

2025 Environmental Monitoring Report

Meadowview Landfill, North Kentville, Nova Scotia

Municipality of the County of Kings
Final Report

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Executive Summary

Englobe Corp. (Englobe) was retained by Municipality of the County of Kings (Municipality), to undertake an Environmental Monitoring Program (EMP) for the Meadowview Landfill located in North Kentville, NS. The Industrial Approval Number for the Meadowview Landfill, as issued by the Nova Scotia Department of Environment and Labour in 2001 (now Department of Environment and Climate Change [NSECC]) was #2001-021092. The 2025 EMP was carried out in accordance with NRFP #24-33 (issued on July 25, 2024) and Addenda #1 (dated August 6, 2024) and #2 (dated August 12, 2024), provided by the Municipality. The scope of work is for three (3) years (started in Summer 2024) with the option to renew for an additional two (2) years. The EMP includes three main components: Groundwater Monitoring, Surface Water Monitoring, and Landfill Gas Monitoring.

Based on the results of the 2025 Meadowview Landfill EMP, Englobe makes the following conclusions:

Groundwater

Based on the groundwater elevation data measured from the site during June 2025, the groundwater flow direction was estimated to be to the south-southwest toward the Cornwallis River, with an average hydraulic gradient of 0.0161 at the time of sampling.

It should be noted that monitoring well MW31-A was not accessible during the monitoring program, due to Department of National Defence access restrictions, and will be discontinued in all future monitoring events.

The groundwater analytical results were compared to two different sets of standards including the NSECC Tier 1 Environmental Quality Standards (EQS) for Groundwater - All Land Uses (Non-potable and Coarse-Grained Soil Type), and the NSECC Tier 1 EQS for Groundwater Discharging to Surface Water (>10m).

Elevated arsenic, cobalt, iron and low pH in groundwater have been documented at concentrations exceeding or out of range of the NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) at various monitoring wells located downgradient of the site (including MW4-A, MW22-A, MW23-B and TH1). These elevated parameters satisfied the same standards at upgradient, background monitoring well locations (MW27-B, MW28-B, MW29-B and MW29-C). The elevated arsenic, cobalt, iron and low pH affecting water quality in down-gradient wells may indicate site impacts related to the landfill.

A single elevated aluminum concentration in groundwater was documented to exceed the NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) at the upgradient monitoring well located at MW27-B. Aluminum satisfied the same standards at all other monitoring well locations including all downgradient sampling stations (MW22-A, MW22-B, MW22-C, MW25-B, MW28-B and TH1).

It should be noted that the NSECC Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) for aluminum, arsenic, cobalt, iron and low pH are established for the protection of freshwater aquatic life; therefore, observed exceedances in the groundwater samples do not necessarily indicate a human health hazard.

Surface Water

The surface water analytical results are compared to the NSECC Tier 1 EQS for Surface Water.

Surface water sampling location SW20A was found dry and therefore, no sample could be collected during the 2025 EMP.

Surface water sample location SW24-1, collected from the Cornwallis River, is considered to be upstream of the Meadowview landfill waste cells and is assumed to reflect the natural background conditions. Concentrations of most surface water metals at SW24-1 satisfied the applicable Provincial standard, with the exception of total aluminum and iron, which are common in these freshwater environments. All remaining metals and general chemistry parameters in the surface water sample SW24-1 were reported at levels that satisfied the applicable standard.

Downgradient surface water sampling locations SW24-2 and SW24-3, also collected along the Cornwallis River, are considered downstream of the landfill, and would contain surface water potentially influenced by Palmer Brook and by groundwater flow from the site. The laboratory data reported elevated concentrations of total aluminum and iron for the samples collected at SW24-2 and SW24-3. All remaining metals and general chemistry parameters in surface water samples SW24-2 and SW24-3 were reported at levels that satisfied the applicable standard.

Since aluminum impacts were noted at downstream surface water sample locations SW7, SW7A and SW19-B, and at similar or lower concentrations than the upstream “background” location SW24-1, elevated aluminum concentrations are not considered to be a contaminant issue related to surface water runoff from the landfill site.

Based on the results of the 2025 EMP, downstream surface water samples along the Palmer Brook (including SW7A and to a lesser extent SW7 and SW19-B) maybe influenced by leachate impacts from the Meadowview Landfill. Conversely, downstream surface water samples along the Cornwallis River (including SW24-2 and SW24-3 are not interpreted to be influenced by leachate impacts from the Meadowview Landfill.

Again, it should be noted that the NSECC Tier 1 EQS for Surface Water for pH, aluminum, arsenic, cobalt, iron, and dissolved manganese are for the protection of freshwater aquatic life; therefore, observed exceedances in the surface water samples do not necessarily indicate a human health hazard.

Landfill Gas

Using a Landtec GEM 5000 gas monitor, all methane readings were recorded as <0.1 parts per million (ppm) except for a reading of 0.1 ppm observed at MW25-B, MW29-B, MW29-C and MW36-A located on the southwestern and northern boundary of the former landfill site. No measurements in the % Lower Explosive Limit (LEL) range for methane gas were detected using the equipment operated by Englobe. In general terms, all gas monitoring results satisfied the British Columbia Government Landfill Gas Management Regulations of <5% LEL for methane gas.

Based on the age of the Meadowview Landfill (closed in 1999), the gas monitoring screening data and the relative stability of the pH across the site, the potential risk of methane gas exposure to the residential community located east of the Meadowview landfill is interpreted to be low; however, there is the potential for dilution of landfill gases using a handheld gas meter and these ‘one-time’ sampling results should be treated with caution.

Summary

Based on the results of the 2025 EMP for the Meadowview Landfill, Englobe has made the following recommendations:

- Sampling and monitoring of the existing groundwater wells at the site should continue on an annual basis.
- Sampling and monitoring of the existing surface water locations should continue at the same locations and frequency.
- Continued evaluation of the Gas Survey sampling points should be conducted at select locations to ensure the gas monitoring data accurately represent the landfill gas conditions present in the subsurface. Since the static groundwater table is below the screened intervals at four monitoring well locations, including MW12-A, MW24-A, MW35-A and MW36-A, these wells along with select (previously installed) landfill gas vents, should also be included in the sampling program for 2026.
- Re-assess for possible repairs to the protective covers (j-plugs) for monitoring wells MW19-A and MW26-B.
- Due to damage noted by the Municipality to monitoring wells MW19-B and MW7-A in spring 2024, both monitoring wells were decommissioned in October 2025 under the supervision and guidance

of Englobe. Supporting documentation for well decommissioning will be provided under a separate cover.

This Executive Summary is a summary of the findings of the Environmental Monitoring Program Report and must be read in conjunction with the entire report. The statements made in the Executive Summary are subject to the same limitations as described in the report.

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1 Introduction

In accordance with NRFP #24-33 (issued on July 25, 2024) and Addenda #1 (dated August 6, 2024) and #2 (dated August 12, 2024), issued by the Municipality of the County of Kings (Municipality), Englobe completed the 2025 Environmental Monitoring Program (EMP) and field work for the Meadowview Landfill located in North Kentville, NS. It is our understanding that the work term for the current scope of work is for three (3) years (starting in Summer 2024) with the option to renew for an additional two (2) years. The EMP includes three main components: Groundwater Monitoring, Surface Water Monitoring, and Landfill Gas Monitoring.

This 2025 EMP report provides a brief background of the project and then details the sampling methodology and results achieved from the environmental monitoring event completed on June 17, 18 and 19, 2025. Assessment of analytical results in conjunction with project-specific Federal and Provincial standards and/or guidelines, in addition to a visual evaluation of data trends based on previous sampling data (including graphs) is provided.

1.1 Site Information

The closed Meadowview Landfill is associated with property parcels identified by Property Identification (PID) Nos. 55553085, 55553093, 55553101, 55553119, 55413207, 55047328, 55047369, 55047351 and 55049035. Additional monitoring wells and surface water sampling stations used to assess groundwater and surface water quality and landfill gas emissions adjacent to the site are located on PID Nos. 55058010 and 55047336. The site is located between Lanzy Road and Brooklyn Street, south of Aldershot and approximately 2 km northwest of Kentville, NS. The UTM coordinates for the site gates to the Landfill are Zone 20T, 4993696N, 380116E.

Analytical results were compared to the most up-to-date online versions of the following:

- Groundwater analytical data are compared to Table 4B - Nova Scotia Environment and Climate Change (NSECC) *Tier 1 Environmental Quality Standards* (EQS) for Groundwater and all land uses, non-potable, and coarse-grained soil type.
- Surface water analytical data are compared to Table 3 - NSECC *Tier 1 EQS* for Surface Water and Groundwater Discharging to Surface Water.
- Landfill gas monitoring data have been compared to the British Columbia Government Landfill Gas Management Regulations and the proposed Federal Surface Methane Concentration Limits.

1.2 Background and Recent Communications

The Meadowview Landfill (NSECC Approval No. 2001-021092) was initially opened and operated by the Town of Kentville in the late 1960s. The Municipality then took over operations of the landfill until its closure on June 30, 1999. Once closed, the Municipality had reportedly implemented a Closure Plan which included recommendations and specifications outlined in the 1995 Site Closure Report, completed previously by Porter Dillon.

Historically, annual groundwater, surface water monitoring, and fish habitat surveys have been conducted at the Meadowview Landfill by ABL Environmental (2011 - 2012), WSP (2013 - 2015) and Stantec (2017). Stantec continued to monitor groundwater and surface water conditions between 2018

and 2020 but recommended that fish habitat surveys not be carried forward since no negative impacts on fish habitat or benthic invertebrates were correlated to the site (Stantec 2017 Monitoring Report). No groundwater or surface water monitoring occurred at the site from 2021 - 2023.

Communications between the Municipality and Englobe in 2024 indicate that:

- The relocation of three surface water sampling locations, including SW24-1, SW24-2 and SW24-3, was found acceptable by the Municipality.

Further communications between the Municipality and Englobe in 2025 indicate that:

- Access was not granted to groundwater monitoring well at MW31-A by the Department of National Defence (DND) in 2024. Due to the difficulty in obtaining permission from DND to access the well, Englobe proposed that the monitoring well at MW31-A be removed from future EMPs and replaced with MW20-A, which was found acceptable by the Municipality.
- Sampling of monitoring well MW-21C was added to the 2025 EMP to confirm site conditions in the area downgradient of MW-4A.

1.3 Purpose and Scope

Based on the NRFP and the recommendations in the 2024 EMP Report, groundwater elevations were measured at twenty-seven (27) groundwater monitoring well locations, sixteen (16) groundwater samples (including one (1) field duplicate) and eight (8) surface water samples (including one (1) field duplicate) were collected for laboratory analysis in 2025. Additionally, a total of twenty-seven (27) groundwater monitoring wells were included in the landfill gas monitoring program in 2025. A property & Surface Water Monitoring Plan for the Meadowview Landfill Facility site is provided following the text of this report in Figure 2. Table 1-1 below, summarizes the current analytical program conducted at the Meadowview Landfill Facility:

Table 1-1 - Meadowview Landfill Facility Sampling Locations

Monitoring Media	Location IDs	Chemical Parameters Monitored
Groundwater	MW4-A, MW20-A, MW21-C, MW22-A, MW22-B, MW22-C, MW23-A, MW23-B, MW23-C, MW25-B, MW27-B, MW28-B, MW29-B, MW29-C, TH1 and Field Duplicate.	Standard water general chemistry analysis and metals.
Surface Water	SW19B, SW7, SW7A, SW20A (dry), SW24-1, SW24-2, SW24-3 and Field Duplicate.	Standard water general chemistry analysis and metals.
Gas	MW4-A, MW4-C, MW12-A, MW19-A, MW20-A, MW20-B, MW21-C, MW22-A, MW22-B, MW22-C, MW23-A, MW23-B, MW23-C, MW24-A, MW24-B, MW25-B, MW26-B, MW27-B, MW27-C, MW28-B, MW29-B, MW29-C, MW32-A, MW35-A, MW36-A, TH1 and TH2.	Methane, Oxygen and Carbon Dioxide.

Based on the correspondence between the Municipality and NSECC to date, the annual environmental monitoring program at the Meadowview Landfill Facility appears to be completed for due diligence purposes only.

2 Site Description

2.1 Topography and Drainage

Topographical contours retrieved from the Access Nova Scotia website (Nova Scotia Topographic Database, 2006) show that the greatest elevation is 40 metres above sea level (masl) at the northern most location on-site near Brook Street. The lowest elevation is 4 metres above sea level (masl) near the Cornwallis River (south of the closed landfill). Topography at the site generally slopes down towards the south to southeast (Figure 1: Regional Location Plan following the text of this report).

Based on the topography, surface water run-off and shallow groundwater originating at the Meadowview site are expected to discharge into Palmer Brook and subsequently drain into the Cornwallis River to the south, and local drainage ditches along Brooklyn Street (Figure 2: Property & Surface Water Monitoring Plan). Although the Cornwallis River discharges into the saltwater of the tidally influenced Minas Basin approximately 25 km to the east, for the purposes of this report, both Palmer Brook and the Cornwallis River are both considered to be freshwater receptors.

2.2 Geological and Hydrogeological Conditions

Based on the available surficial geology mapping (NSDNR Map 92-3, 1992), overburden deposits in the sampling area consist of gravel, sand and silt, diamicton layers which are poorly to well bedded with horizontal to angular beds from the Quaternary Period (Wisconsinan Stage). The topography generally includes steep sided mounds or hummocks, pitted terraces on valley sides (kame terraces) and sinuous steep sided ridges (eskers) originating from streams of glacial meltwater.

Based on the available bedrock geology mapping for the area (NSDNR Map 2000-003, 2000), the geological maps indicate that the site is underlain by the Fundy Group, specifically, the Wolfville Formation, which consists of fluvial sandstones and conglomerates, aeolian sandstone and minor deltaic-lacustrine deposits.

3 Environmental Monitoring Program Methodology

The onsite field sampling for the 2025 EMP was completed by Englobe staff at the site on June 17, 18 and 19, 2025.

3.1 Groundwater Monitoring

Field parameters including pH, conductivity, dissolved oxygen, and temperature were measured and recorded at each groundwater monitoring location prior to sampling. Sample observations for colour, clarity, odour, and sheen were collected at all locations where all samples were obtained. Measurements including static water level, well depth, stick up height, and well diameter were taken at all groundwater monitoring wells. Field Sampling Records are presented in Appendix C.

At each groundwater monitoring well location, the static groundwater level was measured using a *Solinst* water level indicator, prior to purging a total of three well volumes. Monitoring wells were sampled using HDPE (high-density polyethylene) tubing and foot valves. Metals samples collected from groundwater monitoring wells were field filtered using disposable 0.45-micron field filters and analyzed for dissolved metals.

A new pair of nitrile gloves was worn at each sampling location. Collected samples were taken in laboratory-supplied containers and preserved on-site, where necessary. All samples were stored in coolers on ice prior to their submission at the ALS Canada Ltd (ALS) in Dartmouth, NS.

All groundwater wells were found to be in good condition with the exception of MW19-A, MW22-B, MW23-A and MW26-B. Damage to the j-plug well caps were documented at MW19-A and MW26-B, while active wasp/ant infestations were observed at MW4-C, MW20-B, MW22-B and MW23-A.

3.2 Surface Water Monitoring

Field parameters including pH, conductivity, dissolved oxygen, and temperature were measured and recorded at each surface water monitoring station prior to water sampling. Sample observations for colour, clarity, odour, and sheen were collected at all surface water locations where all samples were obtained. Physical stream data for depth, width and flow velocity were recorded, where safe to do so.

At each surface water station, samples were collected by immersing the container at least 15 centimetres below the water surface and pointing the container upstream. Unfiltered surface water samples were collected for total metals analysis, except for zinc and manganese which require dissolved analysis as per the NSE Tier I standards (referencing CCME guidelines). Stream flow was measured using a portable stream flow water meter. Where safe and sufficient stream depth allowed, water clarity was measured by lowering a secchi disk into the stream, until the disk was no longer visible. Field Sampling Records are presented in Appendix C.

A new pair of nitrile gloves was worn at each sampling location. Collected samples were taken in laboratory-supplied containers and preserved on-site, where necessary. All samples were stored in coolers on ice prior to their submission at the ALS Canada Ltd. (ALS) in Dartmouth, NS.

New surface water locations during the 2024 EMP were identified as SW24-1, SW24-2 and SW24-3; however, physical stream data could not be recorded at SW24-2 due to safety concerns regarding the depth and flow rate of the Cornwallis River. Conversely, in-situ physical stream measurements could not be recorded at SW7, SW7A and SW19-B due to insufficient flow and shallow stream depths.

Surface water sampling locations SW19B and SW7A had an abundance of iron precipitate noted to be present while sampling the water of Palmer Brook. Every attempt was made to avoid the precipitate during sampling of these locations.

Finally, SW20A was dry during the 2025 sampling event.

3.3 Landfill Gas Monitoring

Landfill gas monitoring was completed using a handheld Landfill Gas Monitor (Landtec GEM 5000) to measure gas readings from all monitoring wells onsite. When arriving to a monitoring well, a new pair of nitrile gloves were worn at each sampling location. The cap and/or j-plug were removed with care taken not to dilute gas concentrations present at each well (i.e. no ventilation of the well). The gas probe was then inserted into the PVC pipe and extended downward above the level of groundwater. The probe purged air from the well for one minute before readings were taken and recorded on the field observation sheet in Appendix C. It is understood that although this sampling methodology is followed within the industry for initial screening of a site, the potential for dilution of landfill gases is high.

Note that since the Meadowview Landfill is closed with no permanent structures or workers located at the site, there are currently no provincial or federal criteria in place for landfill gases, including methane; however new regulations proposed in June 2024 by the Government of Canada (*Regulations Respecting the Reduction in the Release of Methane (Waste Sector)*), will require certain landfills to control and reduce methane emissions. It is anticipated that monitoring and compliance requirements would not come into effect until 2027 and 2033. Since there are no provincial or federal criteria established in NS, the BC regulations have been applied. In addition, the 1995 Site Closure Report and the Industrial Approval (Approval No. 2001-021092) do not include any limits on gas emissions from the landfill.

Landfill gas monitoring data continue to be compared to the British Columbia Government Landfill Gas Management Regulations and the proposed Federal Surface Methane Concentration Limits.

3.4 Analytical Laboratory Accreditation

Groundwater and surface water samples collected during the 2025 EMP were submitted to ALS for chemical analysis of those parameters outlined in Table 1-1 (see Page 9).

ALS Canada laboratories are accredited by the Canadian Association for Laboratory Accreditation (CALA) to the ISO 17025 standard. External audits are completed at a frequency determined by CALA while internal audits are also conducted of each laboratory on an internal schedule. The ALS Dartmouth laboratory is approved as a water testing laboratory by Nova Scotia Environment and Climate Change (NSECC), and no further permits are required for their operations.

4 Environmental Monitoring Results

4.1 Groundwater Quality Results

4.1.1 Assessment of Groundwater Configuration and Flow Direction

In general, the static groundwater table elevations range between 24.35 masl (MW28-B) and 6.89 masl (MW25-B). Analysis of the groundwater elevation data during this monitoring event indicates a groundwater flow direction towards the south-southwest, with an average hydraulic gradient of 0.0161. Equipotential lines indicating groundwater elevations and the flow direction at the site is presented on Figure 3, a copy of which is appended to this report.

Groundwater elevations measured at nested wells sets (MW22-A, MW22-B and MW22-C, MW23-A, MW23-B and MW23-C, MW27-B and MW27-C and MW29-B and MW29-C) indicate that the vertical gradient is both positive and negative in certain areas: flow is upward at MW27, slightly upward at MW24 and downward at MW22, MW23 and MW29.

Quantitative values of the vertical hydraulic gradient are as follows:

- The hydraulic gradient at set MW22-A, MW22-B and MW22-C is - 0.142;
- The hydraulic gradient at set MW23-A, MW23-B and MW23-C is - 0.068;
- The hydraulic gradient at set MW24-A and MW24-B is 0.004;

- The hydraulic gradient at set MW27-B and MW27-C is 0.659;
- The hydraulic gradient at set MW29-B and MW29-C is - 0.133.

4.1.2 Groundwater Quality Assessment

Field measurements (pH, conductivity, dissolved oxygen and temperature) obtained for the groundwater monitoring wells are presented in conjunction with the laboratory general chemistry results presented in Tables 4A through 4D (following the text of this report). Exceedances of NSE Tier 1 EQS for Groundwater - All Land Uses (Non-potable, and Coarse-Grained Soil Type), and NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m), are highlighted for easy interpretation. Laboratory certificates of analysis are appended in Appendix D.

The field pH measured for groundwater sampled at monitoring wells MW22-A was lower and MW29-C higher than the recommended range given by the NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m). Note that the field pH measurements outside the recommended standard may be different from the laboratory reported pH, as the two measurements were not performed at the same time or with the same instruments.

All groundwater quality results analyzed at all sampling locations satisfy the NSE Tier I EQS - All Land Uses (Non-potable, and Coarse-Grained Soil Type).

Groundwater inorganic chemistry and metals exceeding the NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) from monitoring locations sampled and tested during this program are listed below:

- Laboratory pH at MW22-A was reported outside (below) the recommend range.
- Dissolved aluminium concentrations exceeded standards at MW27-B.
- Dissolved arsenic concentrations exceeded standards at MW22-A.
- Dissolved cobalt concentrations exceeded standards at MW22-A.
- Dissolved iron concentrations exceeded standards at MW4-A, MW22-A, MW23-B, and TH1.

Other than the exceedances noted above, all other groundwater quality results for the remaining parameters analysed at all monitoring well locations satisfy NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m).

Based on a review of the historical data, concentrations of arsenic and iron are above Tier II Pathway Specific Standards for Groundwater from Nova Scotia's *Contaminated Site Regulations* and have historically been reported at levels in excess of these standards in many of the groundwater monitoring wells throughout the site.

Data trend analysis was completed by Stantec (2020) and included plotting the results of select groundwater parameters at certain downgradient sampling locations. The trend analysis includes ammonia, chloride, and conductivity, which are leachate indicators in the Site Closure Report (Porter Dillon, 1995) and the Monitor Plan Evaluation (Stantec, 2017). This analysis has been maintained over time, with data contributions from WSP (2012-2013), Stantec (2016-2020), and Englobe (2024-2025).

The groundwater locations have been divided into the following two separate downgradient areas (initially defined by Stantec in 2020):

- Area 1 includes MW25-B, MW4-A, and TH1 (downgradient toward the Cornwallis River).
- Area 2 includes MW22-A, MW22-B, and MW22-C (downgradient toward Palmer Brook).

Groundwater Trend Analysis

Trend analysis for groundwater is summarized below:

- Trends in Area 1 for all parameters have remained stable for all parameters evaluated, with slight increases or decreases in values from year-to-year. Overall parameter values have decreased since 2012.
- Trends in Area 2 for all parameters have remained stable for all parameters evaluated, with slight increases or decreases in values from year-to-year. Overall parameter values have remained stable since 2012.
- Ammonia values are generally higher in Area 1 than in Area 2. MW4-A has had the highest ammonia values since 2012.
- Chloride values are relatively the same between Areas 1 and 2. MW22-B has had the highest chloride values both in Area 2 and overall, since 2012. MW25-B has had the highest chloride values in Area 1 since 2012.
- Conductivity values are relatively similar at Areas 1 and 2. MW22-B has generally had the highest conductivity values since 2012.

The results of the trend analysis are provided following the text of this report.

4.1.3 Action Level Assessment

Action levels were developed for indicator parameters in the Monitor Evaluation Plan (Stantec 2017). As indicated in the previous sections, leachate indicator parameters include ammonia, chloride and conductivity. Action levels are defined as concentrations of indicator parameters exceeding three times the standard deviation of historical data. When indicator parameters surpass these action levels, further investigation is triggered. The historical data includes values from 2007-2017 collected by several consulting firms. Action levels calculated by Stantec in 2017 are used in this report for indicator parameters. Action levels were calculated for monitoring wells MW4-A, MW22-A, MW22-B, MW22-C, MW25-B, and TH1. Action levels for indicator parameters are compared to 2025 data in the table below.

Table 4-1 - 2025 Data Compared to Action Levels for Indicator Parameters

Well ID	Indicator Parameters - 2025 Data			Action Levels		
	Ammonia (mg/L)	Conductivity (µs/cm)	Dissolved Chloride (mg/L)	Ammonia (mg/L)	Conductivity (µs/cm)	Dissolved Chloride (mg/L)
MW4-A	32.2	870	19.3	109	2,463	139
MW22-A	23.4	973	49.4	48	1,506	204
MW22-B	1.90	1,400	110	3.3	2,251	291
MW22-C	0.0085	290	24.2	14	755	51
MW25-B	0.0095	828	84.4	0.5	1,654	178
TH1	27.1	880	20.1	79	1,565	60

Based on the 2025 monitoring results, no indicator parameters exceeded the established action levels for the subject site of any of the three designated parameters.

4.2 Surface Water Quality Results

Field measurements (pH, conductivity, conductivity, and temperature) obtained for the surface water sampling locations are presented in conjunction with the laboratory metals and general chemistry results at all locations, found in Tables 5A through 5D (following the text of this report). Exceedances of NSE Tier 1 EQS for Surface Water are highlighted for easy interpretation. Laboratory certificates of analysis are appended in Appendix D.

Field pH readings were lower than the NSE Tier 1 EQS for Surface Water recommended range during the sampling event at SW19-B. Note that the field pH measurements that are outside of the recommended guideline may be different to the laboratory reported pH readings in some wells.

Surface water general inorganic chemistry and metals exceeding the NSE Tier 1 EQS for Surface Water from all test locations are summarized below:

- Laboratory pH at SW19-B was reported outside (below) the recommend range.
- Total aluminum concentrations exceeded standards at sampling locations SW7A, SW19-B, SW24-1 and SW24-2.
- Total arsenic concentrations exceeded standards at sampling location SW7A.
- Total cobalt concentrations exceeded standards at sampling location SW7A.
- Total iron concentrations exceeded standards at all sampled locations (i.e., SW7, SW7A, SW19-B, SW24-1, SW24-2 and SW24-3).
- Dissolved manganese exceeded at sampling locations SW7, SW7A and SW19-B.

