.0 | 0.07 | 11 | <1.0 | <2 |
| | Apr-09 | 8.20 | 668 | 12 | 331 | 350 | 0.60 | <0.05 | <3 | 0.50 | <0.01 | 32 | 0.29 | 4.0 | 0.05 | 9 | <1 | <2 |
| | Dec-09 | 8.20 | 694 | 17 | 313 | 350 | 1.50 | 0.21 | 5 | 2.10 | 0.02 | 32 | 0.83 | 8.0 | 0.13 | 11 | <1 | <2 |
| | Jun-10 | 8.00 | 597 | 5 | 278 | 310 | 1.30 | 0.27 | 10 | 0.70 | 0.02 | 33 | 0.52 | 3.0 | 0.12 | 8 | <1 | <2 |
| | Nov-10 | 8.13 | 869 | 40 | 367 | 390 | 1.80 | 0.42 | 9 | 2.80 | 0.02 | <10 | 0.10 | 14.0 | 0.08 | 29 | <1 | <2 |
| | Mar-11 | 8.08 | 777 | 22 | 359 | 390 | 1.60 | 0.71 | 8 | 1.00 | 0.02 | <10 | 0.25 | 9.0 | 0.07 | 15 | <1 | <2 |
| | Jun-11 | 8.22 | 816 | 39 | 232 | 470 | 2.00 | 0.54 | 33 | 4.00 | 0.44 | 13 | 0.51 | 25.0 | 0.07 | 42 | <1 | 3.0 |
| | Nov-11 | 8.05 | 724 | 34 | 289 | 310 | 3.10 | 0.13 | 2 | 5.00 | 0.02 | 10 | 0.25 | 16.0 | 0.12 | 22 | 2.0 | <2 |
| | Apr-13 | 8.06 | 1200 | 47 | 510 | 560 | 3.70 | 2.80 | 50 | 3.40 | 0.07 | 590 | 1.10 | 22.0 | 0.05 | 37 | <1 | <2 |
| | Apr-14 | 8.03 | 1100 | 38 | 490 | 540 | 1.70 | 1.20 | 23 | 0.51 | 0.03 | <10 | 0.08 | 19.0 | <0.1 | 26 | <1 | <2 |
| | Apr-15 | 8.11 | 1200 | 57 | 450 | 610 | 2.10 | 1.00 | 17 | 0.43 | 0.02 | <10 | 0.13 | 20.0 | 0.05 | 39 | <1 | <2 |
| | Apr-16 | 8.06 | 1200 | 72 | 550 | 620 | 2.50 | 1.80 | 30 | 3.39 | 0.08 | <10 | 0.12 | 23.0 | 0.04 | 46 | <1 | 5.0 |
| | Apr-17 | 8.17 | 980 | 30 | 450 | 430 | 3.50 | 2.80 | 60 | 0.80 | 0.07 | 10 | 0.12 | 24.0 | 0.05 | 32 | <1 | <2 |
| | Apr-18 | 8.40 | 730 | 33 | 320 | 330 | 0.43 | <0.05 | <1 | 1.07 | <0.01 | <10 | 0.05 | 4.0 | 0.04 | 13 | <1 | <2 |
| | Dec-18 | 8.12 | 930 | 76 | 350 | 440 | 0.27 | <0.05 | <1 | 0.21 | <0.01 | 100 | 1.20 | 5.0 | 0.06 | 21 | <1 | <2 |
| | Apr-19 | 7.81 | 1000 | 38 | 510 | 490 | 1.70 | 1.20 | 9 | 1.62 | 0.02 | <10 | 0.05 | 17.0 | 0.04 | 29 | <1 | <2 |
| | May-19 | 8.24 | 1000 | 32 | 510 | 510 | 1.40 | 0.80 | 29 | 0.40 | 0.15 | 42 | 1.10 | 17.0 | 0.09 | 30 | <1 | <2 |
| | Nov-19 | 8.21 | 1200 | 66 | 480 | 590 | 1.10 | <0.050 | <1 | 2.51 | <0.010 | 61 | 2.00 | 17.0 | 0.12 | 44 | <1 | <2 |
| | Mar-21 | 8.28 | 580 | 23 | 240 | 260 | 0.61 | <0.050 | | 0.74 | 0.01 | 22 | 0.66 | 7.0 | 0.12 | 16 | <1 | <2 |
| | Sep-21 | 8.15 | 990 | 40 | 450 | 570 | 0.78 | <0.050 | <1 | <0.10 | <0.010 | 98 | 2.50 | 10.0 | 0.10 | 23 | <1 | <2 |
| | Dec-21 | 8.25 | 830 | 27 | 400 | 410 | 0.26 | <0.050 | <1 | 0.34 | <0.010 | <10 | 0.18 | 5.0 | 0.02 | 28 | <1 | <2 |

NOTES: 1) nd - Indicates parameter concentration was below the Reporting Detection Limit.
* - Indicates associated value is suspected to be anomalous.
2) Blank indicates parameter not analysed.

# APPENDIX

# E CLIMATIC DATA

**TABLE E-1**
**30 YEAR AVERAGE WATER BUDGET (1971-2000) - Royal Botanical Gardens**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONTH | MEAN TEMPERATURE (°C) | I | E (mm) | DAYLIGHT FACTOR | E ADJ. (mm) | TOTAL PRECIPITATION (mm) | SURPLUS (mm) | DEFICIT (mm) |
|---|---|---|---|---|---|---|---|---|
| **January** | -5.0 | 0.0 | 0.0 | 0.8 | 0.0 | 59.5 | 59.5 | 0.0 |
| **February** | -4.4 | 0.0 | 0.0 | 0.8 | 0.0 | 55.0 | 55.0 | 0.0 |
| **March** | 0.5 | 0.0 | 1.5 | 1.0 | 1.5 | 75.7 | 74.2 | 0.0 |
| **April** | 6.9 | 1.6 | 29.2 | 1.1 | 32.7 | 73.5 | 40.8 | 0.0 |
| **May** | 13.3 | 4.4 | 61.6 | 1.3 | 78.3 | 81.8 | 3.5 | 0.0 |
| **June** | 18.8 | 7.4 | 91.4 | 1.3 | 116.9 | 71.6 | 0.0 | 45.3 |
| **July** | 22.0 | 9.4 | 109.2 | 1.3 | 142.0 | 74.9 | 0.0 | 67.1 |
| **August** | 20.9 | 8.7 | 103.1 | 1.2 | 123.7 | 84.6 | 0.0 | 39.1 |
| **September** | 16.4 | 6.0 | 78.2 | 1.0 | 81.3 | 84.9 | 3.6 | 0.0 |
| **October** | 10.0 | 2.8 | 44.6 | 1.0 | 42.3 | 72.5 | 30.2 | 0.0 |
| **November** | 4.2 | 0.8 | 16.6 | 0.8 | 13.5 | 81.5 | 68.0 | 0.0 |
| **December** | -1.6 | 0.0 | 0.0 | 0.8 | 0.0 | 77.1 | 77.1 | 0.0 |
| **TOTAL** | **8.5** | **41.1** | | | **632.2** | **892.6** | **411.9** | **151.5** |
| | | | | | | **632.2** | | |
| | | | | **Water Surplus** | | **260.4** | **mm** | |

NOTES: 1) I = Heat Index
E = Evapotranspiration
2) Water budget based on Thornthwaite Method.
3) (°C) - Represents calculated mean of daily temperatures for the month.
4) Data from the Royal Botanical Gardens located at latitude 43°17'N, longitude 79°53'W.
Normal values based on data averages from 1971 to 2000.

**TABLE E-2**
**30 YEAR AVERAGE WATER BUDGET (1971-2000) - Millgrove**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONTH | MEAN TEMPERATURE (°C) | I | E (mm) | DAYLIGHT FACTOR | E ADJ. (mm) | TOTAL PRECIPITATION (mm) | SURPLUS (mm) | DEFICIT (mm) |
|---|---|---|---|---|---|---|---|---|
| **January** | -6.0 | 0.0 | 0.0 | 0.8 | 0.0 | 71.3 | 71.3 | 0.0 |
| **February** | -5.3 | 0.0 | 0.0 | 0.8 | 0.0 | 62.2 | 62.2 | 0.0 |
| **March** | -0.3 | 0.0 | 0.0 | 1.0 | 0.0 | 75.2 | 75.2 | 0.0 |
| **April** | 6.4 | 1.5 | 28.8 | 1.1 | 32.3 | 79.4 | 47.1 | 0.0 |
| **May** | 13.0 | 4.2 | 62.3 | 1.3 | 79.1 | 87.1 | 8.0 | 0.0 |
| **June** | 18.0 | 6.9 | 88.7 | 1.3 | 113.5 | 89.7 | 0.0 | 23.8 |
| **July** | 20.6 | 8.5 | 102.7 | 1.3 | 133.5 | 83.4 | 0.0 | 50.1 |
| **August** | 19.8 | 8.0 | 98.3 | 1.2 | 118.0 | 83.1 | 0.0 | 34.9 |
| **September** | 15.6 | 5.6 | 75.9 | 1.0 | 78.9 | 96.5 | 17.6 | 0.0 |
| **October** | 9.2 | 2.5 | 42.8 | 1.0 | 40.6 | 78.9 | 38.3 | 0.0 |
| **November** | 3.2 | 0.5 | 13.6 | 0.8 | 11.0 | 87.0 | 76.0 | 0.0 |
| **December** | -2.6 | 0.0 | 0.0 | 0.8 | 0.0 | 79.2 | 79.2 | 0.0 |
| **TOTAL** | **7.6** | **37.7** | | | **606.9** | **973.0** | **474.9** | **108.8** |
| | | | | | | **606.9** | | |
| | | | | **Water Surplus** | | **366.1** | **mm** | |

NOTES: 1) I = Heat Index
E = Evapotranspiration
2) Water budget based on Thornthwaite Method.
3) (°C) - Represents calculated mean of daily temperatures for the month.
4) Data from the Millgrove Climatological Station located at latitude 43°19'N, longitude 79°58'W.
Normal values based on data averages from 1971 to 2000.

**TABLE E-3**
**30 YEAR AVERAGE WATER BUDGET (1971-2000) - Hamilton Airport**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONTH | MEAN TEMPERATURE (°C) | I | E (mm) | DAYLIGHT FACTOR | E ADJ. (mm) | TOTAL PRECIPITATION (mm) | SURPLUS (mm) | DEFICIT (mm) |
|---|---|---|---|---|---|---|---|---|
| **January** | -6.0 | 0.0 | 0.0 | 0.8 | 0.0 | 65.8 | 65.8 | 0.0 |
| **February** | -5.2 | 0.0 | 0.0 | 0.8 | 0.0 | 55.3 | 55.3 | 0.0 |
| **March** | -0.3 | 0.0 | 0.0 | 1.0 | 0.0 | 74.8 | 74.8 | 0.0 |
| **April** | 6.3 | 1.4 | 28.3 | 1.1 | 31.8 | 78.0 | 46.2 | 0.0 |
| **May** | 12.9 | 4.2 | 61.8 | 1.3 | 78.4 | 75.6 | 0.0 | 2.8 |
| **June** | 18.0 | 6.9 | 88.7 | 1.3 | 113.5 | 83.9 | 0.0 | 29.6 |
| **July** | 20.8 | 8.6 | 103.8 | 1.3 | 134.9 | 86.5 | 0.0 | 48.4 |
| **August** | 19.8 | 8.0 | 98.4 | 1.2 | 118.0 | 80.6 | 0.0 | 37.4 |
| **September** | 15.5 | 5.5 | 75.4 | 1.0 | 78.4 | 82.1 | 3.7 | 0.0 |
| **October** | 9.1 | 2.5 | 42.3 | 1.0 | 40.2 | 72.5 | 32.3 | 0.0 |
| **November** | 3.3 | 0.5 | 14.0 | 0.8 | 11.4 | 78.6 | 67.2 | 0.0 |
| **December** | -2.7 | 0.0 | 0.0 | 0.8 | 0.0 | 76.6 | 76.6 | 0.0 |
| **TOTAL** | **7.6** | **37.6** | | | **606.6** | **910.3** | **422.0** | **118.3** |
| | | | | | | **606.6** | | |
| | | | | **Water Surplus** | | **303.7** | **mm** | |

NOTES: 1) I = Heat Index
E = Evapotranspiration
2) Water budget based on Thornthwaite Method.
3) (°C) - Represents calculated mean of daily temperatures for the month.
4) Data from Hamilton Airport located at latitude 43°10'N, longitude 79°56'W.
Normal values based on data averages from 1971 to 2000.

**TABLE E-4**
**HISTORICAL WATER BUDGETS SUMMARY**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| YEAR | MEAN TEMPERATURE (°C) | I | E ADJ. (mm) | TOTAL PRECIPITATION (mm) | SURPLUS (mm) | DEFICIT (mm) | WATER SURPLUS (mm) |
|---|---|---|---|---|---|---|---|
| **1987** | 8.5 | 40.5 | 634.7 | 1057.2 | 507.1 | 84.5 | 422.5 |
| **1988** | 7.9 | 39.8 | 622.6 | 902.4 | 471.6 | 191.8 | 279.8 |
| **1989** | 7.1 | 37.6 | 603.5 | 884.3 | 449.8 | 169.0 | 280.8 |
| **1990** | 8.4 | 37.7 | 611.2 | 1097.7 | 614.3 | 127.8 | 486.5 |
| **1991** | 8.4 | 40.8 | 634.5 | 984.7 | 495.7 | 145.6 | 350.2 |
| **1992** | 6.6 | 30.7 | 559.4 | 1213.3 | 706.9 | 53.0 | 653.9 |
| **1993** | 6.9 | 35.4 | 589.0 | 941.9 | 504.7 | 151.8 | 352.9 |
| **1994** | 7.2 | 38.5 | 614.5 | 1026.8 | 534.1 | 121.8 | 412.3 |
| **1995** | 7.7 | 39.6 | 615.6 | 1080.2 | 662.3 | 197.7 | 464.6 |
| **1996** | 7.1 | 36.8 | 591.4 | 1260.7 | 751.4 | 82.1 | 669.3 |
| **1997** | 7.2 | 34.3 | 577.9 | 976.9 | 518.9 | 120.0 | 399.0 |
| **1998** | 9.6 | 42.5 | 648.1 | 836.5 | 414.9 | 226.5 | 188.4 |
| **1999** | 9.0 | 43.2 | 648.6 | 857.5 | 414.7 | 205.8 | 208.9 |
| **2000** | 7.9 | 38.8 | 624.6 | 1041.7 | 507.0 | 89.9 | 417.1 |
| **2001** | 8.9 | 41.7 | 638.0 | 886.5 | 449.3 | 200.8 | 248.5 |
| **2002** | 8.9 | 41.4 | 628.9 | 858.8 | 451.3 | 221.4 | 229.9 |
| **2003** | 7.3 | 37.7 | 602.7 | 1016.0 | 584.6 | 171.3 | 413.3 |
| **2004** | 7.8 | 38.5 | 617.0 | 942.0 | 469.8 | 144.8 | 325.0 |
| **2005** | 8.7 | 44.6 | 653.2 | 900.3 | 421.7 | 174.6 | 247.1 |
| **2006** | 9.7 | 42.0 | 647.9 | 1046.9 | 547.0 | 148.0 | 399.0 |
| **2007** | 8.7 | 43.0 | 642.3 | 716.2 | 375.6 | 301.7 | 73.9 |
| **2008** | 8.2 | 38.8 | 615.1 | 1013.5 | 456.7 | 58.3 | 398.4 |
| **2009** | 7.9 | 37.4 | 609.2 | 865.7 | 382.6 | 126.1 | 256.5 |
| **2010** | 9.3 | 44.7 | 668.1 | 914.9 | 372.8 | 125.9 | 246.8 |
| **2011** | 8.9 | 43.5 | 648.9 | 899.8 | 515.6 | 264.7 | 250.9 |
| **2012** | 8.2 | 45.9 | 678.1 | 586.3 | 228.9 | 320.7 | -91.8 |
| **2013** | 8.3 | 39.2 | 618.1 | 832.3 | 396.7 | 182.4 | 214.2 |
| **2014** | 7.1 | 39.2 | 618.1 | 739.7 | 396.7 | 182.4 | 121.6 |
| **2015** | 8.5 | 43.7 | 651.3 | 698.0 | 271.9 | 225.2 | 46.7 |
| **2016** | 9.9 | 45.8 | 665.4 | 716.6 | 371.4 | 320.2 | 51.2 |
| **2017** | 9.6 | 42.7 | 642.5 | 1045.4 | 589.1 | 186.2 | 402.9 |
| **2018** | 9.0 | 41.6 | 629.0 | 797.0 | 422.9 | 254.9 | 168.0 |
| **2019** | 7.5 | 38.2 | 601.5 | 1087.0 | 574.1 | 88.6 | 485.5 |
| **2020** | 8.9 | 40.9 | 631.4 | 797.1 | 457.6 | 291.9 | 165.7 |
| **2021** | 9.1 | 43.0 | 649.0 | 937.8 | 450.0 | 161.2 | 288.8 |

NOTES: 1) I = Heat Index
E = Evapotranspiration
2) Water budget summary based on Thornthwaite Method applied to monthly average/totals for each year.
3) (°C) - Represents calculated mean of daily temperatures for the month.
4) 1987 - 2004 data from the Millgrove Climatological Station located at latitude 43°19'N, longitude 79°58'W. longitude 79°54'W
5) 2005 - 2018 data from the Royal Botanical Gardens Climatological Station located at latitude 43°17'N, longitude 79°54'W.
6) 2019 to present data from Hamilton Airport located at latitude 43°10'N, longitude 79°56'W.