Surface water quality for the remaining parameters analysed satisfied NSE Tier 1 EQS for Surface Water.

It should be noted that the relatively low flow observed at the surface water sampling locations along Palmer Brook, including at SW7, SW7A and SW19-B, may also be impacting the water quality monitoring results.

Based on review of the historical data, concentrations of inorganic parameters (including ammonia and nitrate) and metals (including aluminum, arsenic, barium, calcium, strontium and manganese) above CCME FWAL guidelines have historically been reported in the surface water collected at the Meadowview Landfill Site.

Upgradient of the site:

Historically, surface water sampling location SWA was considered the upstream of the site however, due to persistent unsafe, swampy conditions, this station was relocated further upstream and identified as SW24-1. Routine exceedances of nitrite, aluminum and iron have been observed at the former upstream site (SWA). Similarly, exceedances of aluminum and iron were reported at SW24-1 and may reflect naturally occurring background conditions.

Downgradient of the site:

Routine exceedances of ammonia, aluminum, arsenic, barium, calcium and strontium have historically been reported at surface water locations in the Palmer Brook (SW7, SW7A, SW19-B) (2020 Stantec Annual Monitoring Program). Most recently (2024 Englobe EMP Report), cobalt, iron and manganese have exceeded in the Palmer Brook locations at a higher concentration than the upgradient location (SW24-1).

The former downstream location in the Cornwallis River, (SW3), routinely exceeded aluminum and iron, similar to the upstream location (SWA) in the Cornwallis River. Prior to 2020, SW3 had exceedances in copper, cadmium, lead, vanadium, and zinc, however these concentrations have since been reported within their respective guideline limits. Ongoing sampling at the new surface water locations along the Cornwallis River, SW24-2 and SW24-3, continues to confirm that these

exceedances are no longer present. This suggests that the impacts seen in the Palmer Brook are localized (i.e. not impacting the Cornwallis River). The source or cause of the concentrations in the Palmer Brook surface water samples is unknown but may suggest potential impacts from site.

Data trend analysis was completed by Stantec (2020) and included plotting groundwater and surface water results of certain downgradient sampling locations. The parameters included in the trend analysis are ammonia, chloride and conductivity which are leachate indicators identified in the Site Closure Report (Porter Dillon 1995) and Monitor Plan Evaluation (Stantec 2017). The trend analysis has been continued and includes results accumulated by WSP (2012-2013), Stantec (2016-2020), and Englobe (2024 and 2025).

Surface water locations include the Palmer Brook sampling locations (SW7, SW7A, SW19-B), and three new Cornwallis River sampling locations SW24-1, SW24-2, and SW24-3.

Surface Water Trend Analysis

- Ammonia at SW7A peaked at 17 mg/L in 2017 but has since stabilized below 6 mg/L. Ammonia values at all other locations have remained stable from year to year. Overall ammonia values have been the highest at SW7A among all surface water locations since 2017.
- Conductivity at SW7A peaked in 2017 at 650 $\mu\text{S}/\text{cm}$ but has since stabilized around 300 $\mu\text{S}/\text{cm}$. Conductivity values at all other locations have remained stable from year to year. Conductivity values at the new Cornwallis River surface water locations (SW24-1, SW24-2, and SW24-3) were higher than the conductivity values at the Palmer Brook sampling locations (SW7, SW7A, and SW19B) for 2024 and 2025. Historically conductivity values have been the highest at SW7A among all surface water locations since 2017.
- Chloride values for all sampling locations have remained relatively stable from year-to-year. Overall values have decreased since 2012. In the 2024 and 2025 events, lab values show chloride values at the new Cornwallis River surface water locations (SW24-1, SW24-2, and SW24-3) were higher than the chloride values at the Palmer Brook sampling locations (SW7, SW7A and SW19B). Historically chloride values have remained consistent since 2019 and remain between 20 and 35 mg/L with the highest historic value reported at SW19B.

The results of the trend analysis are provided following the text of this report.

4.3 Landfill Gas Monitoring Results

Field parameters including methane (ppm and LEL), Oxygen and Carbon Dioxide for were taken from monitor wells to assess ambient landfill gases.

Ambient landfill gas readings are summarized below:

- Oxygen readings ranged between 19.0% (MW24-A) and 21.1% (MW28-B, MW29-B and MW29-C).
- Carbon Dioxide readings ranged between 0% (MW4-A and MW35-A) to 0.3% (MW22-B and MW32-A).
- Methane readings at all locations were between <0.1 ppm and 0.1 ppm (MW25-B, MW29-B, MW29-C and MW36-A).
- The methane LEL reading at all locations was 0% LEL.

All gas monitoring results satisfied British Columbia Government Landfill Gas Management Regulations of 5% LEL.

As indicated in Section 3.3, although the sampling methodology for landfill gas monitoring is followed within the industry for initial screening of a site, the potential for dilution of landfill gases is high. These 'one-time' sampling results should be treated with caution.

Following a review of best management practices for gas monitoring, the CCME Guidance Manual for Environmental Site Characterization in Support of Environmental and Human Health, Volume 1 Suggested Operating Procedures (2016) indicates that when installing soil vapour probes external to buildings:

“Soil vapour samples can be obtained from groundwater monitoring wells screened across the water table when the well screen extends above the capillary fringe.”

Further, CCME best practices indicate that:

“Well screens in water table wells should have a maximum saturated screen length of 1.5 m and an unsaturated screen length of up to 1.5 m. This allows for seasonal water level fluctuation and allows for vapour monitoring above the water table.”

Review of the site sampling points was conducted to ensure the gas monitoring data accurately reflects soil vapour conditions present in the subsurface.

Based on the twenty-five (25) sampled locations and the well completion details, static groundwater levels are well above the top of the screened interval at twenty-one (21) of the monitoring well locations, indicating that there is insufficient screen lengths within the unsaturated zone and off-gassing of landfill gases using the monitoring wells currently installed is not ideal. The results of the landfill gas monitoring program at the 21 well locations represent gas readings in the groundwater column and not soil vapour.

4.4 QA & QC Results

As part of our QA/QC program, validation criteria were established that required the field collected data to have an acceptable level of precision, accuracy, representativeness, comparability and completeness (the “PARCC” criteria). Precision was evaluated by calculating the RPD (relative percent difference) and comparing the RPD to the acceptable amount of variation. RPD is defined as:

$$RPD = \frac{(\text{sample result} - \text{duplicate result})}{(\text{sample result} + \text{duplicate result}) / 2} \times 100$$

It should be noted that RPDs cannot be calculated in instances where the original sample, the duplicate sample, or both were found to contain no detectable concentrations or if results are within 5x the reportable detection limits. Parameters that have been ‘calculated’ by the laboratory (e.g. anion sum) are also not included in the comparison.

A summary of RPD results is listed below:

- All RPD values for groundwater sample MW22A and its blind field duplicate were found to be acceptable and below 40%.
- All RPD values for sample surface water sample SW7A and its blind field duplicate were found to be acceptable and below 40% except for Turbidity (63.2%), Nitrate (as N) (96.1%), Nitrate + Nitrite (as N) (96.1%) and dissolved Phosphate (as P) (66.7%).

Based on field procedures, laboratory methods, sampling program design and field observations, the analytical results are concluded to be representative of the site conditions in general.

A summary of the RPD results is provided in Tables 4C, 4D, 5C and 5D (following the text of this report. Laboratory RPD results can be found in the Laboratory Certificates of Analysis in Appendix D.

5 Conclusions

Based on the recorded field data and analytical results, and their comparison with applicable standards, the following conclusions are made for the 2025 EMP at the Meadowview Landfill.

5.1 Groundwater

Based on the groundwater elevation data measured from the site during June 2025, the groundwater flow direction is estimated to be to the south-southwest toward the Cornwallis River, with a hydraulic gradient of 0.0161 at the time of sampling.

The groundwater analytical results were compared to two different sets of standards including the Nova Scotia Environment and Climate Change (NSECC) Tier 1 Environmental Quality Standards (EQS) for Groundwater - All Land Uses (Non-potable and Coarse-Grained Soil Type), and the NSECC Tier 1 EQS for Groundwater Discharging to Surface Water (>10m).

Elevated arsenic, cobalt, iron and low pH in groundwater have been documented at concentrations exceeding or out of range of the NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) at various monitoring wells located downgradient of the site (including MW4-A, MW22-A, MW23-B and TH1). These elevated parameters satisfied the same standards at upgradient, background monitoring well locations (MW27-B, MW28-B, MW29-B and MW29-C). The elevated arsenic, cobalt, iron and low pH affecting water quality in down-gradient wells may indicate site impacts related to the landfill.

A single elevated aluminum concentration in groundwater was documented to exceed the NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) at the upgradient monitoring well located at MW27-B. Aluminum satisfied the same standards at all other monitoring well locations including all downgradient sampling stations (MW22-A, MW22-B, MW22-C, MW25-B, MW28-B and TH1).

It should be noted that the NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) for aluminum, arsenic, cobalt, iron and low pH are established for the protection of freshwater aquatic life; therefore, observed exceedances in the groundwater samples do not necessarily indicate a human health hazard.

Based on the results of the 2025 EMP, groundwater samples collected from downgradient wells at MW4-A, MW22-A, MW22-B, MW23-B and TH1 may be impacted from the Meadowview Landfill.

Exceedances of applied guideline/standard and triggers are summarized in Table 5-1.

Table 5-1 - Groundwater Tier I EQS Exceedances - 2025

Groundwater Exceedances
- MW4-A: Iron exceedance. - MW22-A: Depressed lab pH. Arsenic, Cobalt and Iron exceedances. - MW23-A: Iron exceedance. - MW27-B: Aluminium exceedance. - TH1: Iron exceedance.
NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m)
- Field pH 6.5-9.0 - Aluminium 50 µg/L (calculated based on field pH) - Arsenic 50 µg/L - Cobalt 7.8-18 µg/L (calculated based on hardness) - Iron 3,000 µg/L

Groundwater Exceedances

- Manganese 4,300 µg/L (calculated based hardness and field pH)

Notes:

1. Background Wells: MW27-B, MW28-B, MW29-B, MW29-C, and MW31-A.
2. Downgradient wells: MW4-A, MW22-A, MW22-B, MW22-C, MW23-A, MW23-B, MW23-C, MW25-B, TH1.
3. NSE Tier 1 EQS for Groundwater Discharging to Surface Water (>10m) for aluminium, arsenic, cobalt, iron, manganese and low pH are for protection of freshwater aquatic life

5.2 Surface Water

The surface water analytical results are compared to the NSE Tier 1 EQS for Surface Water. For the purpose of this report, the waters of Palmer Brook and of the Cornwallis River are considered to be freshwater.

Palmer Brook

Surface water sample locations at SW20A, SW7, SW7A and SW19-B are located along the Palmer Brook southwest of the Facility. Background (Palmer Brook) surface water sampling location SW20A was found dry and therefore, no sample could be collected during the 2025 EMP. Surface water samples were collected from SW7, SW7A and SW19-B and are considered to be downstream of Meadowview Landfill. Abundant iron precipitate was observed in surface water locations SW7A and SW19-B (in 2024 and 2025).

The field and laboratory data reported elevated levels or concentrations of field and laboratory pH (at SW19-B), total iron and dissolved manganese (at SW7, SW7A and SW19-B), total aluminum (at SW7A and SW19-B) and total arsenic and cobalt (at SW7A) which may suggest potential leachate impacts. All remaining metals and general chemistry parameters in the surface water samples collected from the Palmer Brook satisfied the applicable standard.

Cornwallis River

Surface water sample location SW24-1, collected from the Cornwallis River, is considered to be upstream of the Meadowview landfill waste cells and is assumed to reflect the natural background conditions. Concentrations of most surface water metals at SW24-1 satisfied the applicable Provincial standard, with the exception of total aluminum and iron, which are common in these freshwater environments. All remaining metals and general chemistry parameters in the surface water sample SW24-1 were reported at levels that satisfied the applicable standard.

Downgradient surface water sampling locations SW24-2 and SW24-3, also collected along the Cornwallis River, are considered downstream of the landfill, and would contain surface water potentially influenced by Palmer Brook and by groundwater flow from the site. The laboratory data reported elevated concentrations of total aluminum and iron for the samples collected at SW24-2 and SW24-3. All remaining metals and general chemistry parameters in surface water samples SW24-2 and SW24-3 were reported at levels that satisfied the applicable standard.

Since aluminum impacts were noted at downstream surface water sample locations SW7, SW7A and SW19-B, and at similar or lower concentrations than the upstream “background” location SW24-1, elevated aluminum concentrations are not considered to be a contaminant issue related to surface water runoff from the landfill site.

Based on the results of the 2025 EMP, downstream surface water samples along the Palmer Brook (including SW7A and to a lesser extent SW7 and SW19-B) maybe influenced by leachate impacts from the Meadowview Landfill. Conversely, downstream surface water samples along the Cornwallis River (including SW24-2 and SW24-3 are not interpreted to be influenced by leachate impacts from the Meadowview Landfill.

Again, it should be noted that the NSE Tier 1 EQS for Surface Water for pH, aluminum, arsenic, cobalt, iron, and dissolved manganese are for the protection of freshwater aquatic life; therefore, observed exceedances in the surface water samples do not necessarily indicate a human health hazard.

The surface water exceedances are summarized in Table 5-2.

Table 5-2 - Surface Water - Tier I EQS Exceedances - 2025

Surface Water Exceedances
- SW7: total iron and dissolved manganese exceedances. - SW7A: total aluminum, arsenic, cobalt, iron and dissolved manganese exceedances. - SW19B: total aluminum and iron, dissolved manganese exceedances and depressed field and laboratory pH. - SW24-1: total aluminum and iron exceedances - SW24-2: total aluminum and iron exceedances. - SW24-3: total iron exceedances.
NSE Tier 1 EQS for Surface Water - pH 6.5 - 9.0 units. - Aluminium 5 - 100 µg/L (calculated based on pH). - Arsenic 5 µg/L. - Cobalt 0.78 - 1.8 µg/L (calculated based on hardness). - Iron 300 µg/L - Dissolved manganese 90 - 1,500 µg/L (calculated based on hardness and field pH).
Notes: 1. Upgradient/background locations include SW24-1. 2. SW7, SW7A, and SW19B are located in the Palmer Brook downgradient of the site. 3. SW24-2 and SW24-3 are located downstream of the site in the Cornwallis River.

5.3 Landfill Gas

All methane readings were recorded as <0.1 ppm except for a reading of 0.1 ppm observed at MW25-B, MW29-B, MW29-C and MW36-A located on the southwestern and northern boundary of the former landfill site. No measurements in the % LEL range for methane gas were detected using the equipment operated by Englobe. In general terms, all gas monitoring results satisfied the British Columbia Government Landfill Gas Management Regulations of <5% LEL for methane gas.

Based on the age of the Meadowview landfill (closed in 1999), the gas monitoring screening data and the relative stability of the pH across the site, the potential risk of methane gas exposure to the residential community located east of the Meadowview landfill is interpreted to be low; however, there is the potential for dilution of landfill gases using a handheld gas meter and these 'one-time' sampling results should be treated with caution.

6 Recommendations

Based on the results of the 2025 EMP for the Meadowview Landfill, Englobe has made the following recommendations:

- Sampling and monitoring of the existing groundwater wells at the site should continue on an annual basis.
- Sampling and monitoring of the existing surface water locations should continue at the same locations and frequency.
- Continued evaluation of the Gas Survey sampling points should be conducted at select locations to ensure the gas monitoring data accurately represent the landfill gas conditions present in the subsurface. Since the static groundwater table is below the screened intervals at four monitoring well locations, including MW12-A, MW24-A, MW35-A and MW36-A, these wells along with select (previously installed) landfill gas vents, should also be included in the sampling program for 2026.
- Re-assess for possible repairs to the protective covers (j-plugs) for monitoring wells MW19-A and MW26-B.
- Due to damage noted by the Municipality to monitoring wells MW19-B and MW7-A in spring 2024, both monitoring wells were decommissioned in October 2025 under the supervision and guidance of Englobe. Supporting documentation for well decommissioning will be provided under a separate cover.

7 Closing

This report was prepared for the exclusive use of the Municipality of the County of Kings. It is based on data and information obtained during site visits by Englobe Corp. and is based solely upon the condition of the site on the date of such visits, supplemented by information obtained and described herein.

The evaluation and conclusions contained in this report have been prepared in light of the expertise and experience of Englobe. In evaluating the site, Englobe has relied in good faith upon representation and information furnished by individuals noted in the report with respect to operations and existing site conditions and the historic use of the site to the extent that they have not been contradicted by data obtained by other sources. Accordingly, Englobe accepts no responsibility for any deficiency or inaccuracy in this report as a result of omissions, misstatements or misrepresentations of the persons interviewed. In addition, Englobe will not accept liability for loss, injury, claim or damage arising from any use or reliance on this report as a result of misrepresentation or fraudulent information.

Environmental conditions are dynamic in nature and changing circumstances in the environment and in the use of the site can alter radically the conclusions and information contained herein.

8 References

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9 Tables

Table 1: Environmental Monitoring Program
Meadowview Well Observations and Field Data - 2025
Client: Municipality of County of Kings
Site: Meadowview Landfill
Englobe - Ref No.: 2408035.000



Test Location ID			Frequency	Parameters							
Groundwater Elevations											
MW4-A	MW4-C	MW12-A	Annually	Field Measurements							
MW19-A	MW20-A	MW20-B		Static Water Levels (mbgs and masl)	Borehole Depths (m)	Stick Up Height (mags)	Borehole Diameter (m)				
MW21-C	MW22-A	MW22-B									
MW22C	MW23-A	MW23-B									
MW23-C	MW24-A	MW24-B									
MW25-B	MW26-B	MW27-B									
MW27-C	MW28-B	MW29-B									
MW29-C	MW32-A	MW35-A									
MW36-A	TH1	TH2									
Groundwater Sampling											
MW4-A	MW20-A	MW21-C	Annually	General Chemistry							
MW22-A	MW22-B	MW22-C		Alkalinity (Bicarbonate)	Alkalinity (Carbonate)	Alkalinity (Total)	Anion Sum				
MW23-A	MW23-B	MW23-C		Cation Sum	Chloride (Dissolved Cl)	Colour	Conductivity				
MW25-B	MW27-B (background)	MW28-B (background)		Hardness (CaCO3)	Ion Balance (% Difference)	Langelier Index (@ 20oC)	Langelier Index (@ 4oC)				
MW29-B (background)	MW29-C (background)	TH1		Nitrate (N)	Nitrate + Nitrite (N)	Nitrite (N)	Nitrogen (Ammonia Nitrogen)				
				Orthophosphate	pH	Reactive Silica (SiO2)	Saturation pH (@ 20oC)				
				Saturation pH (@ 4oC)	Sulphate (Dissolved SO4)	TDS (calc.)	Total Organic Carbon (TOC)				
				Turbidity							
			Summer	Metals							
				Aluminum (total)	Antimony (total)	Arsenic (total)	Barium (total)				
				Beryllium (total)	Bismuth (total)	Boron (total)	Cadmium (total)				
				Calcium (total)	Chromium (total)	Cobalt (total)	Copper (total)				
				Iron (total)	Lead (total)	Magnesium (total)	Manganese (total)				
				Mercury (total)	Molybdenum (total)	Nickel (total)	Phosphorus (total)				
				Potassium (total)	Selenium (total)	Silver (total)	Sodium (total)				
				Strontium (total)	Thallium (total)	Tin (total)	Titanium (total)				
			June 17, 18 and 19, 2025	Uranium (total)	Vanadium (total)	Zinc (total)					
				Field Measurements							
				Static Water Level (m)	Borehole Depth (m)	Stick-Up (m)	Borehole Diameter (mm)				
				Purge Volume Required (L)	Purge Volume Obtained (L)	Temperature (oC)	pH (units)				
				Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Colour	Clarity				
				Odour	Sheen						
Surface Water Sampling											
SW24-1 (background Cornwallis River)	SW24-2 (midstream Cornwallis River)	SW24-3 (downstream Cornwallis River)		Annually	General Chemistry						
SW20A (background Palmer Brook)	SW19B (mid-stream Palmer Brook)	SW7 (mid-stream Palmer Brook)	Alkalinity (Bicarbonate)		Alkalinity (Carbonate)	Alkalinity (Total)	Anion Sum				
SW7A (mid-stream Palmer Brook)			Cation Sum		Chloride (Dissolved Cl)	Colour	Conductivity				
			Hardness (CaCO3)		Ion Balance (% Difference)	Langelier Index (@ 20oC)	Langelier Index (@ 4oC)				
			Nitrate (N)		Nitrate + Nitrite (N)	Nitrite (N)	Nitrogen (Ammonia Nitrogen)				
			Summer	Orthophosphate	pH	Reactive Silica (SiO2)	Saturation pH (@ 20oC)				
				Saturation pH (@ 4oC)	Sulphate (Dissolved SO4)	TDS (calc.)	Total Organic Carbon (TOC)				
				Turbidity							
				Metals							
				Aluminum (dissolved and total)	Antimony (dissolved and total)	Arsenic (dissolved and total)	Barium (dissolved and total)				
				Beryllium (dissolved and total)	Bismuth (dissolved and total)	Boron (dissolved and total)	Cadmium (dissolved and total)				
				Calcium (dissolved and total)	Chromium (dissolved and total)	Cobalt (dissolved and total)	Copper (dissolved and total)				
				Iron (dissolved and total)	Lead (dissolved and total)	Magnesium (dissolved and total)	Manganese (dissolved and total)				
			June 17, 18 and 19, 2025	Molybdenum (dissolved and total)	Nickel (dissolved and total)	Phosphorus (dissolved and total)	Potassium (dissolved and total)				
				Selenium (dissolved and total)	Silver (dissolved and total)	Sodium (dissolved and total)	Strontium (dissolved and total)				
				Thallium (dissolved and total)	Tin (dissolved and total)	Titanium (dissolved and total)	Uranium (dissolved and total)				
				Vanadium (dissolved and total)	Zinc (dissolved and total)						
				Field Measurements							
				Depth (m)	Width (m)	Flow Velocity (m/second)	Discharge (m3/second)				
				Temperature (oC)	pH (units)	Conductivity (µS/cm)	Dissolved Oxygen (mg/L)				
				Colour	Clarity	Odour	Sheen				
Landfill Gas Monitoring											
MW4-A	MW4-C	MW12-A	Annually	Methane (parts per million (ppm))	Methane (Lower Explosive Limit; LEL)	Oxygen	Carbon Dioxide				
MW19-A	MW20-A	MW20-B									
MW21-C	MW22-A	MW22-B									
MW22C	MW23-A	MW23-B	Summer								
MW23-C	MW24-A	MW24-B									
MW25-B	MW26-B	MW27-B									
MW27-C	MW28-B	MW29-B	June 17, 18 and 19, 2025								
MW29-C	MW32-A	MW35-A									
MW36-A	TH1	TH2									

Table 2: Groundwater Monitoring Well & Surface Water Sampling Station Locations
Meadowview Well Observations and Field Data - 2025
Client: Municipality of the County of Kings
Site: Meadowview Landfill
Englobe - Ref No. 2408035.000

Test Location ID	Zone	Northing (m N)	Easting (m E)
MW4-A	20T	4993549.63	380794.79
MW4-C	20T	4993546.57	380793.98
MW7-A	20T	4993672.87	380977.54
MW12-A	20T	4993815.01	379989.01
MW19-A	20T	4993798.50	380895.43
MW19-B	20T	4993807.28	380892.40
MW20-A	20T	4993769.36	380961.75
MW20-B	20T	4993776.29	380965.70
MW21-C	20T	4993439.69	380859.98
MW22-A	20T	4993547.31	380035.98
MW22-B	20T	4993545.78	380036.53
MW22-C	20T	4993546.47	380033.93
MW23-A	20T	4993726.13	379826.71
MW23-B	20T	4993728.92	379827.68
MW23-C	20T	4993727.93	379824.20
MW24-A	20T	4993645.70	380105.66
MW24-B	20T	4993644.40	380,106.41
MW25-B	20T	4993536.59	380241.75
MW26-B	20T	4994047.34	380743.97
MW27-B	20T	4994150.99	380818.90
MW27-C	20T	4994151.37	380820.87
MW28-B	20T	4994165.44	380675.38
MW29-B	20T	4994102.56	380289.06
MW29-C	20T	4994101.32	380291.16
MW32-A	20T	4993826.54	379858.51
MW35-A	20T	4993457.50	380225.23
MW36-A	20T	4993466.54	380330.53
TH1	20T	4993545.73	380611.98
TH2	20T	4993535.84	380579.72
SW20A	20T	4993805.23	379399.91
SW19B	20T	4993666.37	379863.96
SW7	20T	4993518.73	380015.11
SW7A	20T	4993442.96	380032.35
SW24-1	20T	4993295.17	379832.31
SW24-2	20T	4993420.81	380344.21
SW24-3	20T	4992897.06	381646.05

Table 3: Groundwater Elevations
Meadowview Well Observations and Field Data - 2025
Client: Municipality of the County of Kings
Site: Meadowview Landfill
Englobe - Ref No. 2408035.000