**TABLE E-5**
**2021 WATER BUDGET**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONTH | MEAN TEMPERATURE (°C) | I | E (mm) | DAYLIGHT FACTOR | E ADJ. (mm) | TOTAL PRECIPITATION (mm) | SURPLUS (mm) | DEFICIT (mm) |
|---|---|---|---|---|---|---|---|---|
| **January** | -3.0 | 0.0 | 0.0 | 0.8 | 0.0 | 38.0 | 38.0 | 0.0 |
| **February** | -6.6 | 0.0 | 0.0 | 0.8 | 0.0 | 54.8 | 54.8 | 0.0 |
| **March** | 3.5 | 0.6 | 12.8 | 1.0 | 13.1 | 38.2 | 25.1 | 0.0 |
| **April** | 7.2 | 1.7 | 29.6 | 1.1 | 33.1 | 69.0 | 35.9 | 0.0 |
| **May** | 12.6 | 4.0 | 56.8 | 1.3 | 72.1 | 34.8 | 0.0 | 37.3 |
| **June** | 20.2 | 8.2 | 98.4 | 1.3 | 125.9 | 98.8 | 0.0 | 27.1 |
| **July** | 19.9 | 8.1 | 96.7 | 1.3 | 125.7 | 99.1 | 0.0 | 26.6 |
| **August** | 22.1 | 9.4 | 109.3 | 1.2 | 131.1 | 60.9 | 0.0 | 70.2 |
| **September** | 16.6 | 6.1 | 78.3 | 1.0 | 81.4 | 183.8 | 102.4 | 0.0 |
| **October** | 13.0 | 4.2 | 58.9 | 1.0 | 55.9 | 155.2 | 99.3 | 0.0 |
| **November** | 3.0 | 0.5 | 10.7 | 0.8 | 8.6 | 41.4 | 32.8 | 0.0 |
| **December** | 0.9 | 0.1 | 2.6 | 0.8 | 2.0 | 63.8 | 61.8 | 0.0 |
| **TOTAL** | **9.1** | **43.0** | | | **649.0** | **937.8** | **450.0** | **161.2** |
| | | | | | | **649.0** | | |
| | | | | **Water Surplus** | | **288.8** | **mm** | |

NOTES: 1) I = Heat Index
E = Evapotranspiration
2) Water budget based on Thornthwaite Method.
3) (°C) - Represents calculated mean of daily temperatures for the month.
4) Data from Hamilton Airport located at latitude 43°10'N, longitude 79°56'W.

# APPENDIX

# F COMBUSTIBLE GAS

**TABLE F-1**
**COMBUSTIBLE GAS MEASUREMENTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR LOCATION | Jan 97 | Mar 98 | Feb 99 | Jan 00 | Dec 00 | Dec 01 | Dec 02 | Dec 03 | Feb 04 | Mar 04 | Apr 04 | Dec 04 | Dec 05 | Feb 06 | Sep 07 | Mar 08 | Sep 09 | Jan 10 | Sep 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MH 23** | 0.5 | 1.0 | 1.0 | 3.8 | 1.0 | 1.3 | 1.0 | 1.0 | 1.0 | 1.2 | 1.4 | 1.3 | 1.1 | 1.0 | 28.5 | 26.4 | | 1.2 | 4.4 |
| **22-III** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **24-III** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **25-I** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **28-I** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **29-I** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **30-I** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **31-I** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **32-III** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **36-I** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **37-I** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **38-I** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.0 | | | |
| **39-I** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| **GP1** | - | - | - | - | - | - | - | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **GP2** | - | - | - | - | - | - | - | 0.0 | 0.2 | 0.4 | 0.3 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **GP3** | - | - | - | - | - | - | - | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **GP4** | - | - | - | - | - | - | - | 0.0 | 0.2 | 0.1 | 0.1 | 0.3 | 0.2 | 0.0 | 5 | 3.2 | 0.0 | 0.0 | 0.0 |
| **GP5** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 0.0 | 0.0 | 0.0 | 0.0 |

| MONITOR LOCATION | Jan 11 | Sep 11 | Feb 12 | Sep 12 | Feb 13 | Sep 13 | Feb 14 | Sep 14 | Feb 15 | Sep 15 | Sep 16 | Dec 16 | Feb 17 | Sep 17 | Jan 18 | Jan 19 | Sep 19 | Feb 20 | Sep 20 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **MH 23** | 0.0 | 0.5 | 0.1 | 0.1 | 0.2 | 0.0 | 0.8 | 2.0 | 0.1 | 0.4 | 18.0 | 0.2 | 0.0 | 0.0 | 0.2 | 0.3 | 6 | 1.0 | 1.2 |
| **22-III** | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **24-III** | 0.0 | 0.0 | 0.0 | 74.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **25-I** | - | - | - | - | 6.0 | 74.0 | 0.0 | 59.5 | 0.0 | 18.5 | 0.0 | 0.0 | 1.0 | 12 | 0.0 | 0.0 | 32 | 0.0 | 61 |
| **28-I** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **29-I** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **30-I** | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.3 | | 0.0 | 0.8 | 0.0 | 0.3 | 0.1 | 0.0 | 0.0 | 0.0 |
| **31-I** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.1 | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| **32-III** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **36-I** | - | - | 59.5 | 72 | - | 73 | 68.5 | 67.5 | 47 | 51 | 69 | 71 | 60 | 25 | 45 | - | 57 | 55 | 61 |
| **37-I** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 32 | 50 | 50 | 55 |
| **38-I** | | | | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **39-I** | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | 25 | 56 | 59 |
| **GP1** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **GP2** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 2.3 | 0.0 |
| **GP3** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **GP4** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| **GP5** | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |

NOTES: 1) "-" - Indicates monitor was not installed at the time of monitoring.
Blank indicates that no measurement was obtained from existing monitor.
2) Combustible gas values presented as % gas by volume in air.

**TABLE F-1**
**COMBUSTIBLE GAS MEASUREMENTS**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR LOCATION | Feb 21 | Sept 21 |
|---|---|---|
| **MH 23** | 1.0 | 0.0 |
| **22-III** | 0.0 | 0.0 |
| **24-III** | 0.0 | 0.0 |
| **25-I** | 0.0 | 0.0 |
| **28-I** | 0.0 | 0.0 |
| **29-I** | 0.0 | 0.0 |
| **30-I** | 0.0 | 0.0 |
| **31-I** | 0.0 | 0.0 |
| **32-III** | 0.0 | 0.0 |
| **36-I** | 55.0 | 25.0 |
| **37-I** | 50.0 | 25.0 |
| **38-I** | 0.0 | 0.0 |
| **39-I** | 56.0 | 32.0 |
| **GP1** | 0.0 | 0.0 |
| **GP2** | 2.3 | 0.0 |
| **GP3** | 0.0 | 0.0 |
| **GP4** | 0.0 | 0.0 |
| **GP5** | 0.0 | 0.2 |

NOTES: 1) "-" - Indicates monitor was not installed at the time of monitoring.
Blank indicates that no measurement was obtained from existing monitor.
2) Combustible gas values presented as % gas by volume in air.

**TABLE F-2**
**COMBUSTIBLE GAS MEASUREMENTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | RELATIVE DEPTH | Feb-00 | Apr-00 | Aug-00 | Oct-00 | Feb-01 | May-01 | Aug-01 | Nov-01 | Feb-02 | May-02 | Aug-02 | Nov-02 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW 5 | Deep | 0 | 0 | 0 | 0 | 530 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 6A | Deep | 0 | **46,640** | 530 | 0 | 1,590 | 530 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 6B | Shallow | **80,000** | **130,000** | **420,000** | **280,000** | **260,000** | **160,000** | **220,000** | **110,000** | **120,000** | **250,000** | **51,940** | 4,770 |
| MW 7A | Deep | 1,590 | **40,000** | 265 | 0 | 1,060 | 1,060 | 0 | 0 | 8,320 | 1,060 | 0 | 0 |
| MW 7B | Shallow | **60,000** | **60,000** | 0 | 0 | **240,000** | 9,540 | 0 | **37,100** | **290,000** | **11,130** | 0 | **120,000** |
| MW 8A | Deep | **360,000** | **480,000** | **400,000** | **420,000** | **300,000** | **380,000** | **240,000** | **260,000** | **80,000** | 4,770 | 4,770 | 5,830 |
| MW 8B | Shallow | **480,000** | **590,000** | **440,000** | **600,000** | **280,000** | **380,000** | **520,000** | **680,000** | **490,000** | **160,000** | **360,000** | **740,000** |
| MW 9 | Shallow | 4,770 | **580,000** | **100,000** | **180,000** | 1,060 | 6,360 | **40,000** | **200,000** | **340,000** | **220,000** | **50,000** | **150,000** |
| MW 10A | Deep | 0 | 0 | 0 | 0 | 0 | 1,060 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 10B | Shallow | 0 | 1,060 | 1,060 | 0 | 530 | 1,060 | 0 | 0 | 1,060 | 0 | 0 | 0 |
| MW 11 | Shallow | 4,240 | **28,620** | 3,180 | 0 | 4,240 | 0 | 0 | 0 | 0 | 530 | 1,060 | 3,180 |
| MW 12A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 12B | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 530 | 0 | 0 |
| GP 99-03 | Shallow | 0 (Feb 28) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-1 | Shallow | 0 (Feb 28) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,060 | 0 | 0 | 530 |
| GP 00-2 | Shallow | 6360 (Feb 28) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 530 | 0 | 0 | 0 |
| GP 00-3 | Shallow | n.a. | 530 | n.m. | 0 | 2,120 | 2,650 | 0 | 9,540 | 4,240 | 530 | 5,830 | 7,950 |
| GP 00-04 | Shallow | n.a. | 530 | 0 | 0 | 2,120 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-05 | Shallow | n.a. | 1,060 | 0 | 530 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-06 | Shallow | n.a. | 1,590 | 0 | 530 | 2,120 | 1,060 | 530 | 0 | 0 | 0 | 0 | 0 |
| GP 00-07 | Shallow | n.a. | 1,060 | 0 | 1,060 | 1,060 | 0 | 0 | 0 | 0 | 0 | 0 | 3,180 |
| GP 00-08 | Shallow | n.a. | 530 | 0 | n.m. | 0 | 1,060 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-09 | Shallow | n.a. | 1,060 | 0 | 795 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-10 | Shallow | n.m. | 0 | 0 | 0 | 1,060 | 1,060 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 08-1 | Shallow | - | - | - | - | - | - | - | - | - | - | - | - |

Notes:

1) Combustible gas results in parts per million (ppm).
2) Criteria based on Procedure D-4-1:"Guideline for Assessing Methane Hazards from Landfill Sites" (November 1997)
3) Development of any structure on a landfill should not be approved unless it can be demonstrate that methane will not be present in concentrations in excess of 20 % of the LEL.
4) Methane mixed at 5 % to 15 % with air forms an explosive mixture. The lower explosive limit (LEL) of Methane is 5.3 % (by volume) 5.3 % Methane (by volume) = 53,000 ppm Methane, and 20% of the LEL = 10,600 ppm.
5) Data presented in this table were provided by Golder Associates.

**Criteria = 10,600 parts per million**

**28620** = Bolded values exceed the given criteria.

n.a. - not available (installed April 2000)
n.m. - not measured

***Instrument Used*** Landtec Gem 2000 Landfill Gas Monitor used for measurements

**TABLE F-2**
**COMBUSTIBLE GAS MEASUREMENTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | RELATIVE DEPTH | Feb-03 | Apr-03 | Aug-03 | Oct-03 | Feb-04 | May-04 | Aug-04 | Nov-04 | May-05 | Aug-05 | Nov-05 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW 5 | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 6A | Deep | 0 | 530 | 0 | 0 | 0 | 0 | 0 | 0 | **13,780** | 0 | 0 |
| MW 6B | Shallow | **190,000** | **80,000** | **80,000** | **40,280** | **340,000** | **1,000,000** | 6,890 | **36,040** | **540,000** | **660,000** | **220,000** |
| MW 7A | Deep | 1,060 | 7,950 | 1,060 | 0 | **27,560** | 1,060 | 0 | 0 | 5,830 | 0 | 0 |
| MW 7B | Shallow | **200,000** | **50,000** | **13,780** | **35,510** | **360,000** | **24,910** | 0 | **29,680** | **270,000** | 0 | **210,000** |
| MW 8A | Deep | **420,000** | **150,000** | **23,850** | **870,000** | **53,000** | 3,710 | 3,180 | **580,000** | **28,090** | 7,420 | 3,180 |
| MW 8B | Shallow | **560,000** | **600,000** | **280,000** | **440,000** | **240,000** | **820,000** | **110,000** | **24,380** | **300,000** | **53,000** | **18,020** |
| MW 9 | Shallow | **430,000** | **270,000** | **100,000** | **140,000** | 2,650 | **1,000,000** | **180,000** | **260,000** | **600,000** | **280,000** | **470,000** |
| MW 10A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 10B | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 1,060 | **34,450** | 0 | 0 | 2,650 |
| MW 11 | Shallow | 10,600 | 6,890 | 0 | 0 | **13,250** | 0 | 0 | 0 | 4,240 | 530 | 0 |
| MW 12A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 12B | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 99-03 | Shallow | 0 | 0 | 0 | 0 | 0 | 530 | 0 | 0 | 0 | 0 | 0 |
| GP 00-1 | Shallow | 530 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-2 | Shallow | 530 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-3 | Shallow | 5,300 | 530 | 0 | 0 | 1,060 | 0 | 0 | 530 | 0 | 0 | 0 |
| GP 00-04 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-05 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-06 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-07 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-08 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-09 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-10 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 08-1 | Shallow | - | - | - | - | - | - | - | - | - | - | - |

Notes:

1) Combustible gas results in parts per million (ppm).
2) Criteria based on Procedure D-4-1:"Guideline for Assessing Methane Hazards from Landfill Sites" (November 1997)
3) Development of any structure on a landfill should not be approved unless it can be demonstrate that methane will not be present in concentrations in excess of 20 % of the LEL.
4) Methane mixed at 5 % to 15 % with air forms an explosive mixture. The lower explosive limit (LEL) of Methane is 5.3 % (by volume) 5.3 % Methane (by volume) = 53,000 ppm Methane, and 20% of the LEL = 10,600 ppm.
5) Data presented in this table were provided by Golder Associates.

**Criteria = 10,600 parts per million**

**28620** = Bolded values exceed the given criteria.

n.a. - not available (installed April 2000)