Test Location ID	Ground Surface Elevation (masl)	Groundwater Elevation (masl)	Top of Pipe Elevation (masl)	Top of Screen		Bottom of Screen		Stick Up Height (m)	Total Well Depth (mbgs)	Borehole Diameter (mm)
				Depth (m)	Elevation (masl)	Depth (m)	Elevation (masl)			
MW4-A	11.73	7.10	11.70	10.20	1.50	10.70	1.00	-0.03	10.59	25
MW4-C	11.68	-	11.67	16.50	-4.8	17.00	-5.3	-0.01	-	25
MW12-A	13.3	9.76	13.62	2.10	11.20	5.10	8.40	0.32	3.85	60
MW19-A	28.93	10.07	29.03	22.90	7.70	26.20	4.30	0.10	26.63	60
MW20-A	30.41	9.26	30.41	24.10	4.70	27.20	1.60	0.00	26.09	60
MW21-C	8.98	7.30	9.26	16.60	-7.50	22.70	-13.6	0.28	23.39	60
MW22-A	10.69	8.83	11.02	5.10	5.50	8.20	2.40	0.33	8.71	60
MW22-B	10.72	7.39	11.03	12.10	-1.50	13.60	-3.00	0.31	13.25	60
MW22-C	10.73	7.38	11.07	18.30	-7.60	24.40	-13.70	0.34	18.91	60
MW23-A	12.57	10.24	12.84	3.10	9.50	4.60	8.00	0.27	4.89	60
MW23-B	12.49	10.12	12.87	8.30	4.20	11.20	1.30	0.38	11.48	60
MW23-C	12.5	9.29	12.50	16.50	-4.00	22.60	-10.10	0.00	18.86	60
MW24-A	12.87	10.00	13.36	1.10	11.70	4.10	8.60	0.49	4.80	60
MW24-B	12.8	10.03	13.25	8.30	4.40	11.30	1.40	0.45	12.00	60
MW25-B	11.05	6.89	11.47	10.00	1.00	12.80	-1.80	0.42	13.70	60
MW26-B	24.48	21.83	25.01	10.10	14.20	13.10	11.30	0.53	13.84	60
MW27-B	23.82	20.41	24.14	10.10	13.80	13.10	10.70	0.32	13.70	60
MW27-C	23.7	21.20	24.00	16.60	7.10	22.70	1.00	0.30	14.91	60
MW28-B	29.64	24.35	29.91	11.60	17.90	14.60	15.00	0.27	15.09	60
MW29-B	22.67	19.08	22.95	6.30	16.40	9.30	13.40	0.28	9.64	60
MW29-C	22.75	17.98	23.22	15.10	7.60	21.20	1.50	0.47	17.90	60
MW32-A	12.08	10.61	12.73	1.10	11.00	4.10	7.90	0.65	3.02	60
MW35-A	9.54	7.08	10.17	0.50	8.90	3.50	5.90	0.63	4.07	60
MW36-A	10.46	6.97	11.02	0.90	9.40	4.00	6.40	0.56	4.60	60
TH1	13.16	7.57	13.16	6.20	7.00	9.20	3.90	0.00	9.33	60
TH2	11.26	7.26	11.91	13.00	-1.80	16.10	-4.80	0.65	17.02	60

Table 4A: Groundwater Results - Metals and Elements - 2025

Client: Municipality of the County of Kings

Site: Meadowview Landfill

Englobe Ref. No. 2408035.000

PARAMETER	UNITS	NSECC Tier I EQS for Non-potable GW (all Land Uses) ¹	NSECC Tier I EQS for GW discharging to SW (>10m) ²	SAMPLE ID														
				DATE SAMPLED														
				MW4-A	MW20-A	MW21-C	MW22-A	MW22-B	MW22-C	MW23-A	MW23-B	MW23-C	MW25-B	MW27-B	MW28-B	MW29-B	MW29-C	TH-1
				19/Jun/25	19/Jun/25	19/Jun/25	18/Jun/25	18/Jun/25	18/Jun/25	18/Jun/25	18/Jun/25	18/Jun/25	17/Jun/25	17/Jun/25	17/Jun/25	17/Jun/25	17/Jun/25	19/Jun/25
Aluminum, dissolved	µg/L	-	50 ³	<10	<1	3.3	<10	4.6	3.1	5.0	2.0	2.6	1.2	4,500 (1,000)	2.9	88.6	5.8	<10
Antimony, dissolved	µg/L	-	90	<1	0.8	1.12	<1	0.48	0.54	<0.1	<0.1	0.87	<0.1	0.72	0.20	<0.1	0.22	<1
Arsenic, dissolved	µg/L	-	50	37.8	<0.1	0.56	87.5	5.62	1.47	0.16	10	4.74	4.12	15.1	0.42	2.07	5.99	31.3
Barium, dissolved	µg/L	-	10,000	1,590	142	6.26	1,160	625	4.85	60.9	219	76.1	23.6	15.2	13.3	12.2	3.72	892
Beryllium, dissolved	µg/L	-	1.5	<0.2	<0.02	<0.02	<0.2	<0.02	<0.02	<0.02	<0.02	<0.02	<0.02	0.163	<0.02	<0.02	<0.02	<0.2
Bismuth, dissolved	µg/L	-	-	<0.5	<0.05	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.5
Boron, dissolved	µg/L	-	15,000	170	<10	<10	206	380	10	<10	16	12	131	107	<10	<10	18	149
Cadmium, dissolved	µg/L	-	0.9 ⁴	<0.05	0.0499	0.0290	<0.05	0.0239	0.0194	0.0677	0.0642	0.0176	0.0167	0.0189	<0.005	<0.005	<0.005	<0.05
Calcium, dissolved	µg/L	-	-	73,200	10,400	6,380	75,600	215,000	18,100	15,900	26,800	16,600	140,000	5,450	26,400	27,000	8,180	86,300
Chromium, dissolved	µg/L	-	89	<5	<0.5	<0.5	<5	<0.5	0.53	<0.5	<0.5	2.44	<0.5	3.4	<0.5	0.68	<0.5	<5
Cobalt, dissolved	µg/L	-	10 ⁵	10.4 (14.6)	<0.1	<0.1	19.7 (14.8)	8.99	<0.1	<0.1	2.66	<0.1	0.55	0.54	0.17	<0.1	<0.1	6.09
Copper, dissolved	µg/L	-	20 ⁶	<2.00	0.70	1.16	<2.00	0.53	0.62	0.38	0.41	0.35	1.43	2.36	0.38	0.34	0.51	<2.00
Iron, dissolved	µg/L	-	3,000	13,100	272	<10	61,000	1,420	15	<10	4,360	<10	<10	,1870	12	35	<10	10,600
Lead, dissolved	µg/L	-	10 ⁷	<0.5	<0.05	0.055	<0.5	<0.05	<0.05	<0.05	<0.05	<0.05	0.055	1.36	<0.05	0.152	<0.05	<0.5
Magnesium, dissolved	µg/L	-	-	12,900	1,110	1,700	13,600	27,400	2,920	2,120	3,920	1,680	18,000	1,470	2130	3,620	1,110	14,000
Manganese, dissolved	µg/L	-	4,300 ⁸	2,170	235	2.47	2,770	3,800	13.6	681	3,460	9.27	188	36.7	77.2	14.6	6.92	1,220
Mercury, dissolved	µg/L	-	0.26	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum, dissolved	µg/L	-	730	0.725	<0.05	<0.05	0.741	0.509	0.054	<0.05	0.167	0.099	0.095	0.931	0.118	0.208	0.06	1.27
Nickel, dissolved	µg/L	-	250 ⁹	15.2	<0.5	<0.5	18.8	19.5	0.53	1.15	2.22	<0.5	9.27	1.1	<0.5	<0.5	<0.5	8.02
Potassium, dissolved	µg/L	-	-	29,000	1,110	1,440	21,500	9,110	4,250	1,180	2,480	2,320	6,940	4,920	1,210	3,400	3350	26,100
Selenium, dissolved	µg/L	-	10	<0.5	<0.05	<0.05	<0.5	0.066	<0.05	<0.05	<0.05	0.139	0.056	0.089	<0.05	0.058	<0.05	<0.5
Silicon (as SiO2), dissolved	µg/L	-	-	31,900	3,550	12,400	24,000	23,300	9,150	9,370	13,300	11,900	17,200	41,900	8,450	10,100	7,290	32,900
Silver, dissolved	µg/L	-	2.5	<0.1	<0.01	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01	0.021	<0.01	<0.01	<0.01	<0.1
Sodium, dissolved	µg/L	-	-	22,800	13,700	3730	30,600	75,600	9,440	39,400	22,700	8,120	29,700	28,600	4,600	6,780	19,300	29,300
Strontium, dissolved	µg/L	-	210000	427	29.5	67.3	395	2,030	272	23	57	133	1,620	73	203	344	113	361
Thallium, dissolved	µg/L	-	8	<0.1	<0.01	<0.01	<0.1	0.037	0.012	<0.01	0.014	<0.01	0.012	0.026	<0.01	<0.01	<0.01	<0.1
Tin, dissolved	µg/L	-	-	<1	<0.1	<0.1	<1	0.23	0.12	<0.1	<0.1	<0.1	0.17	0.37	<0.1	<0.1	<0.1	<1
Titanium, dissolved	µg/L	-	-	<3	<0.3	<0.3	<3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	97.8	<0.3	<1.5	<0.3	<3
Uranium, dissolved	µg/L	-	150	<0.1	<0.01	0.022	<0.1	7.92	8.18	0.035	0.032	2.3	23	3.87	0.235	2.17	1.28	0.131
Vanadium, dissolved	µg/L	-	1200	<5	<0.5	<0.5	<5	<0.5	1	<0.5	<0.5	2.22	1	8.54	<0.5	1.16	5.29	<5
Zinc, dissolved	µg/L	-	70 ¹⁰	<10.0	2.6	5.6	<10.0	4.5	10.2	2.3	2.7	3.8	2.5	9.2	2.3	2.6	1.4	<10.0

Notes:

value	- exceeds NSECC Tier I EQS Non-potable GW
value	- exceeds NSECC Tier I EQS GW discharging to SW
-	- no guideline

¹ 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) for Groundwater - All Land Uses ; Non-potable Ground Water Condition

² 2021 Nova Scotia Tier 1 Environmental Quality Standards (EQS) for Surface Water and Groundwater Discharging to Surface Water

³ Aluminium Guideline for pH < 6.5 = 50 ug/L

Aluminium Guideline for pH ≥ 6.5 = 1,000 ug/L

⁴ At [CaCO3] = > 0 to < 17 mg/L, cadmium guideline = 0.4 µg/L

At [CaCO3] = ≥ 17 to ≤ 280 mg/L, cadmium guideline (µg/L) = 10^{[(0.83(log(hardness)) - 2.46)}

At [CaCO3] = > 280 mg/L, cadmium guideline = 3.7 µg/L

⁵ At [CaCO3] = 0 to ≤52 mg/L, cobalt guideline = 7.8 ug/L

At [CaCO3] = >52 to ≤396 mg/L, cobalt guideline = e^{[(0.414(ln(hardness))]-1.887)}

At [CaCO3] = >396 mg/L, cobalt guideline = 18 ug/L

⁶ At [CaCO3] = 0 to 120 mg/L, copper guideline = 20 ug/L.

At [CaCO3] = ≥82 to ≤180 mg/L, copper guideline = 0.2 * e{[0.8545(ln(hardness))]-1.465}

At [CaCO3] = > 180 mg/L, copper guideline = 40 ug/L.

⁷ At [CaCO3] = 0 to ≤60 mg/L, lead guideline = 10 ug/L

At [CaCO3] = >60 to ≤180 mg/L, lead guideline = e^{[(1.273(ln(hardness))]-4.705)}

At [CaCO3] = >180 mg/L, lead guideline = 70 ug/L

⁸ 2019 CCME Scientific Criteria Document for the Development of the Canadian Water Quality Guidelines for the Protection of Aquatic Life
Appendix B - Manganese - Canadian Water Quality Guideline and Benchmark Calculator

⁹ At [CaCO3] = 0 to 60 mg/L, nickel guideline = 250 ug/L.

At [CaCO3] = > 60 to ≤ 180 mg/L, nickel guideline (µg/L) = e^{[(0.76(ln(hardness))]+1.06)}

At [CaCO3] = > 180 mg/L, nickel guideline = 1500 µg/L

¹⁰ exp^{[0.947(ln(hardness mg·L⁻¹))] - 0.815[pH] + 0.398(ln(DOC mg·L⁻¹))] + 4.625}

When CaCO3 23.4 to 399 mg/L and pH 6.5 to 8.13

Otherwise, zinc guideline = 70 ug/L

TABLE 4B: Groundwater Results - General Chemistry - 2025
Client: Municipality of the County of Kings
Site: Meadowview Landfill
Englobe Ref. No. 2408035.000

PARAMETER	UNITS	NSECC Tier I EQS for Non-potable GW (all Land Uses) ¹	NSECC Tier I EQS for GW discharging to SW (>10m) ²	SAMPLE ID														
				DATE SAMPLED														
				MW4-A 19/Jun/25	MW20-A 19/Jun/25	MW21-C 19/Jun/25	MW22-A 18/Jun/25	MW22-B 18/Jun/25	MW22-C 18/Jun/25	MW23-A 18/Jun/25	MW23-B 18/Jun/25	MW23-C 18/Jun/25	MW25-B 17/Jun/25	MW27-B 17/Jun/25	MW28-B 17/Jun/25	MW29-B 17/Jun/25	MW29-C 17/Jun/25	TH-1 19/Jun/25
Field Readings																		
Field pH	Units	-	6.5-9.0	6.67	7.76	7.21	6.44	7.39	7.09	6.82	6.61	7.78	7.26	8.79	8.61	7.91	9.03	7.09
Field Temperature	°C	-	-	15.5	12.4	14.8	14.9	13	16	15.1	13.4	13.6	18.3	16	10.8	13.9	12.1	12.9
Field Conductivity	µS/cm	-	-	744	147	74.8	821	1269	170.5	264.3	285.8	129	836	160.8	169.3	14.7	141.8	821
Field Dissolved Oxygen	mg/L	-	-	2.83	4.66	6.99	2.06	9.65	5.33	1.61	1.03	6.6	2.58	9.05	9.94	7.95	5.58	2.56
Laboratory Physical Tests																		
Conductivity	µS/cm	-	-	870	156	70.6	973	1400	290	298	302	142	828	160	192	216	161	880
Alkalinity, bicarbonate (as HCO3)	mg/L	-	-	503	28.8	32.1	542	769	135	78.4	87.8	76.6	378	91.9	88.7	98.9	70	516
Alkalinity, carbonate (as CO3)	mg/L	-	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6	1.7	<0.6	<0.6	<0.6	<0.6
Alkalinity, hydroxide (as OH)	mg/L	-	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Alkalinity, total (as CaCO3)	mg/L	-	-	412	23.6	26.3	444	630	111	64.3	72	62.8	310	78.1	72.7	81.1	57.4	423
Colour, apparent	CU	-	-	3110	386	57.9	1570	1030	19.9	1590	2980	414	278	5000	885	782	2550	1760
Hardness (as CaCO3), dissolved	mg/L	-	-	236	30.5	22.9	245	650	57.2	48.4	83.1	48.4	424	19.7	74.7	82.3	25	273
Langelier index (@ 4°C)		-	-	-0.473	-2.32	-2.83	-0.736	0.463	-0.795	-1.8	-1.33	-0.147	0.004	-0.368	-0.565	-0.366	-0.276	-0.173
Solids, total dissolved [TDS]	mg/L	-	-	429	60	42	520	868	104	185	184	69	530	102	70	138	98	398
Solids, total suspended [TSS]	mg/L			3260	58.5	583	122	246	17.7	2550	706	637	188	4890	367	475	2670	1570
Turbidity	NTU	-	-	1340	147	37.7	443	354	50.2	353	599	132	81.1	1700	306	228	1740	783
pH	pH units	-	6.5-9.0	6.75	6.86	6.50	6.46	7.11	7.50	6.82	7.02	8.42	7.09	8.61	7.73	7.91	8.66	6.96
Langelier index (@ 20°C)		-	-	-0.224	-2.07	-2.58	-0.487	0.71	-0.544	-1.55	-1.08	0.102	0.251	-0.122	-0.315	-0.114	-0.032	0.076
pH, saturation (@ 4°C)	pH units	-	-	7.22	9.18	9.33	7.2	6.65	8.3	8.62	8.35	8.57	7.09	8.98	8.29	8.28	8.94	7.13
pH, saturation (@ 20°C)	pH units	-	-	6.97	8.93	9.08	6.95	6.4	8.04	8.37	8.1	8.32	6.84	8.73	8.04	8.02	8.69	6.88
Laboratory Anions and Nutrients																		
Ammonia, total (as N)	mg/L	-	varies ³	32.2	0.0383	0.0326	23.4	1.90	0.0085	0.0135	0.378	<0.0050	0.0095	0.0079	0.115	<0.0050	<0.0050	27.1
Chloride	mg/L	-	1200	19.3	30.3	4.19	49.4	110	24.2	46.6	39.2	4.16	84.4	3.54	13.2	13.9	16.8	20.1
Fluoride	mg/L	-	1.2	<0.020	0.051	0.167	<0.100	<0.100	0.027	0.055	0.026	0.048	<0.020	0.268	0.024	0.028	0.068	<0.020
Kjeldahl nitrogen, total [TKN]	mg/L	-	-	35.5	0.772	0.189	32.6	2.96	0.242	0.843	0.972	<0.500	0.433	0.507	0.866	<0.500	0.717	32.1
Nitrate (as N)	mg/L	-	30 ⁴	0.122	0.246	0.307	<0.100	<0.100	<0.020	<0.020	<0.020	0.405	<0.020	0.191	0.098	0.06	0.142	<0.020
Nitrate + Nitrite (as N)	mg/L	-	-	0.132	0.246	0.307	<0.112	<0.112	<0.0224	<0.0224	0.036	0.405	<0.0224	0.191	0.098	0.06	0.142	<0.0224
Nitrite (as N)	mg/L	-	0.6	0.01	<0.010	<0.010	<0.050	<0.050	<0.010	<0.010	0.036	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010	<0.010
Phosphate, ortho-, dissolved (as P)	mg/L	-	-	<0.0010	<0.0010	0.333	<0.0010	<0.0010	0.0029	0.035	0.0026	0.0238	0.0021	0.0012	0.002	0.022	0.0074	<0.0010
Phosphorus, total	µg/L	-	-	913	163	456	472	312	59.6	369	2850	137	86.9	610	194	110	516	781
Silicate (as SiO2)	mg/L	-	-	30.9	3.35	12.5	23.9	20.3	9.34	9.4	12.6	10.4	15.5	9.74	8.46	9.8	7.2	30.8
Sulfate (as SO4)	mg/L	-	1280 ⁵	0.66	2.34	0.75	<1.50	<1.50	0.95	6.56	13.6	2.21	0.65	1.16	3.96	2.17	4.24	2.54
Laboratory Organic / Inorganic Carbon																		
Carbon, total organic [TOC]	mg/L	-	-	12.0	5.10	0.90	9.66	21.1	1.16	3.63	3.28	<2.50	8.15	<10.0	4.16	<2.50	<5.00	7.51
Laboratory Ion Balance																		
Anion sum	meq/L	-	-	8.8	1.4	0.69	10.3	15.7	2.92	2.74	2.83	1.45	8.59	1.71	1.92	2.06	1.72	9.07
Cation sum	meq/L	-	-	9.29	1.26	0.66	10.7	16.8	1.66	2.74	3.02	1.38	9.94	2.33	1.74	2.04	1.42	9.76
Ion balance (cations/anions)	%	-	-	106	90	95.6	104	107	56.8	100	107	95.2	116	136	90.6	99	82.6	108

Notes:

value	- exceeds NSECC Tier I EQS Non-potable GW
value	- exceeds NSECC Tier I EQS GW discharging to SW
-	- no guideline

¹ 2021 Nova Scotia Environment and Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) for Groundwater - All Land Uses ; Non-potable Ground Water Condition

² 2021 Nova Scotia Tier 1 Environmental Quality Standards (EQS) for Surface Water and Groundwater Discharging to Surface Water

³ Ammonia - calculations as per http://st-ts.ccme.ca/en/index.html?lang=en&factsheet=5#aql_fresh_concentration.

⁴ Nitrate guideline has been converted from Nitrate (as NH4) to Nitrate (as N)

⁵ At [CaCO3] = 0 to ≤30 mg/L, sulphate guideline = 1280 mg/L
At [CaCO3] = >30 to ≤75 mg/L, sulphate guideline = 2180 mg/L
At [CaCO3] = >75 to ≤180 mg/L, sulphate guideline = 3090 mg/L
At [CaCO3] = >180 mg/L, sulphate guideline = 4290 mg/L

TABLE 4C: Field QA/QC of Groundwater Results - Metals and Elements - 2025

Client: Municipality of the County of Kings

Site: Meadowview Landfill

Englobe Ref. No. 2408035.000

PARAMETER	UNITS	RDL	RDL x5	MW22-A		RPD (%)
				18/Jun/25	GW-DUP	
Aluminum, dissolved	µg/L	10	50	<10	<10	NC
Antimony, dissolved	µg/L	1	5	<1	<1	NC
Arsenic, dissolved	µg/L	1	5	87.5	88.6	1.25
Barium, dissolved	µg/L	1	5	1160	1160	0.00
Beryllium, dissolved	µg/L	0.2	1	<0.2	<0.2	NC
Bismuth, dissolved	µg/L	0.5	2.5	<0.5	<0.5	NC
Boron, dissolved	µg/L	100	500	206	205	0.49
Cadmium, dissolved	µg/L	0.05	0.25	<0.05	<0.05	NC
Calcium, dissolved	µg/L	500	2500	75600	75500	0.13
Chromium, dissolved	µg/L	5	25	<5	<5	NC
Cobalt, dissolved	µg/L	1	5	19.7	20.0	1.51
Copper, dissolved	µg/L	2	10	<2.00	<2.00	NC
Iron, dissolved	µg/L	100	500	61000	62200	1.95
Lead, dissolved	µg/L	0.5	2.5	<0.5	<0.5	NC
Magnesium, dissolved	µg/L	50	250	13600	13900	2.18
Manganese, dissolved	µg/L	1	5	2770	2820	1.79
Mercury, dissolved	µg/L	0.005	0.025	<0.0050	<0.0050	NC
Molybdenum, dissolved	µg/L	0.5	2.5	0.741	0.852	13.94
Nickel, dissolved	µg/L	5	25	18.8	19.6	4.17
Potassium, dissolved	µg/L	500	2500	21500	22000	2.30
Selenium, dissolved	µg/L	0.5	2.5	<0.5	<0.5	NC
Silicon (as SiO ₂), dissolved	µg/L	1070	5350	24,000	24000	0.00
Silver, dissolved	µg/L	0.1	0.5	<0.1	<0.1	NC
Sodium, dissolved	µg/L	500	2500	30600	31200	1.94
Strontium, dissolved	µg/L	2	10	395	401	1.51
Thallium, dissolved	µg/L	0.1	0.5	<0.1	<0.1	NC
Tin, dissolved	µg/L	1	5	<1	<1	NC
Titanium, dissolved	µg/L	3	15	<3	<3	NC
Uranium, dissolved	µg/L	0.1	0.5	<0.1	<0.1	NC
Vanadium, dissolved	µg/L	5	25	<5	<5	NC
Zinc, dissolved	µg/L	10	50	<10.0	<10.0	NC

Notes:

value	- RDP outside of acceptable range
RDL	- Reportable Detection Limit
RPD	- Relative Percent Difference
NC	- Non-calculable

RPD is considered non-calculable where concentrations are less than five times the laboratory detection limit.

RPD results of within 40% are considered to be acceptable.

Where RPD is non-calculable, results are considered acceptable where the difference between concentrations is less than the laboratory detection limit.

TABLE 4D: Field QA/QC of Groundwater Results - General Chemistry - 2025

Client: Municipality of the County of Kings

Site: Meadowview Landfill

Englobe Ref. No. 2408035.000

PARAMETER	UNITS	RDL	RDL x5	MW22-A		RPD (%)
				18/Jun/25	GW-DUP	
Laboratory Physical Tests						
Conductivity	μS/cm	1.0	5.0	973	1020	4.72
Alkalinity, bicarbonate (as HCO3)	mg/L	1.2	6.0	542	554	2.19
Alkalinity, carbonate (as CO3)	mg/L	1.0	5.0	<0.6	<0.6	NC
Alkalinity, hydroxide (as OH)	mg/L	1.0	5.0	<0.3	<0.3	NC
Alkalinity, total (as CaCO3)	mg/L	1.0	5.0	444	454	2.23
Colour, apparent	CU	40	200	1570	1470	6.58
Hardness (as CaCO3), dissolved	mg/L	0.50	2.5	245	246	0.41
Langelier index (@ 4°C)		0.010	0.050	-0.736	-0.824	-11.28
Solids, total dissolved [TDS]	mg/L	20	100	520	458	12.68
Solids, total suspended [TSS]	mg/L	3.0	15	122	144	16.54
Turbidity	NTU	0.10	0.50	443	472	6.34
pH	pH units	0.10	0.50	6.46	6.35	1.72
Langelier index (@ 20°C)		0.010	0.050	-0.487	-0.575	-16.57
pH, saturation (@ 4°C)	pH units	0.010	0.050	7.2	7.17	0.42
pH, saturation (@ 20°C)	pH units	0.010	0.050	6.95	6.92	0.43
Laboratory Anions and Nutrients						
Ammonia, total (as N)	mg/L	0.50	2.5	23.4	21.5	8.46
Chloride	mg/L	2.50	12.5	49.4	54.8	10.36
Fluoride	mg/L	0.100	0.50	<0.100	<0.100	NC
Kjeldahl nitrogen, total [TKN]	mg/L	0.500	2.5	32.6	21.2	42.38
Nitrate (as N)	mg/L	0.100	0.50	<0.100	<0.100	NC
Nitrate + Nitrite (as N)	mg/L	0.112	0.560	<0.112	<0.112	NC
Nitrite (as N)	mg/L	0.050	0.250	<0.050	<0.050	NC
Phosphate, ortho-, dissolved (as P)	mg/L	0.0010	0.0050	<0.0010	<0.0010	NC
Phosphorus, total	μg/L	2.0	10	472	474	0.42
Silicate (as SiO2)	mg/L	0.50	2.5	23.9	23.8	0.42
Sulfate (as SO4)	mg/L	1.50	7.5	<1.50	<1.50	NC
Laboratory Organic / Inorganic Carbon						
Carbon, total organic [TOC]	mg/L	0.50	2.5	9.66	10.7	10.22
Laboratory Ion Balance						
Anion sum	meq/L	0.10	0.50	10.3	10.6	2.87
Cation sum	meq/L	0.10	0.50	10.7	10.7	0.00
Ion balance (cations/anions)	%	0.010	0.050	104	101	2.93

Notes:

value	- RDP outside of acceptable range
RDL	- Reportable Detection Limit
RPD	- Relative Percent Difference
NC	- Non-calculable

RPD is considered non-calculable where concentrations are less than five times the laboratory detection limit.

RPD results of within 40% are considered to be acceptable.

Where RPD is non-calculable, results are considered acceptable where the difference between concentrations is less than the laboratory detection limit.

TABLE 5A: Surface Water Results - Metals and Elements - 2025

Client: Municipality of the County of Kings

Site: Meadowiew Landfill

Englobe - Ref No. 2408035.000

PARAMETER	UNITS	NSECC Tier I EQS ¹	SAMPLE ID					
			DATE SAMPLED					
			SW7	SW7A	SW19-B	SW24-1	SW24-2	SW24-3
			17/Jun/25	17/Jun/25	18/Jun/25	18/Jun/25	17/Jun/25	17/Jun/25
Aluminum, total	µg/L	5 ²	16.4	122	124	131	106	100
Antimony, total	µg/L	9	<0.1	<1	<0.1	<0.1	<0.1	<0.1
Arsenic, total	µg/L	5	1.38	47.5	0.63	1.36	1.51	1.38
Barium, total	µg/L	1,000	106	660	63.6	32.6	34.4	35.2
Bismuth, total	µg/L	-	<0.05	<0.5	<0.05	<0.05	<0.05	<0.05
Boron, total	µg/L	1500	<10	<100	<10	16	16	17
Cadmium, total	µg/L	0.04 - 0.37 ³	<0.005	<0.05	0.0093	<0.005	<0.005	<0.005
Calcium, total	µg/L	-	16,800	43,900	5,550	30,800	30,600	31,200
Chromium, total	µg/L	8.9	0.66	<5	<0.5	0.52	<0.5	<0.5
Cobalt, total	µg/L	0.78 - 1.8 ⁴	0.18	8.62	0.30	0.16	0.17	0.14
Copper, total	µg/L	2 - 4 ⁵	<0.5	<5.00 ¹⁰	<5.00 ¹⁰	0.56	0.66	0.55
Iron, total	µg/L	300	903	37,300	2,770	390	479	461
Lead, total	µg/L	1 to 7 ⁶	0.063	0.825	0.301	0.137	0.122	0.118
Magnesium, total	µg/L	-	1,830	6,740	1,330	3,650	3,720	3,800
Manganese, total	µg/L	-	578	2,490	959	83.9	104	102
Manganese, dissolved	µg/L	90 to 1500 ⁷	434	1,030	916	70.7	96.1	140
Mercury, total	µg/L	0.026	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum, total	µg/L	73	0.057	<0.5	<0.05	0.32	0.305	0.308
Nickel, total	µg/L	25 - 150 ⁸	<0.5	<5	0.8	<0.5	1.12	<0.5
Potassium, total	µg/L	-	1,300	7,490	922	2,160	2,190	2,190
Selenium, total	µg/L	1	<0.05	<0.5	<0.05	0.081	0.095	0.111
Silicon (as SiO ₂), total	µg/L	-	11,200	19,500	6,140	9,180	9,350	9,300
Silver, total	µg/L	0.25	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01
Sodium, total	µg/L	-	10,300	12,000	17,200	17,200	15,800	17,300
Strontium, total	µg/L	21,000	34.6	183	16.7	115	116	119
Thallium, total	µg/L	0.8	<0.01	<0.1	<0.01	<0.01	<0.01	<0.01
Tin, total	µg/L	-	0.18	<1	<0.1	<0.1	<0.1	<0.1
Titanium, total	µg/L	-	0.31	<3	1.23	3.94	2.25	2.42
Uranium, total	µg/L	15	0.033	<0.1	<0.01	0.929	1.0	0.933
Vanadium, total	µg/L	120	<0.5	<5	<0.5	1.3	1.22	1.15
Zinc, total	µg/L	-	<3.0	<30.0	<3.0	<3.0	<3.0	<3.0
Zinc, dissolved	µg/L	7 ⁹	<1.0	<1.0	2.8	<1.0	<1.0	<1.0

Notes:

value	- value exceeds NSECC Tier I EQS
<value	- value below laboratory reportable detection limit (RDL)
-	- no guideline or value

¹ 2021 Nova Scotia Environment & Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) for surface water

² Aluminium Guideline for pH < 6.5 = 5 µg/L

Aluminium Guideline for pH > 6.5 = 100 µg/L

³ At [CaCO₃] = > 0 to < 17 mg/L, cadmium guideline = 0.04 µg/L

At [CaCO₃] = ≥ 17 to ≤ 280 mg/L, cadmium guideline (µg/L) = 10^{(0.83(log(hardness)) - 2.46)}

At [CaCO₃] = > 280 mg/L, cadmium guideline = 0.37 µg/L

⁴ At [CaCO₃] = 0 to ≤ 52 mg/L, cobalt guideline = 0.78 µg/L

At [CaCO₃] = > 52 to ≤ 396 mg/L, cobalt guideline = e^{(0.414(ln(hardness)) - 1.887)}

At [CaCO₃] = > 396 mg/L, cobalt guideline = 1.8 µg/L

⁵ At [CaCO₃] = 0 to 120 mg/L, copper guideline = 2 µg/L

At [CaCO₃] = ≥ 82 to ≤ 180 mg/L, copper guideline = 0.2 * e^{(0.8545(ln(hardness)) - 1.465)}

At [CaCO₃] = > 180 mg/L, copper guideline = 4 µg/L

⁶ At [CaCO₃] = 0 to ≤ 60 mg/L, lead guideline = 1 µg/L

At [CaCO₃] = > 60 to ≤ 180 mg/L, lead guideline = e^{(1.273(ln(hardness)) - 4.705)}

At [CaCO₃] = > 180 mg/L, lead guideline = 7 µg/L

⁷ 2019 CCME Scientific Criteria Document for the Development of

the Canadian Water Quality Guidelines for the Protection of Aquatic Life

Appendix B - Manganese - Canadian Water Quality Guideline and Benchmark Calculator

⁸ Nickel Guideline - At [CaCO₃] = 0 to 60 mg/L, nickel guideline = 25 µg/L

At [CaCO₃] = > 60 to ≤ 180 mg/L, nickel guideline (µg/L) = e^{(0.76(ln(hardness)) + 1.06)}

At [CaCO₃] = > 180 mg/L, nickel guideline = 150 µg/L

At [CaCO₃] = > 180 mg/L, nickel guideline = 150 µg/L

⁹ Zinc Guideline - 10 exp(0.947(ln(hardness mg-L⁻¹)) - 0.815[pH] + 0.398(ln(DOC mg-L⁻¹)) + 4.625

When CaCO₃ 23.4 to 399 mg/L and pH 6.5 to 8.13

Otherwise, zinc guideline = 7 µg/L

¹⁰ Detection Limit Raised: Dilution required due to high concentration of test analyte(s).

TABLE 5B: Surface Water Results - General Chemistry - 2025

Client: Municipality of the County of Kings

Site: Meadowiew Landfill

Englobe - Ref No. 2408035.000

PARAMETER	UNITS	NSECC Tier I EQS ¹	SAMPLE ID					
			DATE SAMPLED					
			SW7	SW7A	SW19-B	SW24-1	SW24-2	SW24-3
			17/Jun/25	17/Jun/25	18/Jun/25	18/Jun/25	17/Jun/25	17/Jun/25
Field Readings								
Field pH	Units	6.5-9.0	6.93	6.57	6.10	7.69	7.82	7.64
Field Temperature	°C	-	14.4	14.2	13.6	16.7	17.6	16.6
Field Conductivity	µS/cm	-	141.6	515	118	253.7	249.7	224.5
Field Dissolved Oxygen	mg/L	-	7.01	0.11	3.75	7.15	9.49	9.62
Laboratory Physical Tests								
Conductivity	µS/cm	-	162	245	128	296	288	299
Alkalinity, bicarbonate (as HCO ₃)	mg/L	-	61.8	119	25.4	73.9	77.5	72.6
Alkalinity, carbonate (as CO ₃)	mg/L	-	<0.6	<0.6	<0.6	<0.6	<0.6	<0.6
Alkalinity, hydroxide (as OH)	mg/L	-	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3
Alkalinity, total (as CaCO ₃)	mg/L	-	50.7	97.5	20.8	60.6	63.5	59.5
Colour, apparent	CU	-	31.5	1380	218	30.9	39.0	29.2
Hardness (as CaCO ₃), dissolved	mg/L	-	49.5	137	19.3	91.9	91.7	93.6
Langelier index (@ 4°C)	-	-	-1.58	-1.5	-3.04	-0.591	-1.63	-0.694
Solids, total dissolved [TDS]	mg/L	-	77	182	84	157	166	176
Solids, total suspended [TSS]	mg/L	-	<3.0	41.1	5.3	7.5	<3.0	<3.0
Turbidity	NTU	-	1.72	527	6.81	3.68	11.8	2.80
pH	pH units	6.5-9.0	7.07	6.50	6.48	7.76	6.71	7.67
Langelier index (@ 20°C)	-	-	-1.33	-1.25	-2.79	-0.343	-1.38	-0.443
pH, saturation (@ 4°C)	pH units	-	8.65	8	9.52	8.35	8.34	8.36
pH, saturation (@ 20°C)	pH units	-	8.40	7.75	9.27	8.10	8.08	8.11
Laboratory Anions and Nutrients								
Ammonia, total (as N)	mg/L	varies ²	0.120	5.30	0.0285	0.0113	0.0614	0.0443
Chloride	mg/L	120	14.6	15.4	22.4	31.4	29.2	31.8
Fluoride	mg/L	0.12	0.029	0.032	0.020	0.053	0.053	0.048
Kjeldahl nitrogen, total [TKN]	mg/L	-	0.240	7.32	0.396	0.445	0.593	0.558
Nitrate (as N)	mg/L	3 ³	0.042	0.171	<0.020	2.30	2.31	2.26
Nitrate + Nitrite (as N)	mg/L	-	0.042	0.171	<0.0224	2.33	2.34	2.29
Nitrite (as N)	mg/L	0.06	<0.010	<0.010	<0.010	0.028	0.035	0.034
Phosphate, ortho-, dissolved (as P)	mg/L	-	0.0055	0.0038	0.0034	0.0412	0.0428	0.0377
Phosphorus, total	µg/L	-	15.8	123	32.8	92.2	136	89.1
Silicate (as SiO ₂)	mg/L	-	10.7	12.4	5.50	8.45	8.70	8.74
Sulfate (as SO ₄)	mg/L	128 ⁴	3.04	2.13	2.13	19.9	20.4	20.2
Laboratory Organic / Inorganic Carbon								
Carbon, total organic [TOC]	mg/L	-	3.18	5.63	14.4	3.88	4.74	3.61
Laboratory Ion Balance								
Anion sum	meq/L	-	1.49	2.44	1.09	2.68	2.69	2.67
Cation sum	meq/L	-	1.53	5.28	1.31	2.67	2.61	2.71
Ion balance (cations/anions)	%	-	103	216	120	99.6	97	101

Notes:

value	- value exceeds NSECC Tier I EQS
<value	- value below laboratory reportable detection limit (RDL)
-	- no guideline or value

¹ 2021 Nova Scotia Environment & Climate Change (NSECC) Tier I Environmental Quality Standards (EQS) for surface water

² Ammonia - calculations as per http://st-ts.ccme.ca/en/index.html?lang=en&factsheet=5#aql_fresh_concentration.

³ Nitrate guideline has been converted from Nitrate (as NH₄) to Nitrate (as N)

⁴ At [CaCO₃] = 0 to ≤30 mg/L, sulphate guideline = 128 mg/L

At [CaCO₃] = >30 to ≤75 mg/L, sulphate guideline = 218 mg/L

At [CaCO₃] = >75 to ≤180 mg/L, sulphate guideline = 309 mg/L

At [CaCO₃] = >180 mg/L, sulphate guideline = 429 mg/L

TABLE 5C: Field QA/QC of Surface Water Results - Metals and Elements - 2025

Client: Municipality of the County of Kings

Site: Meadowview Landfill

Englobe - Ref No. 2408035.000

PARAMETER	UNITS	RDL	RDL x5	SW7A		RPD (%)
				17/Jun/25	SW-DUP	
Aluminum, total	µg/L	30	150	122	131	7.11
Antimony, total	µg/L	1	5	<1	<1	NC
Arsenic, total	µg/L	1	5	47.5	49.8	4.73
Barium, total	µg/L	1	5	660	663	0.45
Bismuth, total	µg/L	0.5	2.5	<0.5	<0.5	NC
Boron, total	µg/L	100	500	<100	<100	NC
Cadmium, total	µg/L	0.05	0.25	<0.05	<0.05	NC
Calcium, total	µg/L	1000	5000	43900	42500	3.24
Chromium, total	µg/L	5	25	<5	<5	NC
Cobalt, total	µg/L	1	5	8.62	8.58	0.47
Copper, total	µg/L	0.50	2.5	<5.00	<5.00	NC
Iron, total	µg/L	100	500	37300	38200	2.38
Lead, total	µg/L	0.5	2.5	0.825	0.909	9.69
Magnesium, total	µg/L	50	250	6740	6580	2.40
Manganese, total	µg/L	1	5	2490	2460	1.21
Manganese, dissolved	µg/L	0.1	0.5	1030	1010	1.96
Mercury, total	µg/L	0.005	0.025	<0.0050	<0.0050	NC
Molybdenum, total	µg/L	0.5	2.5	<0.5	<0.5	NC
Nickel, total	µg/L	5	25	<5	6.18	NC
Potassium, total	µg/L	500	2500	7490	7340	2.02
Selenium, total	µg/L	0.5	2.5	<0.5	<0.5	NC
Silicon (as SiO ₂), total	µg/L	2140	10700	19500	19300	1.03
Silver, total	µg/L	0.1	0.5	<0.1	<0.1	NC
Sodium, total	µg/L	500	2500	12000	11800	1.68
Strontium, total	µg/L	2	10	183	182	0.55
Thallium, total	µg/L	0.1	0.5	<0.1	<0.1	NC
Tin, total	µg/L	1	5	<1	<1	NC
Titanium, total	µg/L	3	15	<3	<3	NC
Uranium, total	µg/L	0.1	0.5	<0.1	<0.1	NC
Vanadium, total	µg/L	5	25	<5	<5	NC
Zinc, total	µg/L	30	150	<30.0	<30.0	NC
Zinc, dissolved	µg/L	1	5	<1.0	<1.0	NC

Notes:

value	- RPD outside of acceptable range
RDL	- Reportable Detection Limit
RPD	- Relative Percent Difference
NC	- Non-calculable

RPD is considered non-calculable where concentrations are less than five times the laboratory detection limit.

RPD results of within 40% are considered to be acceptable.

Where RPD is non-calculable, results are considered acceptable where the difference between concentrations is less than the laboratory detection limit.

TABLE 5D: Field QA/QC of Surface Water Results - General Chemistry - 2025

Client: Municipality of the County of Kings

Site: Meadowview Landfill

Englobe Ref. No. 2408035.000

PARAMETER	UNITS	RDL	RDL x5	SW7A		RPD (%)
				17/Jun/25	SW-DUP	
Laboratory Physical Tests						
Conductivity	µS/cm	1.0	5.0	245	297	19.19
Alkalinity, bicarbonate (as HCO3)	mg/L	1.2	6.0	119	142	17.62
Alkalinity, carbonate (as CO3)	mg/L	1.0	5.0	<0.6	<0.6	NC
Alkalinity, hydroxide (as OH)	mg/L	1.0	5.0	<0.3	<0.3	NC
Alkalinity, total (as CaCO3)	mg/L	1.0	5.0	97.5	116	17.33
Colour, apparent	CU	20	100	1380	1250	9.89
Hardness (as CaCO3), dissolved	mg/L	1.0	5.0	137	133	2.96
Langelier index (@ 4°C)		0.010	0.050	-1.5	-1.34	-11.27
Solids, total dissolved [TDS]	mg/L	20	100	182	127	35.60
Solids, total suspended [TSS]	mg/L	3.0	15	41.1	32.1	24.59
Turbidity	NTU	0.10	0.50	527	274	63.17
pH	pH units	0.10	0.50	6.50	6.57	1.07
Langelier index (@ 20°C)		0.010	0.050	-1.25	-1.09	-13.68
pH, saturation (@ 4°C)	pH units	0.010	0.050	8	7.92	1.01
pH, saturation (@ 20°C)	pH units	0.010	0.050	7.75	7.66	1.17
Laboratory Anions and Nutrients						
Ammonia, total (as N)	mg/L	0.100	0.50	5.30	5.32	0.38
Chloride	mg/L	0.500	2.5	15.4	15.4	0.00
Fluoride	mg/L	0.020	0.10	0.032	0.036	11.76
Kjeldahl nitrogen, total [TKN]	mg/L	0.500	2.5	7.32	7.15	2.35
Nitrate (as N)	mg/L	0.020	0.1	0.171	0.060	96.10
Nitrate + Nitrite (as N)	mg/L	0.0224	0.112	0.171	0.060	96.10
Nitrite (as N)	mg/L	0.010	0.050	<0.010	<0.010	NC
Phosphate, ortho-, dissolved (as P)	mg/L	0.0010	0.0050	0.0038	0.0019	66.67
Phosphorus, total	µg/L	2.0	10	123	122	0.82
Silicate (as SiO2)	mg/L	0.50	2.5	12.4	14.4	14.93
Sulfate (as SO4)	mg/L	0.30	1.5	2.13	1.84	14.61
Laboratory Organic / Inorganic Carbon						
Carbon, total organic [TOC]	mg/L	0.50	2.5	5.63	5.56	1.25
Laboratory Ion Balance						
Anion sum	meq/L	0.10	0.50	2.44	2.8	13.74
Cation sum	meq/L	0.10	0.50	5.28	5.22	1.14
Ion balance (cations/anions)	%	0.010	0.050	216	186	14.93

Notes:

value	- RPD outside of acceptable range
RDL	- Reportable Detection Limit
RPD	- Relative Percent Difference
NC	- Non-calculable

RPD is considered non-calculable where concentrations are less than five times the laboratory detection limit.

RPD results of within 40% are considered to be acceptable.

Where RPD is non-calculable, results are considered acceptable where the difference between concentrations is less than the laboratory detection limit.

Table 6: Landfill Gas Results
Meadowview Well Observations and Field Data - 2025
Client: Municipality of the County of Kings
Site: Meadowview Landfill
Englobe - Ref No. 2408035.000

MW ID	Gas Monitoring			
	Methane (ppm)	Methane LEL	Oxygen (%)	Carbon Dioxide (%)
MW4-A	-	0.1	20.5	0.0
MW4-C	-	-	-	-
MW12-A	-	0	20.6	0.1
MW19-A	-	0	20.3	0.1
MW20-A	-	0	20.2	0.1
MW20B	-	-	-	-
MW21-C	-	0	20.6	0.1
MW22-A	-	0	20.7	0.1
MW22-B	-	0	20.5	0.3
MW22-C	-	0	20.6	0.1
MW23-A	-	0	20.4	0.2
MW23-B	-	0	20.4	0.1
MW23-C	-	0	20.4	0.1
MW24-A	-	0	19.9	0.2
MW24-B	-	0	20.2	0.1
MW25-B	-	0.1	20.5	0.1
MW26-B	-	0	20.7	0.1
MW27-B	-	0.1	20.6	0.2
MW27-C	-	0	20.8	0.1
MW28-B	-	0.1	21.1	0.1
MW29-B	-	0.1	21.1	0.1
MW29-C	-	0.1	21.1	0.1
MW32-A	-	0	20.3	0.3
MW35-A	-	0	19	0.0
MW36-A	-	0.1	20.6	0.1
TH1	-	0	20.4	0.1
TH2	-	0	20.5	0.1