n.m. - not measured

***Instrument Used*** Landtec Gem 2000 Landfill Gas Monitor used for measurements

**TABLE F-2**
**COMBUSTIBLE GAS MEASUREMENTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | RELATIVE DEPTH | Feb-06 | May-06 | Aug-06 | Nov-06 | Feb-07 | Apr-07 | Aug-07 | Nov-07 | Feb-08 | Apr-08 | Aug-08 | Nov-08 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW 5 | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 6A | Deep | 2,650 | 0 | 0 | 0 | 530 | 0 | 0 | n.m. | **40,280** | 5,830 | 0 | 0 |
| MW 6B | Shallow | **270,000** | **150,000** | **50,000** | **200,000** | **53,000** | **300,000** | **310,000** | **170,000** | **420,000** | **640,000** | **330,000** | **336,000** |
| MW 7A | Deep | 5,830 | 530 | 0 | 0 | 2,120 | 0 | 0 | n.m. | **22,790** | 5,300 | 530 | 0 |
| MW 7B | Shallow | **80,000** | 0 | 0 | 0 | **170,000** | 0 | 0 | **50,000** | **250,000** | **>53,000** | 530 | 0 |
| MW 8A | Deep | 7,420 | 2,650 | 0 | 2,120 | **32,860** | **40,280** | 9,540 | 4,770 | 530 | 2,650 | 2,120 | **35,000** |
| MW 8B | Shallow | **53,000** | **23,850** | 0 | 0 | **33,920** | **53,000** | **31,800** | 0 | **480,000** | **130,000** | **390,000** | **155,000** |
| MW 9 | Shallow | **200,000** | **400,000** | **400,000** | 0 | **53,000** | **30,210** | **16,430** | 2,120 | **210,000** | **200,000** | **470,000** | 0 |
| MW 10A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n.m. | **11,130** | 0 | 0 | 0 |
| MW 10B | Shallow | 530 | **24,380** | 530 | **53,000** | **80,000** | **53,000** | 0 | 0 | 3,180 | **39,750** | **53,000** | **81,000** |
| MW 11 | Shallow | 3,180 | 2,120 | 0 | 2,120 | 2,120 | **71,060** | 0 | n.m. | 4,240 | 4,770 | 0 | 0 |
| MW 12A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n.m. | 0 | 0 | 0 | 0 |
| MW 12B | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 99-03 | Shallow | 0 | 0 | 0 | 0 | 7,280 | 0 | 0 | 0 | n.m. | n.m. | n.m. | 0 |
| GP 00-1 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-2 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-3 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-04 | Shallow | 0 | 0 | 0 | 0 | 0 (Mar 22/07) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-05 | Shallow | 0 | 0 | 0 | 0 | 0 (Mar 22/07) | 0 | 0 | 0 | n.m. | 0 | 0 | 0 |
| GP 00-06 | Shallow | 0 | 0 | 0 | 0 | 0 (Mar 22/07) | 0 | 0 | 0 | n.m. | 0 | 0 | 0 |
| GP 00-07 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | n.m. | 0 | 0 | 0 |
| GP 00-08 | Shallow | 0 | 0 | 0 | 0 | 0 (Mar 22/07) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-09 | Shallow | 0 | 0 | 0 | 0 | 0 (Mar 22/07) | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-10 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 08-1 | Shallow | - | - | - | - | - | - | - | - | n.a. | n.a. | 2650 (Sep 4) | n.m. |

Notes:

1) Combustible gas results in parts per million (ppm).
2) Criteria based on Procedure D-4-1:"Guideline for Assessing Methane Hazards from Landfill Sites" (November 1997)
3) Development of any structure on a landfill should not be approved unless it can be demonstrate that methane will not be present in concentrations in excess of 20 % of the LEL.
4) Methane mixed at 5 % to 15 % with air forms an explosive mixture. The lower explosive limit (LEL) of Methane is 5.3 % (by volume) 5.3 % Methane (by volume) = 53,000 ppm Methane, and 20% of the LEL = 10,600 ppm.
5) Data presented in this table were provided by Golder Associates.

**Criteria = 10,600 parts per million**

**28620** = Bolded values exceed the given criteria.

n.a. - not available (installed April 2000)
n.m. - not measured

***Instrument Used*** Landtec Gem 2000 Landfill Gas Monitor used for measurements

**TABLE F-2**
**COMBUSTIBLE GAS MEASUREMENTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | RELATIVE DEPTH | Feb-09 | Apr-09 | Jul-09 | Oct-09 | Feb-10 | Aug-10 | Nov-10 | Feb-11 | May-11 | Jul-11 | Oct-11 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW 5 | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 1,060 | 1,000 | 0 | 0 | 0 |
| MW 6A | Deep | 0 | **501,000** | 0 | 0 | 9,000 | 0 | nm | **25,000** | 3,000 | **20,000** | 0 |
| MW 6B | Shallow | 2,000 | 0 | **258,000** | **343,000** | **407,000** | **980,000** | **168,000** | **247,000** | **308,000** | **180,000** | **146,000** |
| MW 7A | Deep | 8,000 | 0 | 0 | 0 | 0 | **19,000** | 1,000 | **25,000** | 2,000 | 0 | 1,000 |
| MW 7B | Shallow | 8,000 | 0 | 0 | **93,000** | **165,000** | **104,000** | **234,000** | **247,000** | **30,000** | **105,000** | **74,000** |
| MW 8A | Deep | **18,000** | 2,650 | 7,000 | 5,830 | 1,000 | 10,000 | **96,000** | **17,000** | **15,000** | **17,000** | **21,000** |
| MW 8B | Shallow | **567,000** | **40,000** | **54,000** | **203,000** | **157,000** | **35,000** | **261,000** | **36,000** | **68,000** | **102,200** | **141,000** |
| MW 9 | Shallow | **19,000** | **135,000** | **105,000** | **569,000** | **21,000** | **291,000** | **417,000** | 3,000 | **122,000** | **107,000** | **492,000** |
| MW 10A | Deep | 1,060 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 | **180,000** | 0 |
| MW 10B | Shallow | **188,000** | **408,000** | **80,000** | **211,000** | **428,000** | **374,000** | **210,000** | **356,000** | **30,000** | **138,000** | **0** |
| MW 11 | Shallow | 8,000 | 1,590 | 0 | 0 | 1,000 | 0 | 1,060 | 2,000 | 0 | 100 | 0 |
| MW 12A | Deep | 1,000 | 0 | 0 | 0 | 0 | 0 | 530 | 1,000 | 0 | 1,000 | 0 |
| MW 12B | Shallow | 1,000 | 0 | 0 | 0 | 0 | 0 | 530 | 0 | 0 | 0 | 0 |
| GP 99-03 | Shallow | n.m. | n.m. | n.m. | n.m. | 0 | 0 | 530 | | | | |
| GP 00-1 | Shallow | 0 | 0 | 30 | 0 | 0 | 0 | 0 | 2,000 | 0 | 2,000 | 0 |
| GP 00-2 | Shallow | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 1,000 | 0 | 1,000 | 0 |
| GP 00-3 | Shallow | 1,000 | 0 | 20 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-04 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-05 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-06 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3,000 | 0 |
| GP 00-07 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-08 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-09 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-10 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 |
| GP 08-1 | Shallow | 1,000 | 0 | 530 | 530 | 0 | 0 | 530 | 0 | 0 | 0 | 0 |

Notes:

1) Combustible gas results in parts per million (ppm).
2) Criteria based on Procedure D-4-1:"Guideline for Assessing Methane Hazards from Landfill Sites" (November 1997)
3) Development of any structure on a landfill should not be approved unless it can be demonstrate that methane will not be present in concentrations in excess of 20 % of the LEL.
4) Methane mixed at 5 % to 15 % with air forms an explosive mixture. The lower explosive limit (LEL) of Methane is 5.3 % (by volume) 5.3 % Methane (by volume) = 53,000 ppm Methane, and 20% of the LEL = 10,600 ppm.
5) Data presented in this table were provided by Golder Associates.

**Criteria = 10,600 parts per million**

**28620** = Bolded values exceed the given criteria.

n.a. - not available (installed April 2000)
n.m. - not measured

***Instrument Used*** Landtec Gem 2000 Landfill Gas Monitor used for measurements

**TABLE F-2**
**COMBUSTIBLE GAS MEASUREMENTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | RELATIVE DEPTH | Feb-12 | May-12 | Jul-12 | Oct-12 | Feb-13 | May-13 | Jul-13 | Oct-13 | Feb-14 | May-14 | Aug-14 | Nov-14 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW 5 | Deep | 0 | 0 | 0 | 0 | 0 | 530 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 6A | Deep | 3,000 | **30,000** | **0** | 3,000 | 25,000 | **4,000** | **141,000** | 0 | **20,000** | 1,590 | 3,000 | 1,000 |
| MW 6B | Shallow | **313,000** | **494,000** | **106,000** | **223,000** | **398,000** | **627,000** | **364,000** | **216,000** | **215,000** | **618,000** | **305,000** | **374,000** |
| MW 7A | Deep | 10,000 | 2,000 | 0 | 0 | 2,650 | 530 | 0 | 0 | **27,000** | 2,650 | 2,000 | 0 |
| MW 7B | Shallow | **293,000** | 1,000 | 4,000 | **112,000** | **26,000** | 5,000 | 0 | **12,720** | **274,000** | 1,060 | 2,000 | **204,000** |
| MW 8A | Deep | 1,000 | 4,000 | 2,000 | 5,000 | 6,360 | 8,000 | 7,000 | 0 | **27,000** | 2,120 | 4,000 | 0 |
| MW 8B | Shallow | **201,000** | **222,000** | **51,000** | **239,000** | **617,000** | **93,000** | **17,000** | **56,000** | **17,000** | 0 | 2,000 | **0** |
| MW 9 | Shallow | **15,000** | **58,000** | **79,000** | **208,000** | **171,000** | **14,000** | **71,000** | **281,000** | 0 | **78,000** | **34,000** | **299,000** |
| MW 10A | Deep | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 |
| MW 10B | Shallow | **130,000** | **268,000** | **417,000** | **100,000** | **4,240** | **254,000** | **224,000** | **0** | **56,000** | **164,000** | 2,000 | **0** |
| MW 11 | Shallow | 4,000 | 1,000 | 0 | 0 | 3,710 | 530 | 0 | 0 | 6,360 | 530 | 2,000 | 0 |
| MW 12A | Deep | 0 | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 12B | Shallow | 1,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 99-03 | Shallow | nm | nm | nm | nm | nm | nm | nm | nm | 0 | 0 | 0 | |
| GP 00-1 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 |
| GP 00-2 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 |
| GP 00-3 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,000 | 0 |
| GP 00-04 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 200 | 0 |
| GP 00-05 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 |
| GP 00-06 | Shallow | 0 | 0 | 3,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 |
| GP 00-07 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-08 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-09 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-10 | Shallow | 0 | 0 | 2,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 08-1 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,000 | 0 |

Notes:

1) Combustible gas results in parts per million (ppm).
2) Criteria based on Procedure D-4-1:"Guideline for Assessing Methane Hazards from Landfill Sites" (November 1997)
3) Development of any structure on a landfill should not be approved unless it can be demonstrate that methane will not be present in concentrations in excess of 20 % of the LEL.
4) Methane mixed at 5 % to 15 % with air forms an explosive mixture. The lower explosive limit (LEL) of Methane is 5.3 % (by volume) 5.3 % Methane (by volume) = 53,000 ppm Methane, and 20% of the LEL = 10,600 ppm.
5) Data presented in this table were provided by Golder Associates.

**Criteria = 10,600 parts per million**

**28620** = Bolded values exceed the given criteria.

n.a. - not available (installed April 2000)

n.m. - not measured

***Instrument Used*** Landtec Gem 2000 Landfill Gas Monitor used for measurements

**TABLE F-2**
**COMBUSTIBLE GAS MEASUREMENTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | RELATIVE DEPTH | Mar-15 | May-15 | Oct-15 | Feb-16 | Apr-16 | Nov-16 | Mar-17 | Jun-17 | Nov-17 | Feb-18 | May-18 | Nov-18 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MW 5 | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 4,120 | 2,060 | 0 | 0 | 2,590 | 0 |
| MW 6A | Deep | **160,000** | **13,250** | **35,020** | **24,720** | **100,500** | **24,720** | 9,240 | 4,120 | **60,159** | **13,890** | 2,590 | **10,830** |
| MW 6B | Shallow | 0 | **240,000** | **188,000** | **303,160** | **566,500** | **230,500** | **431,510** | **622,750** | **659,200** | **376,040** | **644,380** | **444,680** |
| MW 7A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 7,770 | 2,060 | 0 | **57,680** | **20,600** | 0 |
| MW 7B | Shallow | **145,000** | **398,000** | **80,000** | **167,320** | **129,500** | **38,610** | 7,710 | 2,060 | **85,000** | **100,440** | **79,340** | **186,880** |
| MW 8A | Deep | **870,000** | 1,590 | **180,600** | 4,650 | 0 | 0 | 5,650 | 2,060 | 0 | 0 | 2,060 | 530 |
| MW 8B | Shallow | 0 | 0 | 0 | 2,060 | 0 | 0 | 6,180 | 2,060 | 0 | 0 | 2,060 | 530 |
| MW 9 | Shallow | **128,000** | **60,000** | **128,000** | **0** | **55,620** | **114,500** | **87,560** | **23,190** | **1,000,000** | **12,360** | **52,890** | **73,630** |
| MW 10A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 5,650 | 2,060 | **360,000** | **105,470** | **52,910** | **18,540** |
| MW 10B | Shallow | 0 | **174,000** | 0 | 0 | **89,500** | 0 | **30,370** | **30,960** | 0 | **70,040** | **109,700** | 0 |
| MW 11 | Shallow | **45,040** | 0 | 0 | 2,060 | 2,060 | 0 | 5,650 | 2,060 | 10,053 | 0 | 530 | 0 |
| MW 12A | Deep | 0 | 0 | 0 | 0 | 0 | 0 | 4,120 | 2,060 | 0 | 0 | 0 | 2,060 |
| MW 12B | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 4,120 | 2,060 | 0 | 0 | 0 | 530 |
| GP 99-03 | Shallow | | | | 0 | 0 | n.m. | | | | 0 | | **30,053** |
| GP 00-1 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 5,120 | 2,060 | 0 | 0 | 0 | 2,590 |
| GP 00-2 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 5,650 | 2,060 | 0 | 0 | 530 | 4,120 |
| GP 00-3 | Shallow | 530 | 0 | 0 | 0 | 0 | 0 | 5,650 | 2,060 | 0 | 0 | 2,060 | 0 |
| GP 00-04 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | n.m. | 2,060 | 0 | n.m. | n.m. | n.m. |
| GP 00-05 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | n.m. | 2,060 | 0 | 0 | 2,590 | 530 |
| GP 00-06 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | n.m. | 2,060 | 0 | 0 | 2,060 | 530 |
| GP 00-07 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 3,590 | 2,060 | 10,053 | 0 | 4,120 | 0 |
| GP 00-08 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 3,590 | 2,060 | n.m. | 0 | 2,060 | 2,060 |
| GP 00-09 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 4,120 | 2,060 | 0 | n.m. | n.m. | n.m. |
| GP 00-10 | Shallow | 0 | 0 | 0 | 0 | 1,530 | 0 | 4,120 | 2,060 | 0 | 0 | 1,530 | 0 |
| GP 08-1 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 5,650 | 2,060 | 10,053 | 0 | 0 | 530 |

Notes:

1) Combustible gas results in parts per million (ppm).
2) Criteria based on Procedure D-4-1:"Guideline for Assessing Methane Hazards from Landfill Sites" (November 1997)
3) Development of any structure on a landfill should not be approved unless it can be demonstrate that methane will not be present in concentrations in excess of 20 % of the LEL.
4) Methane mixed at 5 % to 15 % with air forms an explosive mixture. The lower explosive limit (LEL) of Methane is 5.3 % (by volume) 5.3 % Methane (by volume) = 53,000 ppm Methane, and 20% of the LEL = 10,600 ppm.
5) Data presented in this table were provided by Golder Associates.

**Criteria = 10,600 parts per million**

**28620** = Bolded values exceed the given criteria.

n.a. - not available (installed April 2000)
n.m. - not measured

***Instrument Used*** Landtec Gem 2000 Landfill Gas Monitor

**TABLE F-2**
**COMBUSTIBLE GAS MEASUREMENTS - Meridian Brick Property**
**CLOSED BURLINGTON NORTH SERVICE ROAD LANDFILL SITE - 2021 MONITORING PROGRAM**