Graphs

Figure D-1: Groundwater Area 1 - Ammonia

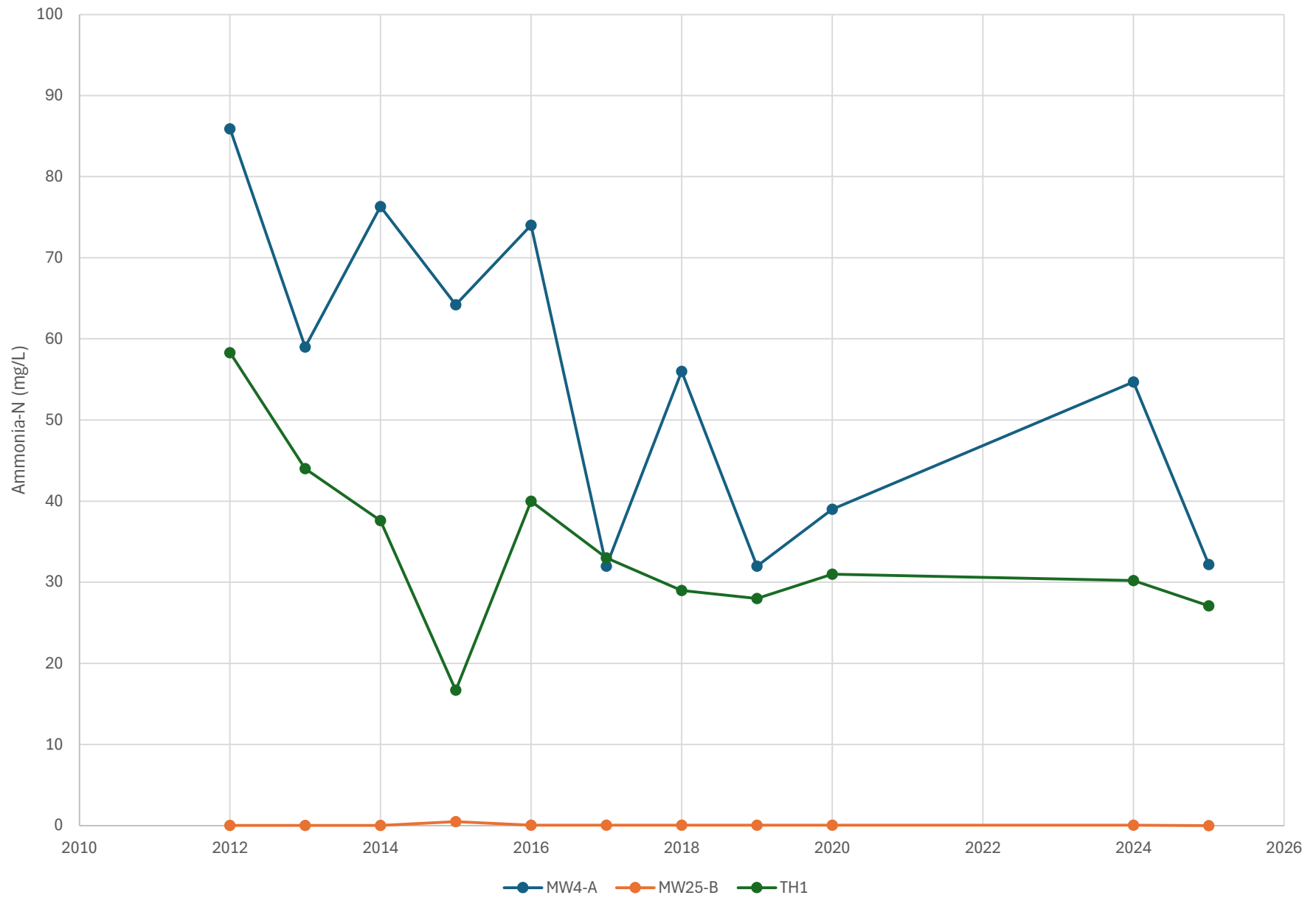


Figure D-2: Groundwater Area 2 - Ammonia

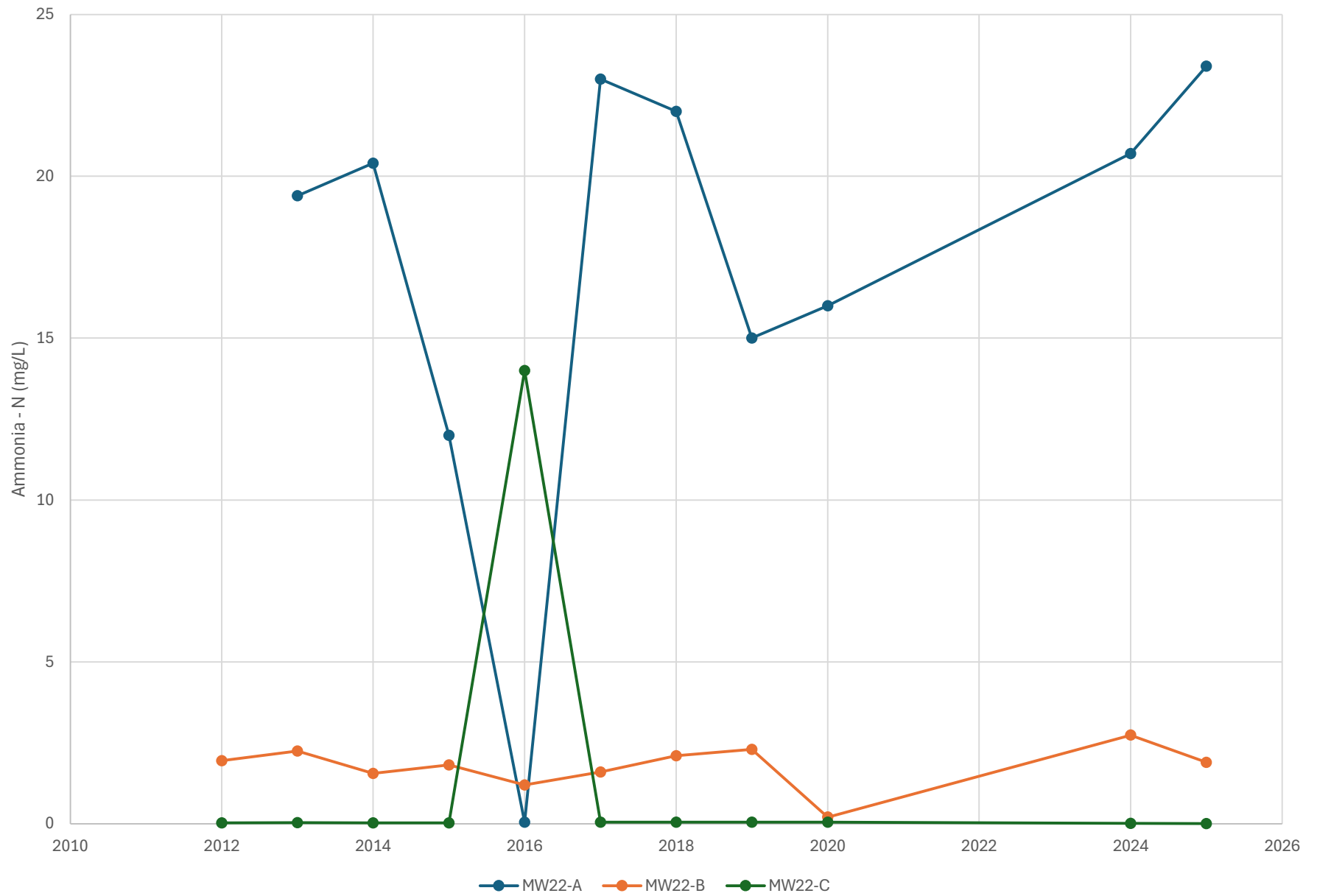


Figure D-3: Groundwater Area 1 - Chloride

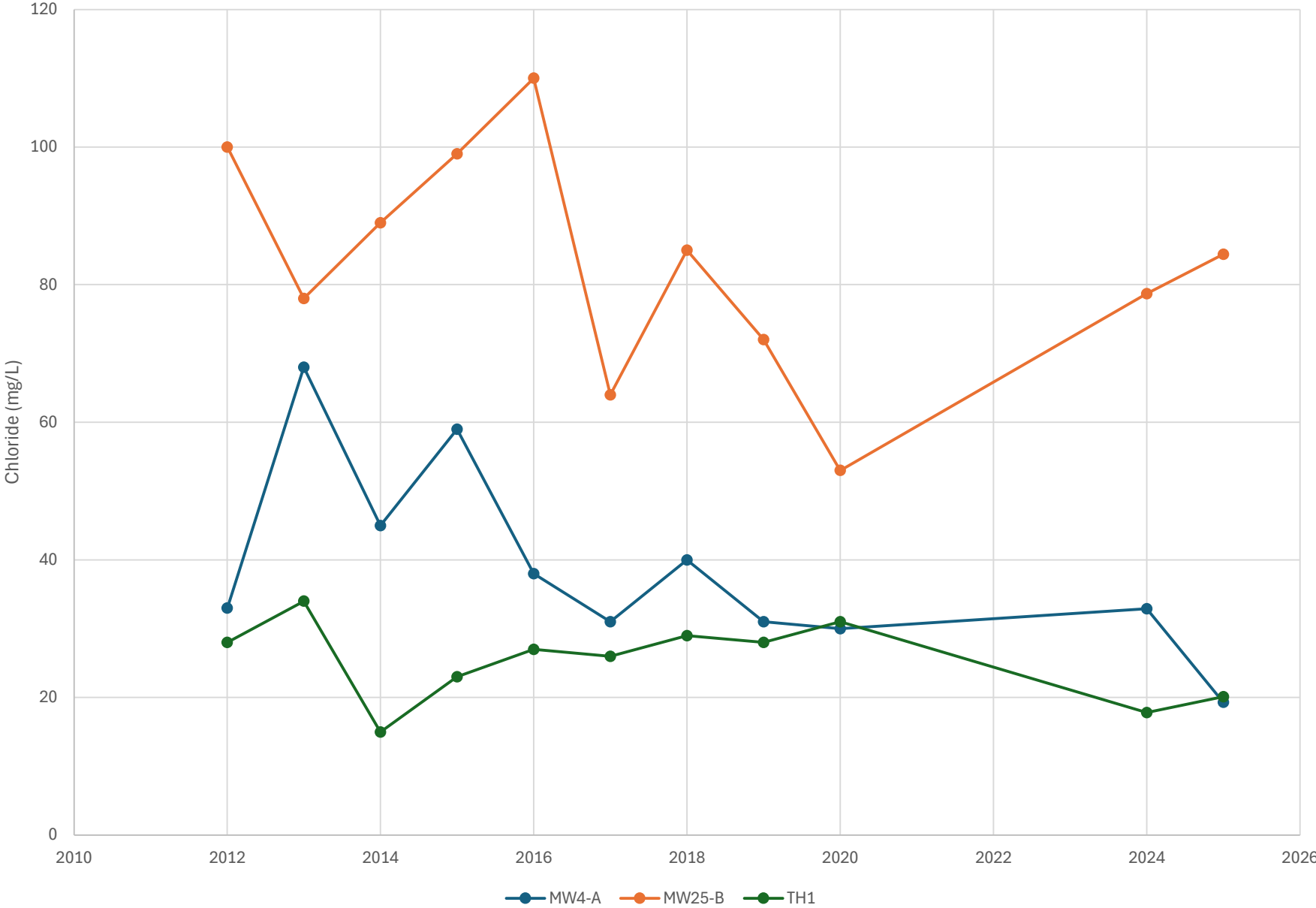


Figure D-4: Groundwater Area 2 - Chloride



Figure D-5: Groundwater Area 1 - Conductivity

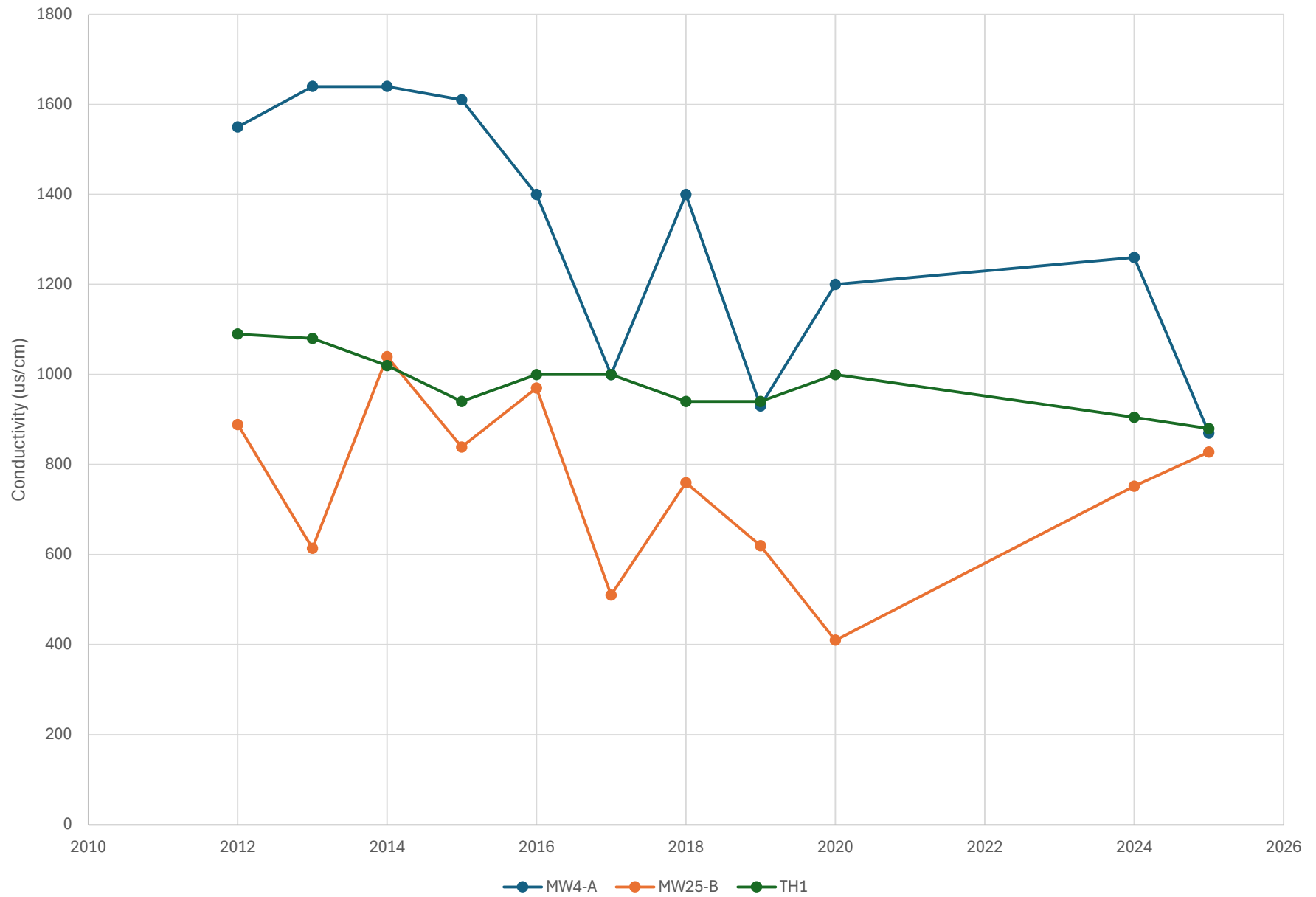


Figure D-6: Groundwater Area 2 - Conductivity

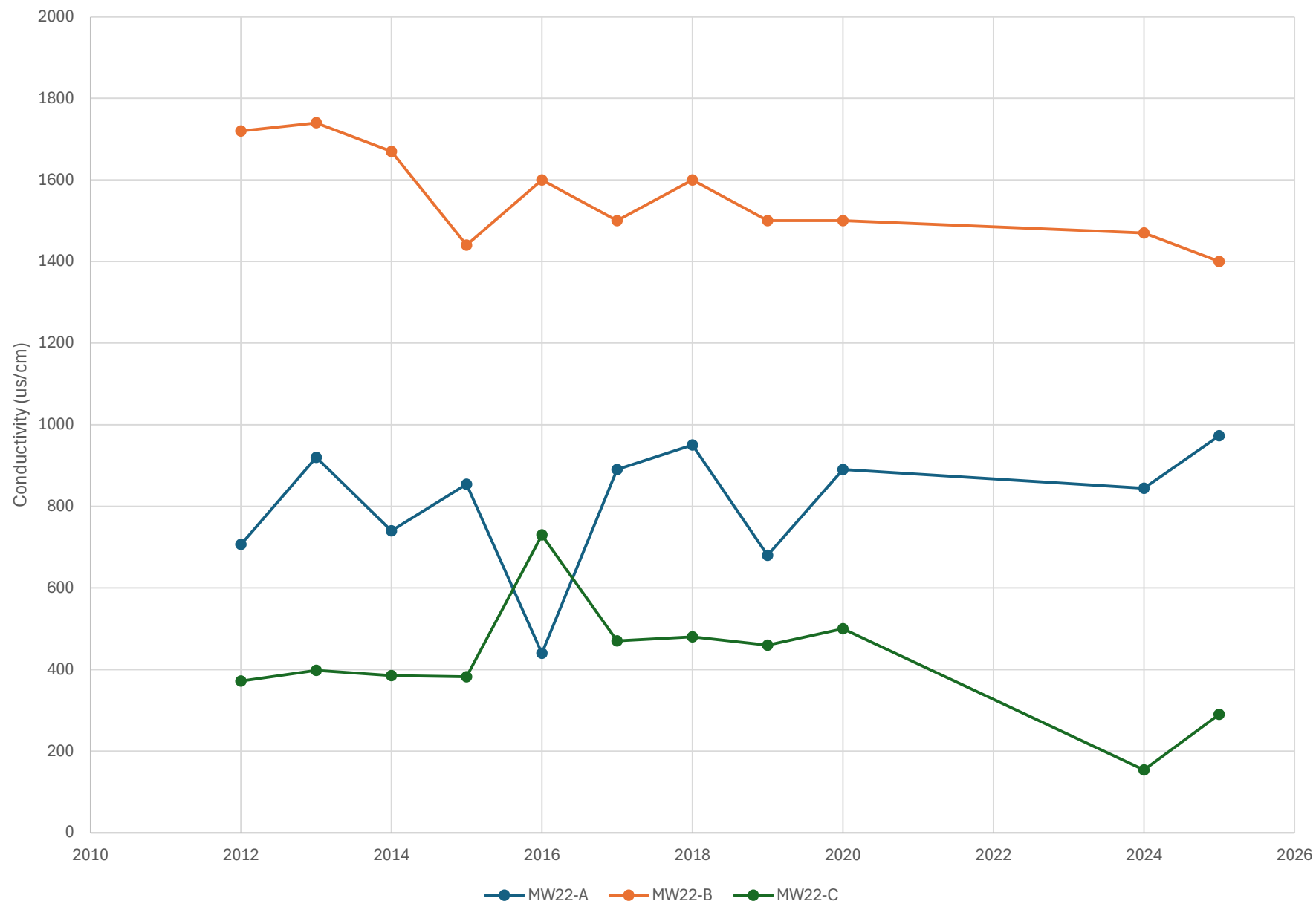


Figure D-7: Surface Water Ammonia



Figure D-8: Surface Water Chloride

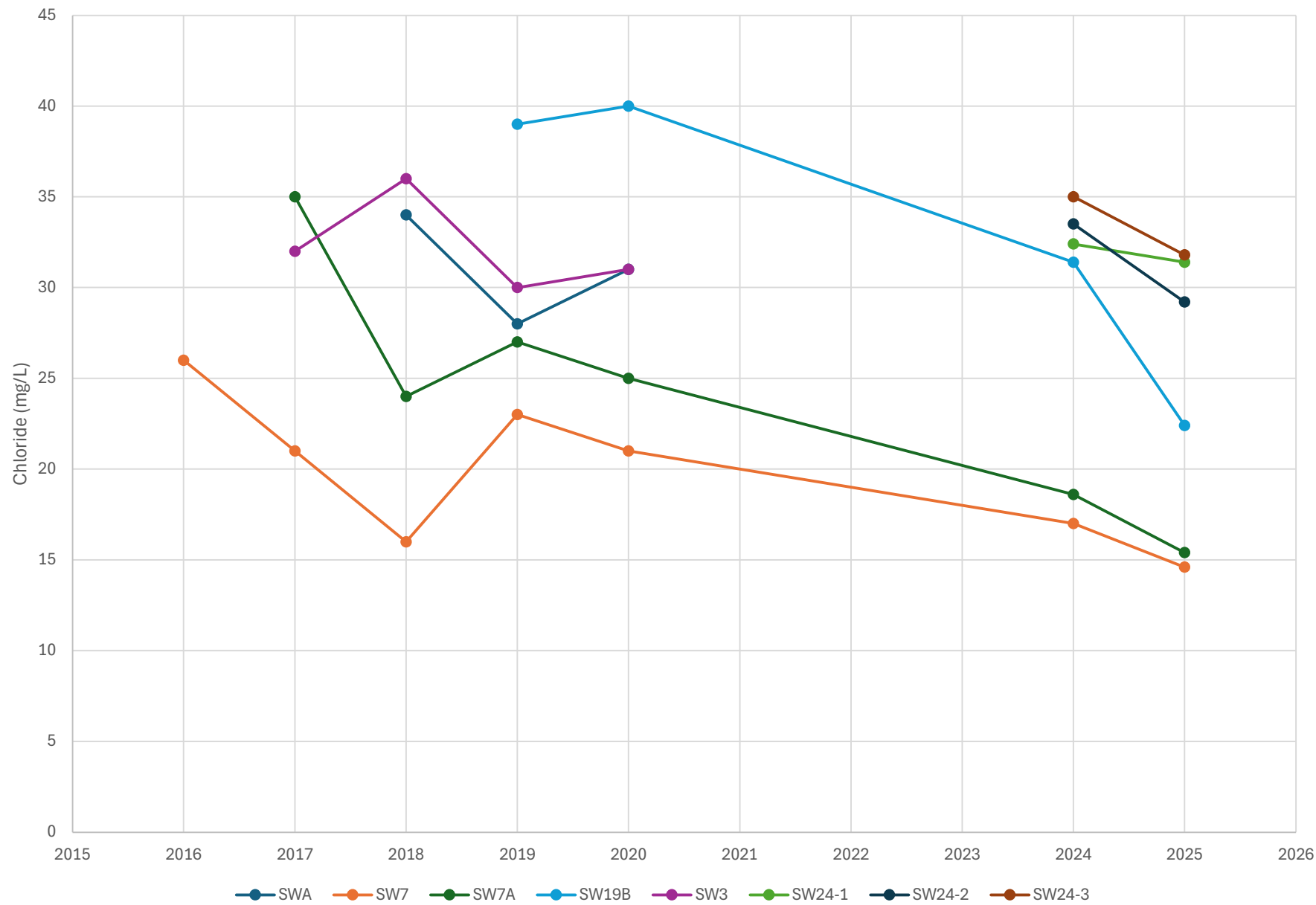
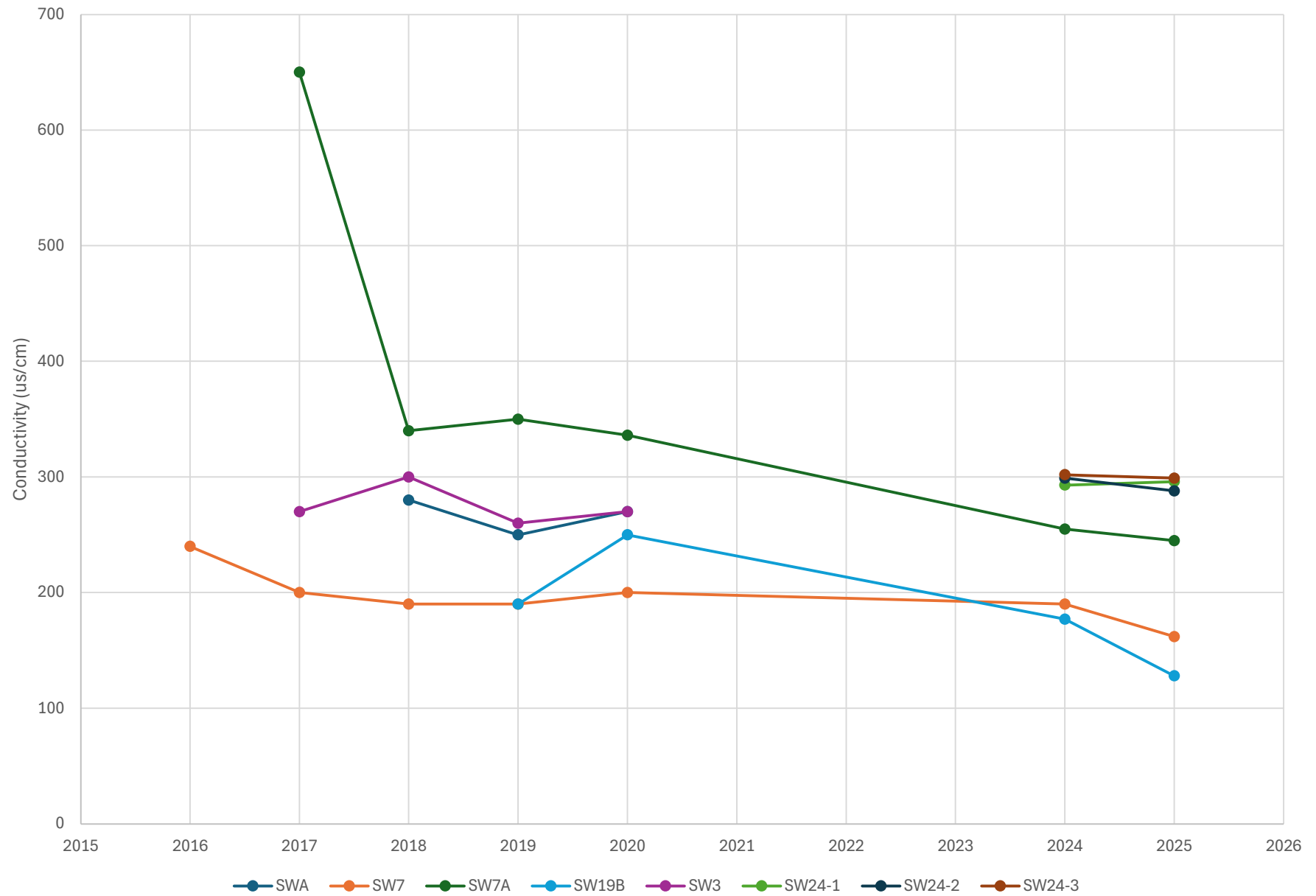
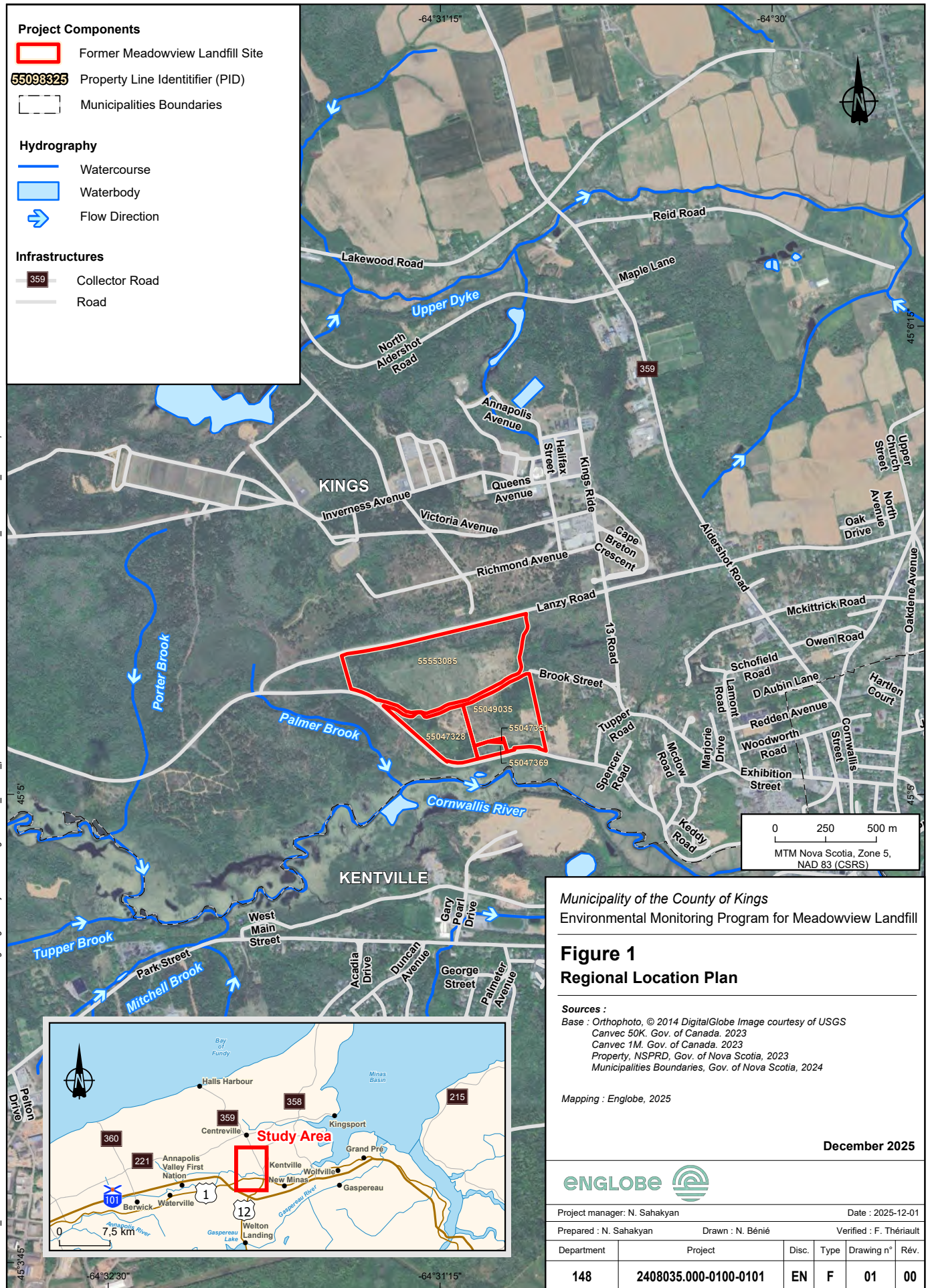