| MONITOR | RELATIVE DEPTH | Feb-19 | Apr-19 | Nov/Dec 19 | Mar-20 | Jun-20 | Nov-20 | Mar-21 | May-21 | Nov-21 |
|---|---|---|---|---|---|---|---|---|---|---|
| MW 5 | Deep | 120,000 | 120,000 | 0 | 0 | 0 | 0 | 0 | 0 | 4,003 |
| MW 6A | Deep | 90,000 | 70,000 | **0** | 530 | 1,530 | **530** | 4,002 | 1 | 1,001 |
| MW 6B | Shallow | **680,000** | **660,000** | **1,000,000** | **619,000** | **255,000** | **220,000** | **393,040** | **494,980** | **452,450** |
| MW 7A | Deep | **200,000** | **950,000** | 0 | **33,900** | **0** | 0 | 9,009 | 5,005 | **95,090** |
| MW 7B | Shallow | **480,000** | **730,000** | **1,000,000** | **214,000** | **2,590** | **251,000** | **513,850** | **150,016** | **401,910** |
| MW 8A | Deep | 0 | 170,000 | 0 | 0 | 1,530 | 0 | 0 | 1 | 3,042 |
| MW 8B | Shallow | 0 | 150,000 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MW 9 | Shallow | **20,000** | **740,000** | **1,000,000** | **130,000** | **122,000** | **55,620** | **119,450** | **155,690** | **47,380** |
| MW 10A | Deep | **990,000** | **180,000** | **30,000** | **0** | **0** | **0** | 1,001 | 0 | 5,005 |
| MW 10B | Shallow | **680,000** | **220,000** | 0 | **0** | **0** | 0 | **98,140** | 2,002 | **268,850** |
| MW 11 | Shallow | 20,000 | 0 | 0 | 0 | 0 | 0 | 3,000 | 1,001 | 3,003 |
| MW 12A | Deep | 0 | 0 | 0 | 4,650 | 0 | 0 | 0 | 0 | 4,001 |
| MW 12B | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 4,004 | 4,000 | 0 |
| GP 99-03 | Shallow | | | 0 | | | 0 | | | |
| GP 00-1 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-2 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-3 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-04 | Shallow | 0 | 0 | 0 | n.m. | n.m. | n.m. | n.m | n.m | n.m |
| GP 00-05 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-06 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 00-07 | Shallow | 0 | 0 | 0 | n.m. | n.m. | n.m. | n.m | n.m | n.m |
| GP 00-08 | Shallow | 0 | n.m. | 0 | n.m. | n.m. | n.m. | 0 | 0 | 0 |
| GP 00-09 | Shallow | 0 | n.m. | 0 | n.m. | n.m. | n.m. | n.m | n.m | n.m |
| GP 00-10 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| GP 08-1 | Shallow | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Notes:

1) Combustible gas results in parts per million (ppm).
2) Criteria based on Procedure D-4-1:"Guideline for Assessing Methane Hazards from Landfill Sites" (November 1997)
3) Development of any structure on a landfill should not be approved unless it can be demonstrate that methane will not be present in concentrations in excess of 20 % of the LEL.
4) Methane mixed at 5 % to 15 % with air forms an explosive mixture. The lower explosive limit (LEL) of Methane is 5.3 % (by volume) 5.3 % Methane (by volume) = 53,000 ppm Methane, and 20% of the LEL = 10,600 ppm.
5) Data presented in this table were provided by Golder Associates.

**Criteria = 10,600 parts per million**

**28620** = Bolded values exceed the given criteria.

n.a. - not available (installed April 2000)
n.m. - not measured

***Instrument Used*** Landtec Gem 2000 Landfill Gas Monitor used for measurements

# APPENDIX

# G MECP CHECKLIST

# Appendix D-Monitoring and Screening Checklist
# General Information and Instructions

**General Information: The checklist is to be completed, and submitted with the Monitoring Report.**
**Instructions:** A complete checklist consists of:
(a) a completed and signed checklist, including any additional pages of information which can be attached as needed to provide further details where indicated.
(b) completed contact information for the Competent Environmental Practitioner (CEP)
(c) self-declaration that CEP(s) meet(s) the qualifications as set out below and in Section 1.2 of the Technical Guidance Document.

**Definition of Groundwater CEP:**
For groundwater, the CEP must have expertise in hydrogeology and meet one of the following:
(a) the person holds a licence, limited licence or temporary licence under the *Professional Engineers Act*; or
(b) the person holds a certificate of registration under the *Professional Geoscientists Act, 2000* and is a practicing member, temporary, member or limited member of the Association of Professional Geoscientists of Ontario. O. Reg. 66/08, s. 2..
**Definition of Surface water CEP:**
A CEP for surface water assessments is a scientist, professional engineer or professional geoscientist as described in (a) and (b) above with demonstrated experience and post-secondary education, either a diploma or degree, in hydrology, aquatic ecology, limnology, aquatic biology, physical geography with specialization in surface water, and/or water resource management.

The type of scientific work that a CEP performs must be consistent with that person's education and experience. If an individual has appropriate training and credentials in both groundwater and surface water and is responsible for both areas of expertise, the CEP may then complete and validate both sections of the checklist.

| Monitoring Report and Site Information | |
|---|---|
| **Waste Disposal Site Name** | Burlington North Service Road Landfill Site |
| **Location (e.g. street address, lot, concession)** | Part of Lot 4, Concession 2 |
| **GPS Location (taken within the property boundary at front gate/ front entry)** | 593234, 4797245 Zone 17, NAD 83 |
| **Municipality** | City of Burlington |
| **Client and/or Site Owner** | Regional Municipality of Halton |
| **Monitoring Period (Year)** | 2021 |
| This Monitoring Report is being submitted under the following: | |
| **Certificate of Approval No.:** | A210102 |
| **Director's Order No.:** | |
| **Provincial Officer's Order No.:** | |
| **Other:** | |

| | | |
|---|---|---|
| **Report Submission Frequency** | ◉ **Annual**<br>○ **Other** | |
| **The site is:** | ○ **Active**<br>○ **Inactive**<br>◉ **Closed** | |
| **If closed, specify C of A, control or authorizing document closure date:** | | N/A |
| **Has the nature of the operations at the site changed during this monitoring period?** | ○ **Yes**<br>◉ **No** | |
| **If yes, provide details:** | | |
| **Have any measurements been taken since the last reporting period that indicate landfill gas volumes have exceeded the MOE limits for subsurface or adjacent buildings? (i. e. exceeded the LEL for methane)** | ○ Yes<br>◉ No | |

## Groundwater WDS Verification:

**Based on all available information about the site and site knowledge, it is my opinion that:**

## Sampling and Monitoring Program Status:

| | | |
|---|---|---|
| **1) The monitoring program continues to effectively characterize site conditions and any groundwater discharges from the site. All monitoring wells are confirmed to be in good condition and are secure:** | (●) **Yes**<br>( ) **No** | |
| **2) All groundwater, leachate and WDS gas sampling and monitoring for the monitoring period being reported on was successfully completed as required by Certificate(s) of Approval or other relevant authorizing/control document(s):** | (●) **Yes**<br>( ) **No**<br>( ) **Not Applicable** | If no, list exceptions below or attach information. |

| **Groundwater Sampling Location** | **Description/Explanation for change (change in name or location, additions, deletions)** | **Date** |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| **3) a) Some or all groundwater, leachate and WDS gas sampling and monitoring requirements have been established or defined outside of a ministry C of A, authorizing, or control document.** | ○ **Yes**<br>◉ **No**<br>○ **Not Applicable** | |
| **b) If yes, the sampling and monitoring identified under 3(a) for the monitoring period being reported on was successfully completed in accordance with established protocols, frequencies, locations, and parameters developed as per the Technical Guidance Document:** | ○ **Yes**<br>○ **No**<br>○ **Not Applicable** | If no, list exceptions below or attach additional information. |

| **Groundwater Sampling Location** | **Description/Explanation for change (change in name or location, additions, deletions)** | **Date** |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| **4) All field work for groundwater investigations was done in accordance with standard operating procedures as established/outlined per the Technical Guidance Document (including internal/external QA/QC requirements) (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):** | ◉ **Yes**<br>○ **No** | |

## Sampling and Monitoring Program Results/WDS Conditions and Assessment:

| | | | |
|---|---|---|---|
| **5) The site has an adequate buffer, Contaminant Attenuation Zone (CAZ) and/or contingency plan in place. Design and operational measures, including the size and configuration of any CAZ, are adequate to prevent potential human health impacts and impairment of the environment.** | ◉ Yes<br>○ No | | |
| **6) The site meets compliance and assessment criteria.** | ◉ Yes<br>○ No | | |
| **7) The site continues to perform as anticipated. There have been no unusual trends/ changes in measured leachate and groundwater levels or concentrations.** | ◉ Yes<br>○ No | | |
| **1) Is one or more of the following risk reduction practices in place at the site:**<br>***(a)*** **There is minimal reliance on natural attenuation of leachate due to the presence of an effective waste liner and active leachate collection/treatment; or**<br>***(b)*** **There is a predictive monitoring program in-place (modeled indicator concentrations projected over time for key locations); or**<br>***(c)*** **The site meets the following two conditions (typically achieved after 15 years or longer of site operation):**<br>***i.*** **The site has developed stable leachate mound(s) and stable leachate plume geometry/concentrations; and**<br>***ii.*** **Seasonal and annual water levels and water quality fluctuations are well understood.** | ◉ Yes<br>○ No | **Note which practice(s):** | ☒ (a)<br>☐ (b)<br>☒ (c) |
| **9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):** | ○ Yes<br>○ No<br>◉ Not Applicable | | |

## Groundwater CEP Declaration:

**I am a licensed professional Engineer or a registered professional geoscientist in Ontario with expertise in hydrogeology, as defined in Appendix D under Instructions. Where additional expertise was needed to evaluate the site monitoring data, I have relied on individuals who I believe to be experts in the relevant discipline, who have co-signed the compliance monitoring report or monitoring program status report, and who have provided evidence to me of their credentials.**

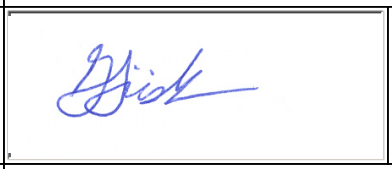
**I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended), and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.**

**If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature and will be rectified for the next monitoring/reporting period. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:**

## Recommendations:

**Based on my technical review of the monitoring results for the waste disposal site:**

| | |
|---|---|
| ◉ **No changes to the monitoring program are recommended** | |
| ○ **The following change(s) to the monitoring program is/are recommended:** | |
| ◉ **No Changes to site design and operation are recommended** | |
| ○ **The following change(s) to the site design and operation is/ are recommended:** | |

| | | | |
|---|---|---|---|
| **Name:** | Greg R. Siiskonen, P.Eng. | | |
| **Seal:** |  | | |
| **Signature:** |  | **Date:** | 31/03/2022 |
| **CEP Contact Information:** | | | |
| **Company:** | WSP Canada Inc. | | |
| **Address:** | 55 King Street, Suite 700, St. Catharines, ON L2R 3H5 | | |
| **Telephone No.:** | (905) 687-1771 | Fax No. : | (905) 687-1773 |
| **E-mail Address:** | greg.siiskonen@wsp.com | | |
| **Co-signers for additional expertise provided:** | | | |
| **Signature:** | | **Date:** | Select Date |
| **Signature:** | | **Date:** | Select Date |

## Surface Water WDS Verification:

**Provide the name of surface water body/bodies potentially receiving the WDS effluent and the approximate distance to the waterbody (including the nearest surface water body/bodies to the site):**

| | |
|---|---|
| **Name (s)** | Falcon Creek, Indian Creek tributaries |
| **Distance(s)** | On, and adjacent to, the site |

**Based on all available information and site knowledge, it is my opinion that:**

## Sampling and Monitoring Program Status:

| | | |
|---|---|---|
| **1) The current surface water monitoring program continues to effectively characterize the surface water conditions, and includes data that relates upstream/background and downstream receiving water conditions:** | (●) Yes<br>( ) No | |
| **2) All surface water sampling for the monitoring period being reported was successfully completed in accordance with the Certificate(s) of Approval or relevant authorizing/control document(s) (if applicable):** | (●) Yes<br>( ) No<br>( ) **Not applicable (No C of A, authorizing / control document applies)** | If no, specify below or provide details in an attachment. |

| Surface Water Sampling Location | Description/Explanation for change (change in name or location, additions, deletions) | Date |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| **3) a) Some or all surface water sampling and monitoring program requirements for the monitoring period have been established outside of a ministry C of A or authorizing/control document.** | ◯ **Yes**<br>◉ **No**<br>◯ **Not Applicable** | |
| **b) If yes, all surface water sampling and monitoring identified under 3 (a) was successfully completed in accordance with the established program from the site, including sampling protocols, frequencies, locations and parameters) as developed per the Technical Guidance Document:** | ◯ **Yes**<br>◯ **No**<br>◯ **Not Applicable** | If no, specify below or provide details in an attachment. |

| Surface Water Sampling Location | Description/Explanation for change (change in name or location, additions, deletions) | Date |
|---|---|---|
| | | |
| | | |
| | | |
| | | |

| | | |
|---|---|---|
| **4) All field work for surface water investigations was done in accordance with standard operating procedures, including internal/external QA/QC requirements, as established/ outlined as per the Technical Guidance Document, MOE 2010, or as amended. (Note: A SOP can be from a published source, developed internally by the site owner's consultant, or adopted by the consultant from another organization):** | ◉ **Yes**<br>◯ **No** | |

## Sampling and Monitoring Program Results/WDS Conditions and Assessment:

| | |
|---|---|
| **5) The receiving water body meets surface water-related compliance criteria and assessment criteria: i.e., there are no exceedances of criteria, based on MOE legislation, regulations, Water Management Policies, Guidelines and Provincial Water Quality Objectives and other assessment criteria (e.g., CWQGs, APVs), as noted in Table A or Table B in the Technical Guidance Document (Section 4.6):** | ○ **Yes**<br>◉ **No** |

**If no, list parameters that exceed criteria outlined above and the amount/percentage of the exceedance as per the table below or provide details in an attachment:**

| Parameter | Compliance or Assessment Criteria or Background | Amount by which Compliance or Assessment Criteria or Background Exceeded |
|---|---|---|
| e.g. Nickel | e.g. C of A limit, PWQO, background | e.g. X% above PWQO |
| Outlined in Section 3.4.3 of report. | Outlined in Section 3.4.3 of report. | Outlined in Section 3.4.3 of report. |
| | | |
| | | |
| | | |
| **6) In my opinion, any exceedances listed in Question 5 are the result of non-WDS related influences (such as background, road salting, sampling site conditions)?** | ◉ **Yes**<br>○ **No** | Outlined in section 3.3.4 and 3.4.3 of report. Majority of exceedances are related to naturally poor water quality of shale and upstream sources. |

| | | |
|---|---|---|
| **7) All monitoring program surface water parameter concentrations fall within a stable or decreasing trend. The site is not characterized by historical ranges of concentrations above assessment and compliance criteria.** | ◉ **Yes**<br>○ **No** | |
| **8) For the monitoring program parameters, does the water quality in the groundwater zones adjacent to surface water receivers exceed assessment or compliance criteria (e.g. , PWQOs, CWQGs, or toxicity values for aquatic biota (APVs)):** | ◉ Yes<br>○ No<br>○ Not Known<br>○ Not Applicable | Outlined in section 3.3.4 of report. No remediation is required. Elevated concentrations within groundwater zones is generally naturally occurring. |
| **9) Have trigger values for contingency plans or site remedial actions been exceeded (where they exist):** | ○ **Yes**<br>○ **No**<br>◉ **Not Applicable** | |

## Surface Water CEP Declaration:

**I, the undersigned hereby declare that I am a Competent Environmental Practitioner as defined in Appendix D under Instructions, holding the necessary level of experience and education to design surface water monitoring and sampling programs, conduct appropriate surface water investigations and interpret the related data as it pertains to the site for this monitoring period.**

**I have examined the applicable Certificate of Approval and any other environmental authorizing or control documents that apply to the site. I have read and followed the Monitoring and Reporting for Waste Disposal Sites Groundwater and Surface Water Technical Guidance Document (MOE, 2010, or as amended) and associated monitoring and sampling guidance documents, as amended from time to time. I have reviewed all of the data collected for the above-referenced site for the monitoring period(s) identified in this checklist. Except as otherwise agreed with the ministry for certain parameters, all of the analytical work has been undertaken by a laboratory which is accredited for the parameters analysed to *ISO/IEC 17025:2005 (E)- General requirements for the competence of testing and calibration laboratories,* or as amended from time to time by the ministry.**

**If any exceptions or potential concerns have been noted in the questions in the checklist attached to this declaration, it is my opinion that these exceptions and concerns are minor in nature or will be rectified for future monitoring events. Where this is not the case, the circumstances concerning the exception or potential concern and my client's proposed action have been documented in writing to the Ministry of the Environment District Manager in a letter from me dated:**

## Recommendations:

**Based on my technical review of the monitoring results for the waste disposal site:**

| | |
|---|---|
| ◉ **No Changes to the monitoring program are recommended**<br><br>○ **The following change(s) to the monitoring program is/are recommended:** | |
| ◉ **No changes to the site design and operation are recommended**<br><br>○ **The following change(s) to the site design and operation is/are recommended:** | |

| | |
|---|---|
| **CEP Signature** |  |
| **Relevant Discipline** | Engineer |
| **Date:** | 31-Mar-2022 |
| **CEP Contact Information:** | Greg R. Siiskonen, P.Eng. |
| **Company:** | WSP Canada Inc. |
| **Address:** | 55 King Street, Suite 700, St. Catharines, ON  L2R 3H5 |
| **Telephone No.:** | 289-267-0821 |
| **Fax No. :** | 905-687-1773 |
| **E-mail Address:** | greg.siiskonen@wsp.com |

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