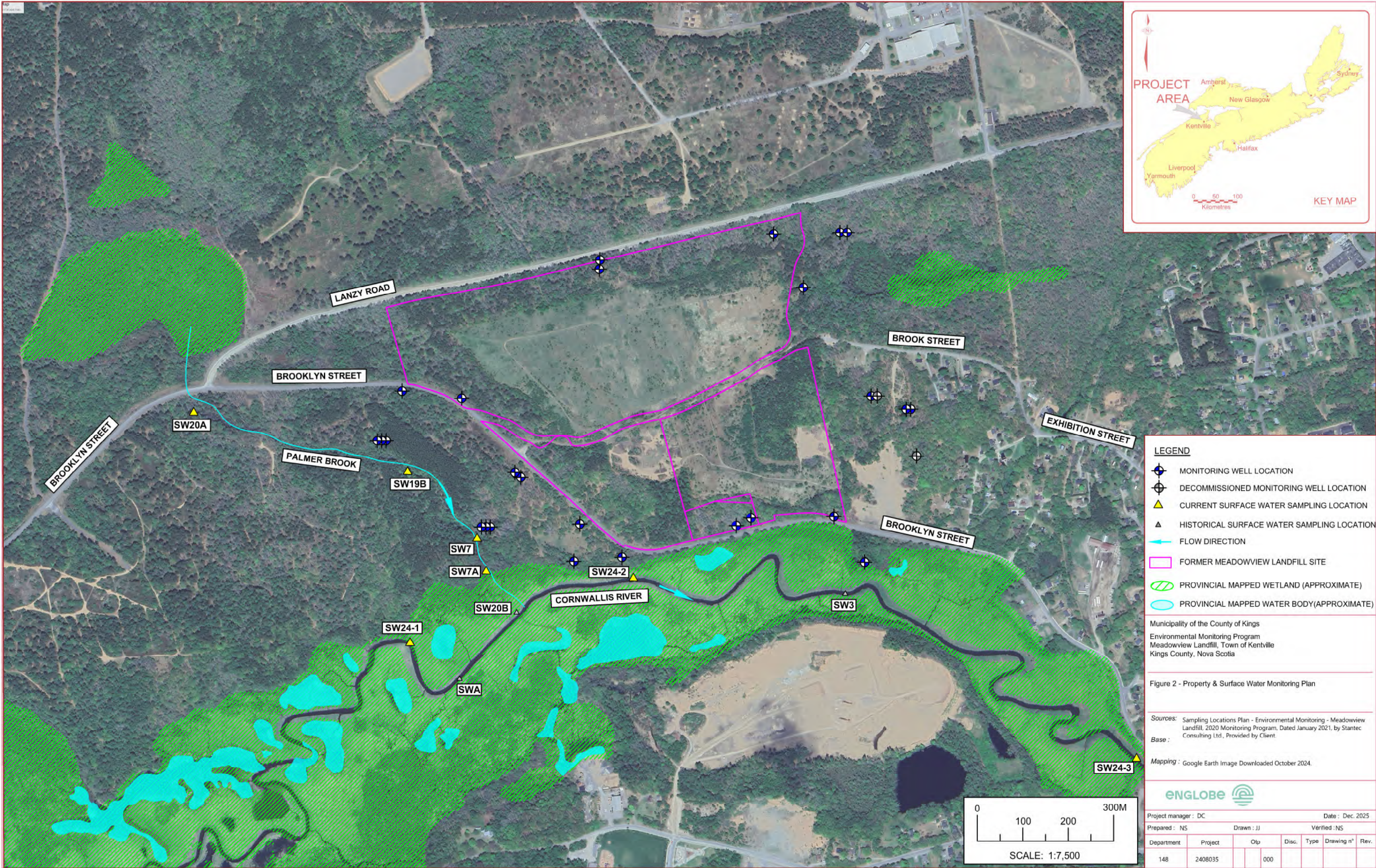
Figure D-9: Surface Water Conductivity

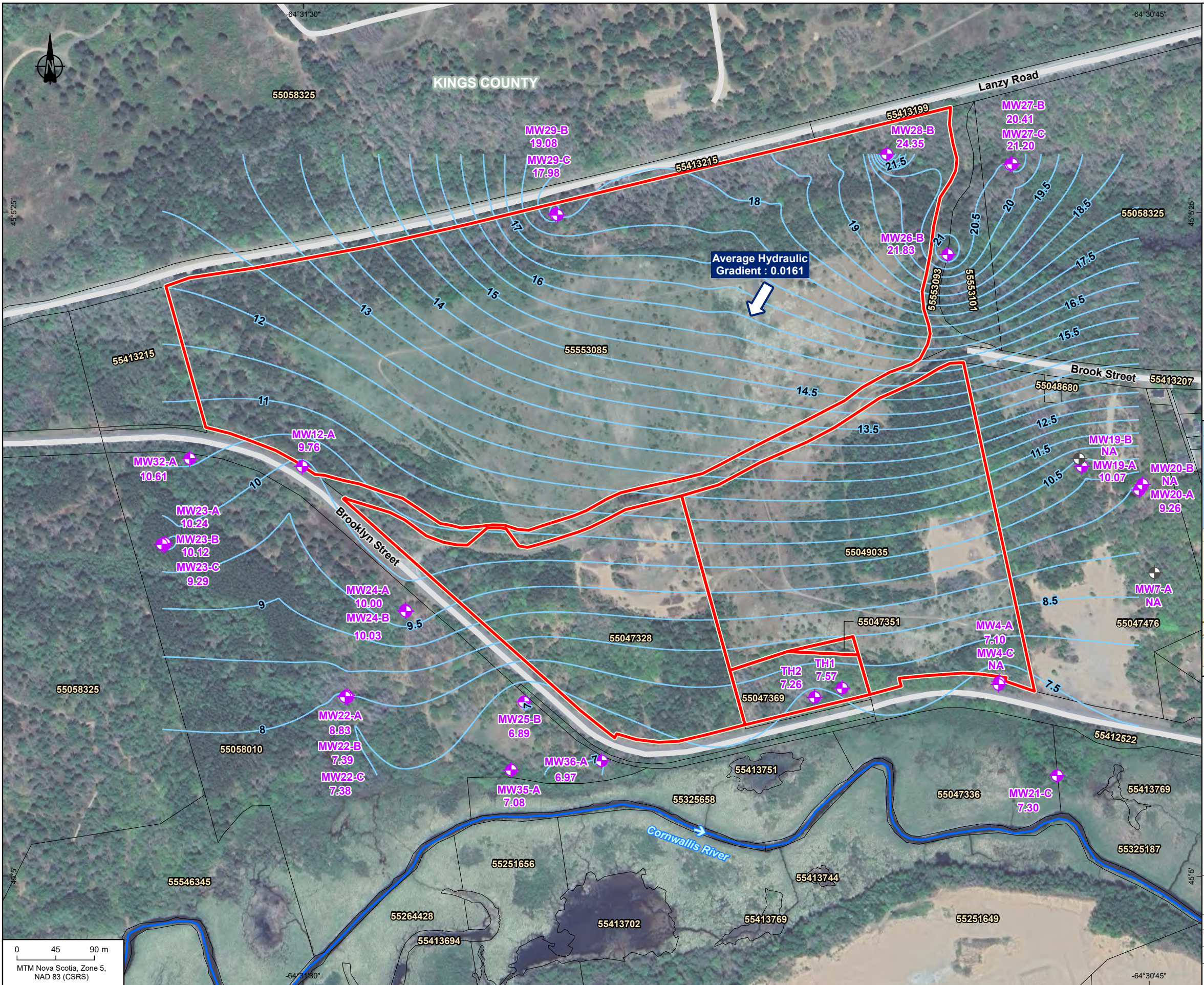


Figures

Fichier : X:\2024_Deltek\2408035.000 Meadowview Landfill Environmental Monitoring Program\Project\2025 Program\COI2_Carroi5_product\01000101148-02-408035-0100-0101-ENV-F-01-00_LocationPlan_251202.aprx







- ### Project Components
-  Former Meadowview Landfill Site
-  Property Line
-  **MW19-A** — Monitoring Well Identifier (MW)
 **9.83** — Ground Water Elevation (m)
 — Monitoring Well
-  **MW19-B** — Decommissioned Monitoring Well Identifier (MW)
 **NA** — Ground Water Elevation (m)
 — Monitoring Well
-  Groundwater Flow Direction
-  **-12.5** — Groundwater Elevation, Contour 50 cm
- ### Hydrography
-  Watercourse
-  Flow Direction
- ### Infrastructure
-  Road



Municipality of the County of Kings
Environmental Monitoring Program for Meadowview Landfill

Figure 3 Groundwater Elevations & Monitoring Plan

Sources :
*Base : Orthophoto, © 2014 DigitalGlobe Image courtesy of USGS
 Canvec 50K. Gov. of Canada. 2023
 Canvec 1M. Gov. of Canada. 2023
 Property, NSPRD, Gov. of Nova Scotia, 2023*
Mapping : Englobe, 2025

December 2025



Project manager : N. Sahakyan					Date : 2025-12-01	
Prepared : N. Sahakyan		Drawn : N.Benie		Verified : F. Thériault		
Department	Projet	Sub-phase	Disc.	Type	Drawing n°	Rev.
148	2408035.000	0101	EN	F	03	00

Appendix A

Correspondence



From: [Dan Hagan](#)
To: [Michael Haverstock \(NSECC\)](#)
Cc: [Nathalie Sahakyan, P.Geo. \(Englobe\)](#)
Subject: Well Decommissioning (MW7-A & MW19-B) Letter Re: Meadowview Landfill - Municipality of the County of Kings
Date: November 18, 2025 8:49:00 AM
Attachments: [2025-11-07 - KINGS - Meadowview Landfill - Well Decommissioning Letter \(MW7A & MW19-B\) - Englobe.pdf](#)

Good morning, Mr. Haverstock,

On behalf of the Municipality of the County of Kings, please find enclosed a *Monitoring Well Decommissioning Letter* prepared by our environmental consultants, Englobe, as part of the Environmental Monitoring Program for the closed Meadowview Landfill in North Kentville, NS.

This letter addresses the decommissioning of monitoring wells MW7-A and MW19-B, which was completed on October 29 and 30, 2025, as part of our 2025 Environmental Monitoring Program. The wells were decommissioned due to observed damage.

We trust this submission meets the requirements outlined in the Nova Scotia Environment and Climate Change (NSECC) *Environmental Monitoring Well Decommissioning Fact Sheet*.

Should you have any questions or require additional information, please do not hesitate to contact me at your convenience.

Sincerely,

DAN HAGAN, P.Geo.
STRATEGIC PROJECT SPECIALIST

T: 902-690-6170
181 Coldbrook Village Park Drive
Coldbrook, NS, B4R 1B9





November 17, 2025

Municipality of the County of Kings

181 Coldbrook Village Park Dr.
Coldbrook, Nova Scotia B4R 1B9

Attention: Mr. Dan Hagan, Strategic Project Specialist

Subject: Monitoring Well Decommissioning Letter
Meadowview Landfill, North Kentville, Nova Scotia
Client Reference: NFRP #24-33
Englobe Reference: 2308035.001

On October 29 and 30, 2025, Nova Drilling, under the direction of Englobe Corp. (Englobe) completed the decommissioning of groundwater monitoring wells at the above referenced site. The two wells, identified as MW7-A and MW19-B, had originally been installed by others in 1983 and 1993, respectively, as part of various hydrogeological investigations at the Meadowview Landfill.

During the 2024 Annual Environmental Monitoring Program, the Municipality reported damage to both MW7-A and MW19-B. Following this notification, it was recommended that the wells be decommissioned in 2025 under the supervision of a Site Professional, such as Englobe, recognized by the Province of Nova Scotia.

MW7-A and MW19-B were originally drilled to depths of 24.4 m and 40.7 m below ground surface, respectively. However, obstructions rendered both wells inoperable: MW7-A was blocked at 19.6 m, while MW19-B was obstructed at 19.3 m. Both wells had 100-mm stick-up steel casing protecting the monitoring well.

As per the Nova Scotia Environment and Climate Change (NSECC) *Environmental Monitoring Well Decommissioning Fact Sheet*, Englobe personnel supervised the following items for both well locations:

1. All tubing, bailers and other obstructions were removed where able;
2. The static water level and total depth of the well were measured and recorded where able;
3. Bentonite chips were poured slowly into the wells in order to create a seal and prevent the vertical migration of water or other liquids into the wells while ensuring bridging did not occur;
4. The well casing was cut a minimum of 0.3 m below the ground surface;
5. The remaining void was filled with native material (i.e. sod, sand and gravel) to the ground surface and graded to eliminate surface water ponding.

We trust that this information meets your present requirements. If you require additional information, please do not hesitate to contact the undersigned.

Yours very truly,

Englobe Corp.

Nathalie Sahakyan, P.Geo.
Hydrogeologist, Project Manager
Environmental Engineering

From: [Haverstock, Michael](#)
To: [Dan Hagan](#); [Zhao, Lanying X](#)
Cc: [Nathalie Sahakyan, P.Geo. \(Englobe\)](#)
Subject: Re: Well Decommissioning (MW7-A & MW19-B) Letter Re: Meadowview Landfill - Municipality of the County of Kings
Date: November 18, 2025 9:31:56 AM
Attachments: [2025-11-07 - KINGS - Meadowview Landfill - Well Decommissioning Letter \(MW7A & MW19-B\) - Englobe.pdf](#)

*** Your attachment(s) were cleaned by Check Point. [Click here](#) to restore the original(s) or contact your system administrator. ***

Hi Dan,

Thanks for the update. No comments from me.

I've copied ECC's Regional Hydrogeologist, Lanying Zhao, here as well.

Regards,



Michael Haverstock, P.Eng.
District Engineer
Inspection Compliance & Enforcement Division

136 Exhibition Street, Floor 2
Kentville, NS B4N 4E5
☎ Cell: (902) 478-1639
☎ Office: (902) 679-6086
✉ mike.haverstock@novascotia.ca

From: Dan Hagan <dhagan@countyofkings.ca>
Sent: November 18, 2025 8:49 AM
To: Haverstock, Michael <Michael.Haverstock@novascotia.ca>
Cc: Nathalie Sahakyan, P.Geo. (Englobe) <nathalie.sahakyan@englobecorp.com>
Subject: Well Decommissioning (MW7-A & MW19-B) Letter Re: Meadowview Landfill - Municipality of the County of Kings

**** EXTERNAL EMAIL / COURRIEL EXTERNE ****

Exercise caution when opening attachments or clicking on links / Faites preuve de prudence si vous ouvrez une pièce jointe ou cliquez sur un lien

Good morning, Mr. Haverstock,

On behalf of the Municipality of the County of Kings, please find enclosed a *Monitoring Well Decommissioning Letter* prepared by our environmental consultants, Englobe, as part of the Environmental Monitoring Program for the closed Meadowview Landfill in North Kentville, NS.

This letter addresses the decommissioning of monitoring wells MW7-A and MW19-B, which was completed on October 29 and 30, 2025, as part of our 2025 Environmental Monitoring

Program. The wells were decommissioned due to observed damage.

We trust this submission meets the requirements outlined in the Nova Scotia Environment and Climate Change (NSECC) *Environmental Monitoring Well Decommissioning Fact Sheet*.

Should you have any questions or require additional information, please do not hesitate to contact me at your convenience.

Sincerely,

DAN HAGAN, P.Geo.

STRATEGIC PROJECT SPECIALIST

T: 902-690-6170

181 Coldbrook Village Park Drive

Coldbrook, NS, B4R 1B9



Appendix B Photograph Log





Photo 1: Surface water sampling location SW7.



Photo 2: Surface water sampling location SW7A.



Photo 3: Surface water sampling location SW19B.



Photo 4: Surface water sampling location SW20A. Note: the location was dry and unable to be sampled.



Photo 5: Surface water sampling location SW24-1.



Photo 6: Surface water sampling location SW24-2.



Photo 7: Surface water location SW24-3.



Photo 8: Monitoring well TH1.



Photo 9: Monitoring well TH2.



Photo 10: Monitoring Well MW4A.



Photo 11: Monitoring Well MW7A. Note: homemade shelter.



Photo 12: Monitoring Well MW7A close up.



Photo 13: Monitoring Well MW12A.



Photo 14: Monitoring Well MW19A.



Photo 15: Monitoring Well MW19A.



Photo 16: Monitoring Well MW20A



Photo 17: Monitoring Well MW21C.



Photo 18: Monitoring Wells MW22A (center), MW22B (left), and MW22C (right).



Photo 19: Monitoring Wells MW23A (right), MW23B (left front), and MW23C (left back).



Photo 20: Monitoring Wells MW24 A (right) and MW24B (left).



Photo 21: Monitoring Well MW25B.



Photo 22: Monitoring Well MW26B.



Photo 23: Monitoring Wells MW27B (left) and MW27C (right).



Photo 24: Monitoring Well MW28B.



Photo 25: Monitoring Wells MW29B (left) and MW29C (right).



Photo 26: Monitoring Well MW32A.



Photo 27: Monitoring Well MW35A.



Photo 28: Monitoring Well Monitoring Well MW36A.

Appendix C

Field Sampling Records



Groundwater Monitoring and Low-Flow Sample Collection Form

Location:	Meadowview Landfill	Date:	June 17, 2025																	
Project #:	2408035.000	Personnel:	VJ and MM																	
Weather:	Sunny 28°C		Monitoring Equipment:	Water Level Meter, YSI, GEM5000																
Decontamination Method:			Water Quality Meter (YSI) Serial No.:																	
Pump (highlight one):	Waterra / Peristaltic / Geo-submersible / Bladder		Pump Description:																	
Well ID	Sample Collection Time	Groundwater Monitoring Data and Field Parameters																		
		Static Water Level Depth (mbtoc and mbgs)	Borehole Depth (mbgs)	Stick-Up Height (m)	Borehole Diameter (mm)	Purge Volume Required (L)	Purge Volume Obtained (L)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour and Clarity	Odour and Sheen	Gas Monitoring				Photos	Lock (Y or N)	Comments
														Methane (ppm)	Methane (LEL)	Oxygen	Carbon Dioxide			
MW29-B	11:10	3.875 and 3.591	9.351	0.284	60	35	20 and went dry	13.9	7.91	14.7	7.95	Orangey brown	No sheen, musty odour	-	0.1	21.1	0.1	Y	Y	Slow recovery
MW29-C	11:25	5.239 and 4.769	17.430	0.470	60	76	40 and went dry	12.1	9.03	141.8	5.58	Orangey brown	No sheen, slight musty odour	-	0.1	21.1	0.1	Y	Y	Slow recovery
MW28-B	17:00	5.560 and 5.290	14.822	0.270	60	57	17 and went dry	10.8	8.61	169.3	9.94	Orangey brown and cloudy	No sheen, no odour	-	0.1	21.1	0.1	Y	Y	Slow recovery
MW27-B	16:45	3.733 and 3.413	13.380	0.320	60	60	20 and went dry	16	8.79	160.8	9.05	Orangey brown and opaque	No sheen, musty odour	-	0.1	20.6	0.2	Y	Y	Slow recovery
MW35-A	No sample	3.087 and 2.457	3.435	0.630	60	No Sample								-	0	19.0	0	Y	Y	Tent and camp nearby
MW24-A	No sample	3.359 and 2.872	4.313	0.487	60	No sample								-	0	19.9	0.2	Y	Y	-
MW24-B	No sample	3.225 and 2.775	11.55	0.450	60	No sample								-	0	20.2	0.1	Y	Y	-

Note: Recommended stabilization criteria: temp ±0.5°C; pH ± 0.1 units; EC ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes.

Groundwater Monitoring and Low-Flow Sample Collection Form

Location:		Meadowview Landfill					Date:		June 17 and 18, 2025											
Project #:		2408035.000					Personnel:		VJ and MM											
Weather:		Sunny 28°C					Monitoring Equipment:		Water Level Meter, YSI, GEM5000											
Decontamination Method:								Water Quality Meter (YSI) Serial No.:												
Pump (highlight one):			Waterra / Peristaltic / Geo-submersible / Bladder					Pump Description:												
Well ID	Sample Collection Time	Groundwater Monitoring Data and Field Parameters																		
		Static Water Level Depth (mbtoc and mbgs)	Borehole Depth (mbgs)	Stick-Up Height (m)	Borehole Diameter (mm)	Purge Volume Required (L)	Purge Volume Obtained (L)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour and Clarity	Odour and Sheen	Gas Monitoring				Photos	Lock (Y or N)	Comments
														Methane (ppm)	Methane (LEL)	Oxygen	Carbon Dioxide			
MW27-C	No sample	2.796 and 2.496	14.610	0.300	60	No sample								-	0	20.8	0.1	Y	Y	-
MW26-B	No sample	3.178 and 2.648	13.840	0.530	60	No sample								-	0	20.7	0.1	Y	Y	J-plug broken, sealed with nitrile glove
MW36-A	No sample	4.057 and 3.495	4.038	0.562	60	No sample								-	0.1	20.6	0.1	Y	Y	-
MW25-B	15:45	4.579 and 4.164	13.285	0.415	60	55	55	18.3	7.26	836.0	2.58	Light brown, clear	No sheen, musty odour	-	0.1	20.5	0.1	Y	Y	-
MW23-C	10:40	3.211	18.860	-	60	94	94	13.6	7.78	129.0	6.60	Orangey, slightly clear to cloudy	No sheen, no odour	-	0	20.4	0.1	Y	Y	Casing flush with ground
MW22-A	14:30	2.188 and 1.863	8.380	0.325	60	39	40	14.9	6.44	821.0	2.06	Clear, minimal sediment	No sheen, organic odour	-	0	20.7	0.1	Y	Y	GW DUP
MW22-B	15:15	3.637 and 3.332	12.945	0.305	60	58	20 and went dry	16.0	7.39	1269.0	9.65	Orangey-brown, some sediment	No sheen, organic odour	-	0	20.5	0.3	Y	Y	Ants in stick up, tubing removed

Note: Recommended stabilization criteria: temp ±0.5°C; pH ± 0.1 units; EC ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes.

Groundwater Monitoring and Low-Flow Sample Collection Form

Location:		Meadowview Landfill					Date:		June 18 and 19, 2025											
Project #:		2408035.000					Personnel:		VJ and MM											
Weather:		Sunny 28°C					Monitoring Equipment:		Water Level Meter, YSI, GEM5000											
Decontamination Method:								Water Quality Meter (YSI) Serial No.:												
Pump (highlight one):			Waterra / Peristaltic / Geo-submersible / Bladder					Pump Description:												
Well ID	Sample Collection Time	Groundwater Monitoring Data and Field Parameters																		
		Static Water Level Depth (mbtoc and mbgs)	Borehole Depth (mbgs)	Stick-Up Height (m)	Borehole Diameter (mm)	Purge Volume Required (L)	Purge Volume Obtained (L)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour and Clarity	Odour and Sheen	Gas Monitoring				Photos	Lock (Y or N)	Comments
														Methane (ppm)	Methane (LEL)	Oxygen	Carbon Dioxide			
MW22-C	16:00	3.682 and 3.347	18.570	0.335	60	91	96	16.0	7.09	170.5	5.33	Clear with sediment and debris	No sheen, organic/sulphur odour	-	0	20.6	0.1	Y	Y	-
MW12-A	No sample	3.076 and 2.761	3.537	0.315	60	No sample							-	0	20.6	0.1	Y	Y	-	
MW32-A	No sample	2.123 and 1.473	2.365	0.650	60	No sample							-	0	20.3	0.3	Y	Y	-	
MW23-A	10:10	2.601 and 2.331	4.620	0.270	60	14	16	15.1	6.82	264.3	1.61	Brown, moderate turbidity	No sheen, no odour	-	0	20.4	0.2	Y	Y	Ants in stick up
MW23-B	10:30	2.743 and 2.368	11.105	0.375	60	52	52	13.4	6.61	285.8	1.03	Brown-orange, cloudy	No sheen. No odour	-	0	20.4	0.1	Y	Y	-
TH1	12:15	5.588	9.325	-	60	22	22	12.9	7.09	821.0	2.56	Brown sediment present	No sheen, musty/septic odour	-	0	20.4	0.1	Y	Y	-
MW4-A	13:20	4.604	10.587	-	60	17	7 and went dry	15.5	6.67	744.0	2.83	Brown, turbid, sediment present	No sheen, septic odour	-	0	20.5	0.1	Y	Y	-
MW4-C	13:25	No Sample																		Wasps in stick up

Note: Recommended stabilization criteria: temp ±0.5°C; pH ± 0.1 units; EC ± 3%; DO ± 1 mg/L; ORP ± 10 mV; for at least three successive measurements that are made every 3-5 minutes.

Groundwater Monitoring and Low-Flow Sample Collection Form

Location:		Meadowview Landfill				Date:		June 19, 2025												
Project #:		2408035.000				Personnel:		VJ and MM												
Weather:		Sunny 30°C				Monitoring Equipment:		Water Level Meter, YSI, GEM5000												
Decontamination Method:						Water Quality Meter (YSI) Serial No.:														
Pump (highlight one):		Waterra / Peristaltic / Geo-submersible / Bladder				Pump Description:														
Well ID	Sample Collection Time	Groundwater Monitoring Data and Field Parameters																		
		Static Water Level Depth (mbtbc and mbgs)	Borehole Depth (mbgs)	Stick-Up Height (m)	Borehole Diameter (mm)	Purge Volume Required (L)	Purge Volume Obtained (L)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour and Clarity	Odour and Sheen	Gas Monitoring				Photos	Lock (Y or N)	Comments
														Methane (ppm)	Methane (LEL)	Oxygen	Carbon Dioxide			
MW20-A	13:00	21.150	25.781	-	60	28	6 and went dry	12.4	7.76	147.0	4.66	Brown tinge, relatively clear	No sheen, no odour	-	0	20.2	0.1	Y	Y	Need socket wrench
MW20-B	13:05	No Sample																		Wasps in stick up
MW19-A	No sample	18.964 and 18.864	26.532	0.100	60	No sample							-	0	20.3	0.1	Y	Y	No J-plug, sealed with nitrile glove	
MW21-C	11:45	1.965 and 1.685	23.105	0.280	60	128	128	14.8	7.21	74.8	6.99	Slightly brown to clear	No sheen, no odour	-	0	20.5	0.1	Y	Y	-
TH2	No sample	4.650 and 4.003	16.374	0.647	60	No sample							-	0	20.5	0.1	Y	Y	-	

Surface Water Monitoring and Sample Collection Form

Location:	Meadowview Landfill	Date:	June 17, 2025
Project #:	2408035.000	Personnel:	VJ and MM
Weather:	Sunny 28 °C	Monitoring Equipment:	
Decontamination Method:		Water Quality Meter (YSI) Serial No.:	

Surface Water Sample ID	Sample Collection Time	Physical Stream Data																	
		Total Stream Width (m)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour, Clarity, Odour and Sheen
SW24-3	12:15	12.40	#1 1	0.15	0.36	-	#6 6	0.15	0.77	-	#11 -	-	-	-	16.6	7.64	224.5	9.62	Clear, no odour, no sheen
			#2 2	0.25	0.34	-	#7 7	0.10	0.83	-	#12 -	-	-	-					
			#3 3	0.55	0.53	-	#8 8	0.12	0.76	-	#13 -	-	-	-					
			#4 4	0.26	0.57	-	#9 9	0.05	0.58	-	#14 -	-	-	-					
			#5 5	0.20	0.60	-	#10 10	0.05	0.49	-	#15 -	-	-	-					
SW24-2	13:30	No flow measurements, too deep.											17.6	7.82	249.7	9.46	Slight brownish tinge, no sheen, no odour		

Note: If the stream is less than five (5) metres wide, then velocity measurements should be taken at approximately every 0.5 m across the stream. For a stream width of five (5) metres or greater, velocity measurements should be taken at approximately 1 m increments across the stream. If the depth is 0.6 m or greater, take a flow measurement at 20% and 80% of the water column. One streamflow measurement at 50% depth if water column is less than 0.6 m deep.

Surface Water Monitoring and Sample Collection Form

Location:	Meadowview Landfill	Date:	June 17, 2025
Project #:	2408035.000	Personnel:	VJ and MM
Weather:	Sunny 28 °C	Monitoring Equipment:	
Decontamination Method:		Water Quality Meter (YSI) Serial No.:	

Surface Water Sample ID	Sample Collection Time	Physical Stream Data										Flow Velocity #2 (m/s)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour, Clarity, Odour and Sheen	
		Total Stream Width (m)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)							
SW7-A	14:30	1.0	No flow measurements, too shallow to collect flow rate. Poor accessibility.											14.2	6.57	515.0	0.11	Orange, opaque, organic odour, manganese sheen.
SW7	15:00	1.0	No flow measurements, too shallow to collect flow rate.											14.4	6.93	141.6	7.01	Brown-light brown, clear, musty odour, manganese sheen.

Note: If the stream is less than five (5) metres wide, then velocity measurements should be taken at approximately every 0.5 m across the stream. For a stream width of five (5) metres or greater, velocity measurements should be taken at approximately 1 m increments across the stream. If the depth is 0.6 m or greater, take a flow measurement at 20% and 80% of the water column. One streamflow measurement at 50% depth if water column is less than 0.6 m deep.

Surface Water Monitoring and Sample Collection Form

Location:	Meadowview Landfill	Date:	June 18, 2025
Project #:	2408035.000	Personnel:	VJ and MM
Weather:	Sunny 28 °C	Monitoring Equipment:	
Decontamination Method:		Water Quality Meter (YSI) Serial No.:	

Surface Water Sample ID	Sample Collection Time	Physical Stream Data										Flow Velocity #2 (m/s)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour, Clarity, Odour and Sheen	
		Total Stream Width (m)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)							
SW19-B	11:00	1.0	No flow measurements, too shallow to collect flow rate.											13.6	6.10	118.0	3.75	Yellowish brown, cloudy, suspended solids, no sheen, no odour.
SW20-A	-	0.20	No flow measurements, too shallow, not enough water to sample or collect parameters.															-

Note: If the stream is less than five (5) metres wide, then velocity measurements should be taken at approximately every 0.5 m across the stream. For a stream width of five (5) metres or greater, velocity measurements should be taken at approximately 1 m increments across the stream. If the depth is 0.6 m or greater, take a flow measurement at 20% and 80% of the water column. One streamflow measurement at 50% depth if water column is less than 0.6 m deep.

Surface Water Monitoring and Sample Collection Form

Location:		Meadowview Landfill				Date:		June 18, 2025										
Project #:		2408035.000				Personnel:		VJ and MM										
Weather:		Sunny 28 °C				Monitoring Equipment:												
Decontamination Method:						Water Quality Meter (YSI) Serial No.:												
Surface Water Sample ID	Sample Collection Time	Physical Stream Data										Flow Velocity #2 (m/s)	Temp (°C)	pH	EC (µs/m)	DO (mg/L)	Colour, Clarity, Odour and Sheen	
		Total Stream Width (m)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)	Total Depth (m)	Flow Velocity #1 (m/s)	Flow Velocity #2 (m/s)	Point # and Width Interval (m)							Total Depth (m)
SW24-1	12:50	8.0	#1 0.5	0.75	0.40	-	#6 3	0.25	0.32	-	#11 -	-	-	16.7	7.69	253.7	7.15	-
			#2 1	0.65	0.32	-	#7 3.5	0.20	0.24	-	#12 -	-	-					
			#3 1.5	0.63	0.36	-	#8 -	-	-	-	#13 -	-	-					
			#4 2	0.60	0.30	-	#9 -	-	-	-	#14 -	-	-					
			#5 2.5	0.40	0.29	-	#10 -	-	-	-	#15 -	-	-					

Note: If the stream is less than five (5) metres wide, then velocity measurements should be taken at approximately every 0.5 m across the stream. For a stream width of five (5) metres or greater, velocity measurements should be taken at approximately 1 m increments across the stream. If the depth is 0.6 m or greater, take a flow measurement at 20% and 80% of the water column. One streamflow measurement at 50% depth if water column is less than 0.6 m deep.

Appendix D

Laboratory Certificates



eNGLOBE

CERTIFICATE OF ANALYSIS

Work Order	: HA2501942		
Amendment	: 2		
Client	: Englobe Corp.	Laboratory	: ALS Environmental - Halifax
Contact	: Nathalie Sahakyan	Account Manager	: Emily Smith
Address	: 97 Troop Avenue	Address	: 13-100 Wright Ave
	Dartmouth Nova Scotia Canada B3B 2A7		Dartmouth NS Canada B3B 1L2
Telephone	: ----	E-mail	: Emily.Smith@ALSGlobal.com
Project	: 2408035.000	Telephone	: +1 902 707 4888
PO	: ----	Date Samples Received	: 19-Jun-2025 15:30
C-O-C number	: ----	Date Analysis Commenced	: 24-Jun-2025
Sampler	: ----	Issue Date	: 23-Sep-2025 17:31
Site	: ----		
Quote number	: Meadowview Landfill		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Angela Fleming	Supervisor - Inorganic	Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Inorganics, Waterloo, Ontario
Greg Pokocky	Manager - Inorganics	Metals, Waterloo, Ontario
Jiaxi Wang	Supervisor - Water Chemistry	Inorganics, Dartmouth, Nova Scotia
John Tang	Lab Analyst	Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Inorganics, Waterloo, Ontario
Kevin Baxter	Supervisor - Inorganic	Inorganics, Winnipeg, Manitoba
Nik Perkio	Senior Analyst	Metals, Waterloo, Ontario
Nik Perkio	Senior Analyst	Inorganics, Waterloo, Ontario



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	Description
-	no units
%	percent
CU	colour units (1 cu = 1 mg/l pt)
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

Amendment (08/07/2025): This report has been amended and re-released to allow the reporting of additional analytical data. Additional metals added in to report.

Amendment (23/09/2025): This report has been amended and re-released to allow the reporting of additional analytical data.



Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DLM	Detection Limit Adjusted due to sample matrix effects (e.g. chemical interference, colour, turbidity).
DLUI	Detection Limit Raised: Unknown interference generated an apparent false positive test result.
VPDW	Visible particulate observed in Dissolved fraction of field preserved water sample (may represent post-sampling precipitation or filtration issue). Analyzed as submitted



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

Sub-Matrix: Groundwater (Matrix: Water)					Client sample ID	MW29-B ----	MW29-C ----	MW28-B ----	MW27-B ----	MW25-B ----
Client sampling date / time					17-Jun-2025 11:10	17-Jun-2025 11:25	17-Jun-2025 17:00	17-Jun-2025 16:45	17-Jun-2025 15:45	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-001	HA2501942-002	HA2501942-003	HA2501942-004	HA2501942-005	
					Result	Result	Result	Result	Result	
Physical Tests										
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/WT	1.2	mg/L	98.9	70.0	88.7	91.9	378	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/WT	1.0	mg/L	<0.6	<0.6	<0.6	1.7	<0.6	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WT	1.0	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	
Alkalinity, total (as CaCO3)	----	E290/WT	1.0	mg/L	81.1	57.4	72.7	78.1	310	
Colour, apparent	----	E330/WT	2.0	CU	782	2550	885	5000	278	
Conductivity	----	E100/WT	1.0	µS/cm	216	161	192	160	828	
Hardness (as CaCO3), dissolved	----	EC100/WT	0.50	mg/L	82.3	25.0	74.7	19.7	424	
Langelier index (@ 20°C)	----	EC105/WT	0.010	-	-0.114	-0.032	-0.315	-0.122	0.251	
Langelier index (@ 4°C)	----	EC105/WT	0.010	-	-0.366	-0.276	-0.565	-0.368	0.004	
pH	----	E108/HA	0.10	pH units	7.91	8.66	7.73	8.61	7.09	
pH, saturation (@ 20°C)	----	EC105/WT	0.010	pH units	8.02	8.69	8.04	8.73	6.84	
pH, saturation (@ 4°C)	----	EC105/WT	0.010	pH units	8.28	8.94	8.29	8.98	7.09	
Solids, total dissolved [TDS]	----	E162/HA	10	mg/L	138 ^{DLDS}	98 ^{DLDS}	70 ^{DLDS}	102 ^{DLDS}	530 ^{DLDS}	
Solids, total suspended [TSS]	----	E160/HA	3.0	mg/L	475	2670	367	4890	188	
Turbidity	----	E121/WT	0.10	NTU	228	1740	306	1700	81.1	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	<0.0050	<0.0050	0.115	0.0079	0.0095	
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	13.9	16.8	13.2	3.54	84.4	
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	0.028	0.068	0.024	0.268	<0.020	
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	<0.500 ^{DLM}	0.717	0.866	0.507	0.433	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	0.060	0.142	0.098	0.191	<0.020	



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

Sub-Matrix: Groundwater (Matrix: Water)					Client sample ID	MW29-B ----	MW29-C ----	MW28-B ----	MW27-B ----	MW25-B ----
Client sampling date / time					17-Jun-2025 11:10	17-Jun-2025 11:25	17-Jun-2025 17:00	17-Jun-2025 16:45	17-Jun-2025 15:45	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-001	HA2501942-002	HA2501942-003	HA2501942-004	HA2501942-005	
					Result	Result	Result	Result	Result	
Anions and Nutrients										
Nitrate + Nitrite (as N)	----	EC235.N+N/WT	0.0032	mg/L	0.0600	0.142	0.0980	0.191	<0.0224	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.010	<0.010	<0.010	<0.010	<0.010	
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	0.0220	0.0074	0.0020	0.0012	0.0021	
Phosphorus, total	7723-14-0	E372-U/WT	2.0	µg/L	110	516	194	610	86.9	
Silicate (as SiO2)	7631-86-9	E392/WP	0.50	mg/L	9.80	7.20	8.46	9.74	15.5	
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	2.17	4.24	3.96	1.16	0.65	
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WT	0.50	mg/L	<2.50 ^{DLM}	<5.00 ^{DLM}	4.16	<10.0 ^{DLM}	8.15	
Ion Balance										
Anion sum	----	EC101/WT	0.10	meq/L	2.06	1.72	1.92	1.71	8.59	
Cation sum	----	EC101/WT	0.10	meq/L	2.04	1.42	1.74	2.33	9.94	
Ion balance (cations/anions)	----	EC101/WT	0.010	%	99.0	82.6	90.6	136	116	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L	0.0886	0.0058	0.0029	4.50	0.0012	
Antimony, dissolved	7440-36-0	E421/WT	0.00010	mg/L	<0.00010	0.00022	0.00020	0.00072	<0.00010	
Arsenic, dissolved	7440-38-2	E421/WT	0.00010	mg/L	0.00207	0.00599	0.00042	0.0151	0.00412	
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L	0.0122	0.00372	0.0133	0.0152	0.0236	
Beryllium, dissolved	7440-41-7	E421/WT	0.000020	mg/L	<0.000020	<0.000020	<0.000020	0.000163	<0.000020	
Bismuth, dissolved	7440-69-9	E421/WT	0.000050	mg/L	<0.000050	<0.000050	<0.000050	<0.000050	<0.000050	
Boron, dissolved	7440-42-8	E421/WT	0.010	mg/L	<0.010	0.018	<0.010	0.107	0.131	
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000050	0.0000189	0.0000167	



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

Sub-Matrix: Groundwater (Matrix: Water)					Client sample ID	MW29-B ----	MW29-C ----	MW28-B ----	MW27-B ----	MW25-B ----
Client sampling date / time					17-Jun-2025 11:10	17-Jun-2025 11:25	17-Jun-2025 17:00	17-Jun-2025 16:45	17-Jun-2025 15:45	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-001	HA2501942-002	HA2501942-003	HA2501942-004	HA2501942-005	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/WT	50	µg/L	27000	8180	26400	5450	140000	
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L	0.00068	<0.00050	<0.00050	0.00340	<0.00050	
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L	<0.00010	<0.00010	0.00017	0.00054	0.00055	
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L	0.34	0.51	0.38	2.36	1.43	
Iron, dissolved	7439-89-6	E421/WT	10	µg/L	35	<10	12	1870	<10	
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L	0.000152	<0.000050	<0.000050	0.00136	0.000055	
Magnesium, dissolved	7439-95-4	E421/WT	5.0	µg/L	3620	1110	2130	1470	18000	
Manganese, dissolved	7439-96-5	E421/WT	0.10	µg/L	14.6	6.92	77.2	36.7	188	
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L	<0.0050 ^{VPDW}	<0.0050	<0.0050	<0.0050 ^{VPDW}	<0.0050	
Molybdenum, dissolved	7439-98-7	E421/WT	0.000050	mg/L	0.000208	0.000060	0.000118	0.000931	0.000095	
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L	<0.00050	<0.00050	<0.00050	0.00110	0.00927	
Potassium, dissolved	7440-09-7	E421/WT	50	µg/L	3400	3350	1210	4920	6940	
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L	0.000058	<0.000050	<0.000050	0.000089	0.000056	
Silicon (as SiO2), dissolved	7440-21-3	EC421.SiO2/WT	0.15	mg/L	10.1	7.29	8.45	41.9	17.2	
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L	<0.000010	<0.000010	<0.000010	0.000021	<0.000010	
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L	6780	19300	4600	28600	29700	
Strontium, dissolved	7440-24-6	E421/WT	0.00020	mg/L	0.344	0.113	0.203	0.0730	1.62	
Thallium, dissolved	7440-28-0	E421/WT	0.000010	mg/L	<0.000010	<0.000010	<0.000010	0.000026	0.000012	
Tin, dissolved	7440-31-5	E421/WT	0.00010	mg/L	<0.00010	<0.00010	<0.00010	0.00037	0.00017	
Titanium, dissolved	7440-32-6	E421/WT	0.00030	mg/L	<0.00150 ^{DLUI}	<0.00030	<0.00030	0.0978	<0.00030	
Uranium, dissolved	7440-61-1	E421/WT	0.000010	mg/L	0.00217	0.00128	0.000235	0.00387	0.0230	



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	MW29-B	MW29-C	MW28-B	MW27-B	MW25-B
					Client sampling date / time	17-Jun-2025 11:10	17-Jun-2025 11:25	17-Jun-2025 17:00	17-Jun-2025 16:45	17-Jun-2025 15:45
Analyte	CAS Number	Method/Lab	LOR	Unit		HA2501942-001	HA2501942-002	HA2501942-003	HA2501942-004	HA2501942-005
						Result	Result	Result	Result	Result
Dissolved Metals										
Vanadium, dissolved	7440-62-2	E421/WT	0.00050	mg/L		0.00116	0.00529	<0.00050	0.00854	0.00100
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L		2.6	1.4	2.3	9.2	2.5
Dissolved mercury filtration location	----	EP509/WT	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/WT	-	-		Field	Field	Field	Field	Field

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	MW23-C	MW22-A	MW22-B	MW22-C	MW23-A
					Client sampling date / time	18-Jun-2025 10:40	18-Jun-2025 14:30	18-Jun-2025 15:15	18-Jun-2025 16:00	18-Jun-2025 10:10
Analyte	CAS Number	Method/Lab	LOR	Unit		HA2501942-006	HA2501942-007	HA2501942-008	HA2501942-009	HA2501942-010
						Result	Result	Result	Result	Result
Physical Tests										
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	E290/WT	1.2	mg/L		76.6	542	769	135	78.4
Alkalinity, carbonate (as CO ₃)	3812-32-6	E290/WT	1.0	mg/L		<0.6	<0.6	<0.6	<0.6	<0.6
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WT	1.0	mg/L		<0.3	<0.3	<0.3	<0.3	<0.3
Alkalinity, total (as CaCO ₃)	----	E290/WT	1.0	mg/L		62.8	444	630	111	64.3
Colour, apparent	----	E330/WT	2.0	CU		414	1570	1030	19.9	1590
Conductivity	----	E100/WT	1.0	µS/cm		142	973	1400	290	298
Hardness (as CaCO ₃), dissolved	----	EC100/WT	0.50	mg/L		48.4	245	650	57.2	48.4
Langelier index (@ 20°C)	----	EC105/WT	0.010	-		0.102	-0.487	0.710	-0.544	-1.55
Langelier index (@ 4°C)	----	EC105/WT	0.010	-		-0.147	-0.736	0.463	-0.795	-1.80
pH	----	E108/HA	0.10	pH units		8.42	6.46	7.11	7.50	6.82



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	MW23-C	MW22-A	MW22-B	MW22-C	MW23-A
					Client sampling date / time	18-Jun-2025 10:40	18-Jun-2025 14:30	18-Jun-2025 15:15	18-Jun-2025 16:00	18-Jun-2025 10:10
Analyte	CAS Number	Method/Lab	LOR	Unit		HA2501942-006	HA2501942-007	HA2501942-008	HA2501942-009	HA2501942-010
						Result	Result	Result	Result	Result
Physical Tests										
pH, saturation (@ 20°C)	----	EC105/WT	0.010	pH units		8.32	6.95	6.40	8.04	8.37
pH, saturation (@ 4°C)	----	EC105/WT	0.010	pH units		8.57	7.20	6.65	8.30	8.62
Solids, total dissolved [TDS]	----	E162/HA	10	mg/L		69 DLDS	520 DLDS	868 DLDS	104 DLDS	185 DLDS
Solids, total suspended [TSS]	----	E160/HA	3.0	mg/L		637	122	246	17.7	2550
Turbidity	----	E121/WT	0.10	NTU		132	443	354	50.2	353
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L		<0.0050	23.4	1.90	0.0085	0.0135
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L		4.16	49.4 DLDS	110 DLDS	24.2	46.6
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L		0.048	<0.100 DLDS	<0.100 DLDS	0.027	0.055
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L		<0.500 DLM	32.6	2.96	0.242	0.843
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L		0.405	<0.100 DLDS	<0.100 DLDS	<0.020	<0.020
Nitrate + Nitrite (as N)	----	EC235.N+N/WT	0.0032	mg/L		0.405	<0.112	<0.112	<0.0224	<0.0224
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L		<0.010	<0.050 DLDS	<0.050 DLDS	<0.010	<0.010
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L		0.0238	<0.0010	<0.0010	0.0029	0.0350
Phosphorus, total	7723-14-0	E372-U/WT	2.0	µg/L		137	472	312	59.6	369
Silicate (as SiO2)	7631-86-9	E392/WP	0.50	mg/L		10.4	23.9	20.3	9.34	9.40
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L		2.21	<1.50 DLDS	<1.50 DLDS	0.95	6.56
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WT	0.50	mg/L		<2.50 DLM	9.66	21.1	1.16	3.63
Ion Balance										
Anion sum	----	EC101/WT	0.10	meq/L		1.45	10.3	15.7	2.92	2.74



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	MW23-C	MW22-A	MW22-B	MW22-C	MW23-A
					Client sampling date / time	18-Jun-2025 10:40	18-Jun-2025 14:30	18-Jun-2025 15:15	18-Jun-2025 16:00	18-Jun-2025 10:10
Analyte	CAS Number	Method/Lab	LOR	Unit		HA2501942-006	HA2501942-007	HA2501942-008	HA2501942-009	HA2501942-010
						Result	Result	Result	Result	Result
Ion Balance										
Cation sum	----	EC101/WT	0.10	meq/L		1.38	10.7	16.8	1.66	2.74
Ion balance (cations/anions)	----	EC101/WT	0.010	%		95.2	104	107	56.8	100
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L		0.0026	<0.0100 DLHC	0.0046	0.0031	0.0050
Antimony, dissolved	7440-36-0	E421/WT	0.00010	mg/L		0.00087	<0.00100 DLHC	0.00048	0.00054	<0.00010
Arsenic, dissolved	7440-38-2	E421/WT	0.00010	mg/L		0.00474	0.0875 DLHC	0.00562	0.00147	0.00016
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L		0.0761	1.16 DLHC	0.625	0.00485	0.0609
Beryllium, dissolved	7440-41-7	E421/WT	0.000020	mg/L		<0.000020	<0.000200 DLHC	<0.000020	<0.000020	<0.000020
Bismuth, dissolved	7440-69-9	E421/WT	0.000050	mg/L		<0.000050	<0.000500 DLHC	<0.000050	<0.000050	<0.000050
Boron, dissolved	7440-42-8	E421/WT	0.010	mg/L		0.012	0.206 DLHC	0.380	0.010	<0.010
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L		0.0000176	<0.0000500 DLHC	0.0000239	0.0000194	0.0000677
Calcium, dissolved	7440-70-2	E421/WT	50	µg/L		16600	75600 DLHC	215000	18100	15900
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L		0.00244	<0.00500 DLHC	<0.00050	0.00053	<0.00050
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L		<0.00010	0.0197 DLHC	0.00899	<0.00010	<0.00010
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L		0.35	<2.00 DLHC	0.53	0.62	0.38
Iron, dissolved	7439-89-6	E421/WT	10	µg/L		<10	61000 DLHC	1420	15	<10
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L		<0.000050	<0.000500 DLHC	<0.000050	<0.000050	<0.000050
Magnesium, dissolved	7439-95-4	E421/WT	5.0	µg/L		1680	13600 DLHC	27400	2920	2120
Manganese, dissolved	7439-96-5	E421/WT	0.10	µg/L		9.27	2770 DLHC	3800	13.6	681
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum, dissolved	7439-98-7	E421/WT	0.000050	mg/L		0.000099	0.000741 DLHC	0.000509	0.000054	<0.000050



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

Sub-Matrix: Groundwater (Matrix: Water)					Client sample ID	MW23-C ----	MW22-A ----	MW22-B ----	MW22-C ----	MW23-A ----
Client sampling date / time					18-Jun-2025 10:40	18-Jun-2025 14:30	18-Jun-2025 15:15	18-Jun-2025 16:00	18-Jun-2025 10:10	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-006	HA2501942-007	HA2501942-008	HA2501942-009	HA2501942-010	
					Result	Result	Result	Result	Result	
Dissolved Metals										
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L	<0.00050	0.0188 ^{DLHC}	0.0195	0.00053	0.00115	
Potassium, dissolved	7440-09-7	E421/WT	50	µg/L	2320	21500 ^{DLHC}	9110	4250	1180	
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L	0.000139	<0.000500 ^{DLHC}	0.000066	<0.000050	<0.000050	
Silicon (as SiO2), dissolved	7440-21-3	EC421.SiO2/WT	0.15	mg/L	11.9	24.0	23.3	9.15	9.37	
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L	<0.000010	<0.000100 ^{DLHC}	<0.000010	<0.000010	<0.000010	
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L	8120	30600 ^{DLHC}	75600	9440	39400	
Strontium, dissolved	7440-24-6	E421/WT	0.00020	mg/L	0.133	0.395 ^{DLHC}	2.03	0.272	0.0227	
Thallium, dissolved	7440-28-0	E421/WT	0.000010	mg/L	<0.000010	<0.000100 ^{DLHC}	0.000037	0.000012	<0.000010	
Tin, dissolved	7440-31-5	E421/WT	0.00010	mg/L	<0.00010	<0.00100 ^{DLHC}	0.00023	0.00012	<0.00010	
Titanium, dissolved	7440-32-6	E421/WT	0.00030	mg/L	<0.00030	<0.00300 ^{DLHC}	<0.00030	<0.00030	<0.00030	
Uranium, dissolved	7440-61-1	E421/WT	0.000010	mg/L	0.00230	<0.000100 ^{DLHC}	0.00792	0.00818	0.000035	
Vanadium, dissolved	7440-62-2	E421/WT	0.00050	mg/L	0.00222	<0.00500 ^{DLHC}	<0.00050	0.00100	<0.00050	
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L	3.8	<10.0 ^{DLHC}	4.5	10.2	2.3	
Dissolved mercury filtration location	----	EP509/WT	-	-	Field	Field	Field	Field	Field	
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	Field	Field	Field	

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

Sub-Matrix: Groundwater (Matrix: Water)					Client sample ID	MW23-B ----	TH1 ----	MW4-A ----	MW20-A ----	MW21-C ----
Client sampling date / time					18-Jun-2025 10:30	19-Jun-2025 12:15	19-Jun-2025 13:20	19-Jun-2025 13:00	19-Jun-2025 11:45	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-011	HA2501942-012	HA2501942-013	HA2501942-014	HA2501942-015	
					Result	Result	Result	Result	Result	
Physical Tests										
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/WT	1.2	mg/L	87.8	516	503	28.8	32.1	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/WT	1.0	mg/L	<0.6	<0.6	<0.6	<0.6	<0.6	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WT	1.0	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	
Alkalinity, total (as CaCO3)	----	E290/WT	1.0	mg/L	72.0	423	412	23.6	26.3	
Colour, apparent	----	E330/WT	2.0	CU	2980	1760	3110	386	57.9	
Conductivity	----	E100/WT	1.0	µS/cm	302	880	870	156	70.6	
Hardness (as CaCO3), dissolved	----	EC100/WT	0.50	mg/L	83.1	273	236	30.5	22.9	
Langelier index (@ 20°C)	----	EC105/WT	0.010	-	-1.08	0.076	-0.224	-2.07	-2.58	
Langelier index (@ 4°C)	----	EC105/WT	0.010	-	-1.33	-0.173	-0.473	-2.32	-2.83	
pH	----	E108/HA	0.10	pH units	7.02	6.96	6.75	6.86	6.50	
pH, saturation (@ 20°C)	----	EC105/WT	0.010	pH units	8.10	6.88	6.97	8.93	9.08	
pH, saturation (@ 4°C)	----	EC105/WT	0.010	pH units	8.35	7.13	7.22	9.18	9.33	
Solids, total dissolved [TDS]	----	E162/HA	10	mg/L	184 ^{DLDS}	398 ^{DLDS}	429 ^{DLDS}	60 ^{DLDS}	42 ^{DLDS}	
Solids, total suspended [TSS]	----	E160/HA	3.0	mg/L	706	1570	3260	58.5	583	
Turbidity	----	E121/WT	0.10	NTU	599	783	1340	147	37.7	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	0.378	27.1	32.2	0.0383	0.0326	
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	39.2	20.1	19.3	30.3	4.19	
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	0.026	<0.020	<0.020	0.051	0.167	
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	0.972	32.1	35.5	0.772	0.189	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	<0.020	<0.020	0.122	0.246	0.307	



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

Sub-Matrix: Groundwater (Matrix: Water)					Client sample ID	MW23-B ----	TH1 ----	MW4-A ----	MW20-A ----	MW21-C ----
Client sampling date / time					18-Jun-2025 10:30	19-Jun-2025 12:15	19-Jun-2025 13:20	19-Jun-2025 13:00	19-Jun-2025 11:45	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-011	HA2501942-012	HA2501942-013	HA2501942-014	HA2501942-015	
					Result	Result	Result	Result	Result	
Anions and Nutrients										
Nitrate + Nitrite (as N)	----	EC235.N+N/WT	0.0032	mg/L	0.0360	<0.0224	0.132	0.246	0.307	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	0.036	<0.010	0.010	<0.010	<0.010	
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	0.0026	<0.0010	<0.0010	<0.0010	0.333	
Phosphorus, total	7723-14-0	E372-U/WT	2.0	µg/L	2850	781	913	163	456	
Silicate (as SiO2)	7631-86-9	E392/WP	0.50	mg/L	12.6	30.8	30.9	3.35	12.5	
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	13.6	2.54	0.66	2.34	0.75	
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WT	0.50	mg/L	3.28	7.51	12.0	5.10	0.90	
Ion Balance										
Anion sum	----	EC101/WT	0.10	meq/L	2.83	9.07	8.80	1.40	0.69	
Cation sum	----	EC101/WT	0.10	meq/L	3.02	9.76	9.29	1.26	0.66	
Ion balance (cations/anions)	----	EC101/WT	0.010	%	107	108	106	90.0	95.6	
Dissolved Metals										
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L	0.0020	<0.0100 DLHC	<0.0100 DLHC	<0.0010	0.0033	
Antimony, dissolved	7440-36-0	E421/WT	0.00010	mg/L	<0.00010	<0.00100 DLHC	<0.00100 DLHC	0.00080	0.00112	
Arsenic, dissolved	7440-38-2	E421/WT	0.00010	mg/L	0.0100	0.0313 DLHC	0.0378 DLHC	<0.00010	0.00056	
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L	0.219	0.892 DLHC	1.59 DLHC	0.142	0.00626	
Beryllium, dissolved	7440-41-7	E421/WT	0.000020	mg/L	<0.000020	<0.000200 DLHC	<0.000200 DLHC	<0.000020	<0.000020	
Bismuth, dissolved	7440-69-9	E421/WT	0.000050	mg/L	<0.000050	<0.000500 DLHC	<0.000500 DLHC	<0.000050	<0.000050	
Boron, dissolved	7440-42-8	E421/WT	0.010	mg/L	0.016	0.149 DLHC	0.170 DLHC	<0.010	<0.010	
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L	0.0000642	<0.0000500 DLHC	<0.0000500 DLHC	0.0000499	0.0000290	



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	MW23-B	TH1	MW4-A	MW20-A	MW21-C
					Client sampling date / time	18-Jun-2025 10:30	19-Jun-2025 12:15	19-Jun-2025 13:20	19-Jun-2025 13:00	19-Jun-2025 11:45
Analyte	CAS Number	Method/Lab	LOR	Unit		HA2501942-011	HA2501942-012	HA2501942-013	HA2501942-014	HA2501942-015
						Result	Result	Result	Result	Result
Dissolved Metals										
Calcium, dissolved	7440-70-2	E421/WT	50	µg/L		26800	86300 DLHC	73200 DLHC	10400	6380
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L		<0.00050	<0.00500 DLHC	<0.00500 DLHC	<0.00050	<0.00050
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L		0.00266	0.00609 DLHC	0.0104 DLHC	<0.00010	<0.00010
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L		0.41	<2.00 DLHC	<2.00 DLHC	0.70	1.16
Iron, dissolved	7439-89-6	E421/WT	10	µg/L		4360	10600 DLHC	13100 DLHC	272	<10
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L		<0.000050	<0.000500 DLHC	<0.000500 DLHC	<0.000050	0.000055
Magnesium, dissolved	7439-95-4	E421/WT	5.0	µg/L		3920	14000 DLHC	12900 DLHC	1110	1700
Manganese, dissolved	7439-96-5	E421/WT	0.10	µg/L		3460	1220 DLHC	2170 DLHC	235	2.47
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L		<0.0050	<0.0050	<0.0050	<0.0050	<0.0050
Molybdenum, dissolved	7439-98-7	E421/WT	0.000050	mg/L		0.000167	0.00127 DLHC	0.000725 DLHC	<0.000050	<0.000050
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L		0.00222	0.00802 DLHC	0.0152 DLHC	<0.00050	<0.00050
Potassium, dissolved	7440-09-7	E421/WT	50	µg/L		2480	26100 DLHC	29000 DLHC	1110	1440
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L		<0.000050	<0.000500 DLHC	<0.000500 DLHC	<0.000050	<0.000050
Silicon (as SiO ₂), dissolved	7440-21-3	EC421.SiO ₂ /WT	0.15	mg/L		13.3	32.9	31.9	3.55	12.4
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L		<0.000010	<0.000100 DLHC	<0.000100 DLHC	<0.000010	<0.000010
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L		22700	29300 DLHC	22800 DLHC	13700	3730
Strontium, dissolved	7440-24-6	E421/WT	0.00020	mg/L		0.0571	0.361 DLHC	0.427 DLHC	0.0295	0.0673
Thallium, dissolved	7440-28-0	E421/WT	0.000010	mg/L		0.000014	<0.000100 DLHC	<0.000100 DLHC	<0.000010	<0.000010
Tin, dissolved	7440-31-5	E421/WT	0.00010	mg/L		<0.00010	<0.00100 DLHC	<0.00100 DLHC	<0.00010	<0.00010
Titanium, dissolved	7440-32-6	E421/WT	0.00030	mg/L		<0.00030	<0.00300 DLHC	<0.00300 DLHC	<0.00030	<0.00030
Uranium, dissolved	7440-61-1	E421/WT	0.000010	mg/L		0.000032	0.000131 DLHC	<0.000100 DLHC	<0.000010	0.000022



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	MW23-B	TH1	MW4-A	MW20-A	MW21-C
					Client sampling date / time	18-Jun-2025 10:30	19-Jun-2025 12:15	19-Jun-2025 13:20	19-Jun-2025 13:00	19-Jun-2025 11:45
Analyte	CAS Number	Method/Lab	LOR	Unit		HA2501942-011	HA2501942-012	HA2501942-013	HA2501942-014	HA2501942-015
						Result	Result	Result	Result	Result
Dissolved Metals										
Vanadium, dissolved	7440-62-2	E421/WT	0.00050	mg/L		<0.00050	<0.00500 ^{DLHC}	<0.00500 ^{DLHC}	<0.00050	<0.00050
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L		2.7	<10.0 ^{DLHC}	<10.0 ^{DLHC}	2.6	5.6
Dissolved mercury filtration location	----	EP509/WT	-	-		Field	Field	Field	Field	Field
Dissolved metals filtration location	----	EP421/WT	-	-		Field	Field	Field	Field	Field

Please refer to the General Comments section for an explanation of any qualifiers detected.

Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	GW-DUP				
					Client sampling date / time	18-Jun-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit		HA2501942-016				
						Result				
Physical Tests										
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	E290/WT	1.2	mg/L		554	----	----	----	----
Alkalinity, carbonate (as CO ₃)	3812-32-6	E290/WT	1.0	mg/L		<0.6	----	----	----	----
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WT	1.0	mg/L		<0.3	----	----	----	----
Alkalinity, total (as CaCO ₃)	----	E290/WT	1.0	mg/L		454	----	----	----	----
Colour, apparent	----	E330/WT	2.0	CU		1470	----	----	----	----
Conductivity	----	E100/WT	1.0	µS/cm		1020	----	----	----	----
Hardness (as CaCO ₃), dissolved	----	EC100/WT	0.50	mg/L		246	----	----	----	----
Langelier index (@ 20°C)	----	EC105/WT	0.010	-		-0.575	----	----	----	----
Langelier index (@ 4°C)	----	EC105/WT	0.010	-		-0.824	----	----	----	----
pH	----	E108/HA	0.10	pH units		6.35	----	----	----	----



Analytical Results

Sub-Matrix: Groundwater

(Matrix: Water)

					Client sample ID	GW-DUP				
					Client sampling date / time	18-Jun-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-016					
					Result					
Physical Tests										
pH, saturation (@ 20°C)	----	EC105/WT	0.010	pH units	6.92	----	----	----	----	----
pH, saturation (@ 4°C)	----	EC105/WT	0.010	pH units	7.17	----	----	----	----	----
Solids, total dissolved [TDS]	----	E162/HA	10	mg/L	458 DLDS	----	----	----	----	----
Solids, total suspended [TSS]	----	E160/HA	3.0	mg/L	144	----	----	----	----	----
Turbidity	----	E121/WT	0.10	NTU	472	----	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	21.5	----	----	----	----	----
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	54.8 DLDS	----	----	----	----	----
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	<0.100 DLDS	----	----	----	----	----
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	21.2	----	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	<0.100 DLDS	----	----	----	----	----
Nitrate + Nitrite (as N)	----	EC235.N+N/WT	0.0032	mg/L	<0.112	----	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.050 DLDS	----	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	<0.0010	----	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/WT	2.0	µg/L	474	----	----	----	----	----
Silicate (as SiO2)	7631-86-9	E392/WP	0.50	mg/L	23.8	----	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	<1.50 DLDS	----	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WT	0.50	mg/L	10.7	----	----	----	----	----
Ion Balance										
Anion sum	----	EC101/WT	0.10	meq/L	10.6	----	----	----	----	----



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

Client sample ID					GW-DUP				
Client sampling date / time					18-Jun-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-016				
Result									
Ion Balance									
Cation sum	----	EC101/WT	0.10	meq/L	10.7	----	----	----	----
Ion balance (cations/anions)	----	EC101/WT	0.010	%	101	----	----	----	----
Dissolved Metals									
Aluminum, dissolved	7429-90-5	E421/WT	0.0010	mg/L	<0.0100 DLHC	----	----	----	----
Antimony, dissolved	7440-36-0	E421/WT	0.00010	mg/L	<0.00100 DLHC	----	----	----	----
Arsenic, dissolved	7440-38-2	E421/WT	0.00010	mg/L	0.0886 DLHC	----	----	----	----
Barium, dissolved	7440-39-3	E421/WT	0.00010	mg/L	1.16 DLHC	----	----	----	----
Beryllium, dissolved	7440-41-7	E421/WT	0.000020	mg/L	<0.000200 DLHC	----	----	----	----
Bismuth, dissolved	7440-69-9	E421/WT	0.000050	mg/L	<0.000500 DLHC	----	----	----	----
Boron, dissolved	7440-42-8	E421/WT	0.010	mg/L	0.205 DLHC	----	----	----	----
Cadmium, dissolved	7440-43-9	E421/WT	0.0000050	mg/L	<0.0000500 DLHC	----	----	----	----
Calcium, dissolved	7440-70-2	E421/WT	50	µg/L	75500 DLHC	----	----	----	----
Chromium, dissolved	7440-47-3	E421/WT	0.00050	mg/L	<0.00500 DLHC	----	----	----	----
Cobalt, dissolved	7440-48-4	E421/WT	0.00010	mg/L	0.0200 DLHC	----	----	----	----
Copper, dissolved	7440-50-8	E421/WT	0.20	µg/L	<2.00 DLHC	----	----	----	----
Iron, dissolved	7439-89-6	E421/WT	10	µg/L	62200 DLHC	----	----	----	----
Lead, dissolved	7439-92-1	E421/WT	0.000050	mg/L	<0.000500 DLHC	----	----	----	----
Magnesium, dissolved	7439-95-4	E421/WT	5.0	µg/L	13900 DLHC	----	----	----	----
Manganese, dissolved	7439-96-5	E421/WT	0.10	µg/L	2820 DLHC	----	----	----	----
Mercury, dissolved	7439-97-6	E509/WT	0.0050	µg/L	<0.0050	----	----	----	----
Molybdenum, dissolved	7439-98-7	E421/WT	0.000050	mg/L	0.000852 DLHC	----	----	----	----



Analytical Results

Sub-Matrix: Groundwater
 (Matrix: Water)

					Client sample ID	GW-DUP				
					Client sampling date / time	18-Jun-2025 00:00				
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501942-016					
					Result					
Dissolved Metals										
Nickel, dissolved	7440-02-0	E421/WT	0.00050	mg/L	0.0196 DLHC	----	----	----	----	----
Potassium, dissolved	7440-09-7	E421/WT	50	µg/L	22000 DLHC	----	----	----	----	----
Selenium, dissolved	7782-49-2	E421/WT	0.000050	mg/L	<0.000500 DLHC	----	----	----	----	----
Silicon (as SiO ₂), dissolved	7440-21-3	EC421.SiO ₂ /WT	0.15	mg/L	24.0	----	----	----	----	----
Silver, dissolved	7440-22-4	E421/WT	0.000010	mg/L	<0.000100 DLHC	----	----	----	----	----
Sodium, dissolved	7440-23-5	E421/WT	50	µg/L	31200 DLHC	----	----	----	----	----
Strontium, dissolved	7440-24-6	E421/WT	0.00020	mg/L	0.401 DLHC	----	----	----	----	----
Thallium, dissolved	7440-28-0	E421/WT	0.000010	mg/L	<0.000100 DLHC	----	----	----	----	----
Tin, dissolved	7440-31-5	E421/WT	0.00010	mg/L	<0.00100 DLHC	----	----	----	----	----
Titanium, dissolved	7440-32-6	E421/WT	0.00030	mg/L	<0.00300 DLHC	----	----	----	----	----
Uranium, dissolved	7440-61-1	E421/WT	0.000010	mg/L	<0.000100 DLHC	----	----	----	----	----
Vanadium, dissolved	7440-62-2	E421/WT	0.00050	mg/L	<0.00500 DLHC	----	----	----	----	----
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L	<10.0 DLHC	----	----	----	----	----
Dissolved mercury filtration location	----	EP509/WT	-	-	Field	----	----	----	----	----
Dissolved metals filtration location	----	EP421/WT	-	-	Field	----	----	----	----	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: HA2501942	Page	: 1 of 44
Amendment	: 2		
Client	: Englobe Corp.	Laboratory	: ALS Environmental - Halifax
Contact	: Nathalie Sahakyan	Account Manager	: Emily Smith
Address	: 97 Troop Avenue Dartmouth NS Canada B3B 2A7	Address	: 13-100 Wright Ave Dartmouth, Nova Scotia Canada B3B 1L2
Telephone	: ----	Telephone	: +1 902 707 4888
Project	: 2408035.000	Date Samples Received	: 19-Jun-2025 15:30
PO	: ----	Issue Date	: 23-Sep-2025 17:29
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: Meadowview Landfill		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW20-A	E298	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW21-C	E298	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW4-A	E298	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) TH1	E298	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) GW-DUP	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW22-A	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW22-B	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW22-C	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW23-A	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW23-B	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW23-C	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW25-B	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW27-B	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW28-B	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW29-B	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) MW29-C	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Water by IC										
HDPE MW20-A	E235.Cl	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW21-C	E235.Cl	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW4-A	E235.Cl	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE TH1	E235.Cl	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE GW-DUP	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW22-A	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW22-B	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW22-C	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW23-A	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Water by IC										
HDPE MW23-B	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW23-C	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW25-B	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW27-B	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW28-B	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW29-B	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE MW29-C	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE GW-DUP	E378-U	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW20-A	E378-U	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW21-C	E378-U	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW22-A	E378-U	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW22-B	E378-U	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW22-C	E378-U	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW4-A	E378-U	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE TH1	E378-U	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	24-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW23-A	E378-U	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW23-B	E378-U	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW23-C	E378-U	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW25-B	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW27-B	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW28-B	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW29-B	E378-U	17-Jun-2025	24-Jun-2025	3 days	7 days	✖ EHT	24-Jun-2025	3 days	7 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE MW29-C	E378-U	17-Jun-2025	24-Jun-2025	3 days	7 days	✖ EHT	24-Jun-2025	3 days	7 days	✖ EHT
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW20-A	E235.F	19-Jun-2025	24-Jun-2025	28 days	5 days	✔	26-Jun-2025	28 days	5 days	✔
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW21-C	E235.F	19-Jun-2025	24-Jun-2025	28 days	5 days	✔	26-Jun-2025	28 days	5 days	✔
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW4-A	E235.F	19-Jun-2025	24-Jun-2025	28 days	5 days	✔	26-Jun-2025	28 days	5 days	✔
Anions and Nutrients : Fluoride in Water by IC										
HDPE TH1	E235.F	19-Jun-2025	24-Jun-2025	28 days	5 days	✔	26-Jun-2025	28 days	5 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Water by IC										
HDPE GW-DUP	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW22-A	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW22-B	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW22-C	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW23-A	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW23-B	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW23-C	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW25-B	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW27-B	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW28-B	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW29-B	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE MW29-C	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Nitrate in Water by IC										
HDPE GW-DUP	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW20-A	E235.NO3	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW21-C	E235.NO3	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW22-A	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW22-B	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW22-C	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW4-A	E235.NO3	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE TH1	E235.NO3	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW23-A	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW23-B	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW23-C	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW25-B	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW27-B	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW28-B	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW29-B	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	7 days	✖ EHT	24-Jun-2025	3 days	7 days	✖ EHT



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Water by IC										
HDPE MW29-C	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	7 days	✖ EHT	26-Jun-2025	3 days	7 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE GW-DUP	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW20-A	E235.NO2	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW21-C	E235.NO2	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW22-A	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW22-B	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW22-C	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW4-A	E235.NO2	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE TH1	E235.NO2	19-Jun-2025	24-Jun-2025	3 days	5 days	✖ EHT	26-Jun-2025	3 days	5 days	✖ EHT



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW23-A	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW23-B	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW23-C	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW25-B	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW27-B	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW28-B	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	26-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW29-B	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	7 days	✖ EHT	24-Jun-2025	3 days	7 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE MW29-C	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	7 days	✖ EHT	26-Jun-2025	3 days	7 days	✖ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW20-A	E392	19-Jun-2025	----	----	----		25-Jun-2025	28 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW21-C	E392	19-Jun-2025	----	----	----		25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW4-A	E392	19-Jun-2025	----	----	----		25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE TH1	E392	19-Jun-2025	----	----	----		25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE GW-DUP	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW22-A	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW22-B	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW22-C	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW23-A	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW23-B	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW23-C	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW25-B	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW27-B	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW28-B	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW29-B	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE MW29-C	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW20-A	E235.SO4	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW21-C	E235.SO4	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW4-A	E235.SO4	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Water by IC										
HDPE TH1	E235.SO4	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	26-Jun-2025	28 days	5 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE GW-DUP	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW22-A	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW22-B	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW22-C	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW23-A	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW23-B	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW23-C	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW25-B	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW27-B	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW28-B	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW29-B	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE MW29-C	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW20-A	E318	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW21-C	E318	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW4-A	E318	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) TH1	E318	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) GW-DUP	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: **x** = Holding time exceedance ; **✓** = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW22-A	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW22-B	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW22-C	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW23-A	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW23-B	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW23-C	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW25-B	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW27-B	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW28-B	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW29-B	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) MW29-C	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW20-A	E372-U	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW21-C	E372-U	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW4-A	E372-U	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) TH1	E372-U	19-Jun-2025	25-Jun-2025	28 days	6 days	✓	26-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) GW-DUP	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW22-A	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW22-B	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW22-C	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW23-A	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW23-B	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW23-C	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	26-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW25-B	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	26-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW27-B	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	26-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW28-B	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	26-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW29-B	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	26-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) MW29-C	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	26-Jun-2025	28 days	8 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW25-B	E509	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW27-B	E509	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW28-B	E509	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW29-B	E509	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW29-C	E509	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW20-A	E509	19-Jun-2025	27-Jun-2025	28 days	8 days	✓	27-Jun-2025	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW21-C	E509	19-Jun-2025	27-Jun-2025	28 days	8 days	✓	27-Jun-2025	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW4-A	E509	19-Jun-2025	27-Jun-2025	28 days	8 days	✓	27-Jun-2025	28 days	8 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) TH1	E509	19-Jun-2025	27-Jun-2025	28 days	8 days	✓	27-Jun-2025	28 days	8 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) GW-DUP	E509	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW22-A	E509	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW22-B	E509	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW22-C	E509	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW23-A	E509	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW23-B	E509	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Dissolved Metals : Dissolved Mercury in Water by CVAAS										
Glass vial dissolved (hydrochloric acid) MW23-C	E509	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW20-A	E421	19-Jun-2025	25-Jun-2025	180 days	6 days	✓	26-Jun-2025	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW21-C	E421	19-Jun-2025	25-Jun-2025	180 days	6 days	✓	26-Jun-2025	180 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW4-A	E421	19-Jun-2025	25-Jun-2025	180 days	6 days	✓	26-Jun-2025	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) TH1	E421	19-Jun-2025	25-Jun-2025	180 days	6 days	✓	26-Jun-2025	180 days	6 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) GW-DUP	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW22-A	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW22-B	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW22-C	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW23-A	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW23-B	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW23-C	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW25-B	E421	17-Jun-2025	25-Jun-2025	180 days	8 days	✓	26-Jun-2025	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW27-B	E421	17-Jun-2025	25-Jun-2025	180 days	8 days	✓	26-Jun-2025	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW28-B	E421	17-Jun-2025	25-Jun-2025	180 days	8 days	✓	26-Jun-2025	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW29-B	E421	17-Jun-2025	25-Jun-2025	180 days	8 days	✓	26-Jun-2025	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) MW29-C	E421	17-Jun-2025	25-Jun-2025	180 days	8 days	✓	26-Jun-2025	180 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW20-A	E355-L	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW21-C	E355-L	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW4-A	E355-L	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) TH1	E355-L	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) GW-DUP	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW22-A	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW22-B	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW22-C	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW23-A	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW23-B	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW23-C	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW25-B	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW27-B	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW28-B	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW29-B	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) MW29-C	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW20-A	E290	19-Jun-2025	24-Jun-2025	14 days	5 days	✓	25-Jun-2025	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW21-C	E290	19-Jun-2025	24-Jun-2025	14 days	5 days	✓	25-Jun-2025	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW4-A	E290	19-Jun-2025	24-Jun-2025	14 days	5 days	✓	25-Jun-2025	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE TH1	E290	19-Jun-2025	24-Jun-2025	14 days	5 days	✓	25-Jun-2025	14 days	5 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE GW-DUP	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	25-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW22-A	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	25-Jun-2025	14 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE MW22-B	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	25-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW22-C	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	25-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW23-A	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	25-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW23-B	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	25-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW23-C	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	25-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW25-B	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	25-Jun-2025	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW27-B	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	25-Jun-2025	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW28-B	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	25-Jun-2025	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE MW29-B	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	24-Jun-2025	14 days	7 days	✓



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Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE MW29-C	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✔	25-Jun-2025	14 days	7 days	✔
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW4-A	E330	19-Jun-2025	----	----	----		26-Jun-2025	48 hrs	166 hrs	✖ EHT
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW20-A	E330	19-Jun-2025	----	----	----		26-Jun-2025	48 hrs	167 hrs	✖ EHT
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW21-C	E330	19-Jun-2025	----	----	----		26-Jun-2025	48 hrs	168 hrs	✖ EHT
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE TH1	E330	19-Jun-2025	----	----	----		26-Jun-2025	48 hrs	168 hrs	✖ EHT
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW22-C	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	188 hrs	✖ EHT
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE GW-DUP	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	189 hrs	✖ EHT
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW22-A	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	189 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW22-B	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	189 hrs	✖ EHT



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW23-B	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	193 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW23-C	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	193 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW23-A	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	194 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW27-B	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	211 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW28-B	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	211 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW25-B	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	212 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW29-C	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	216 hrs	✖ EHTR
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE MW29-B	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	217 hrs	✖ EHTR
Physical Tests : Conductivity in Water										
HDPE MW20-A	E100	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Water										
HDPE MW21-C	E100	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE MW4-A	E100	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE TH1	E100	19-Jun-2025	24-Jun-2025	28 days	5 days	✓	25-Jun-2025	28 days	5 days	✓
Physical Tests : Conductivity in Water										
HDPE GW-DUP	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW22-A	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW22-B	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW22-C	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW23-A	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW23-B	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Conductivity in Water										
HDPE MW23-C	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE MW25-B	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE MW27-B	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE MW28-B	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE MW29-B	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE MW29-C	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE MW4-A	E108	19-Jun-2025	24-Jun-2025	0.25 hrs	118 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	118 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW20-A	E108	19-Jun-2025	24-Jun-2025	0.25 hrs	119 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	119 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE TH1	E108	19-Jun-2025	24-Jun-2025	0.25 hrs	119 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	119 hrs	✖ EHTR-FM



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Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE MW21-C	E108	19-Jun-2025	24-Jun-2025	0.25 hrs	120 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	120 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW22-B	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	140 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	140 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW22-C	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	140 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	140 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE GW-DUP	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	141 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	141 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW22-A	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	141 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	141 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW23-A	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW23-B	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW23-C	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW27-B	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	160 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	160 hrs	✖ EHTR-FM



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE MW28-B	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	160 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	160 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW25-B	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	161 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	161 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW29-C	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	165 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	165 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE MW29-B	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	166 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	166 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry										
HDPE GW-DUP	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✔
Physical Tests : TDS by Gravimetry										
HDPE MW20-A	E162	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✔
Physical Tests : TDS by Gravimetry										
HDPE MW21-C	E162	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✔
Physical Tests : TDS by Gravimetry										
HDPE MW22-A	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✔
Physical Tests : TDS by Gravimetry										
HDPE MW22-B	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry										
HDPE MW22-C	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW23-A	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW23-B	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW23-C	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW25-B	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW27-B	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW28-B	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW29-B	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE MW29-C	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry										
HDPE MW4-A	E162	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE TH1	E162	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE GW-DUP	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW20-A	E160	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW21-C	E160	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW22-A	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW22-B	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW22-C	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW23-A	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE MW23-B	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW23-C	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW25-B	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW27-B	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW28-B	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW29-B	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW29-C	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE MW4-A	E160	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE TH1	E160	19-Jun-2025	----	----	----		26-Jun-2025	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE MW20-A	E121	19-Jun-2025	----	----	----		24-Jun-2025	3 days	5 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW21-C	E121	19-Jun-2025	----	----	----		24-Jun-2025	3 days	5 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW4-A	E121	19-Jun-2025	----	----	----		24-Jun-2025	3 days	5 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE TH1	E121	19-Jun-2025	----	----	----		24-Jun-2025	3 days	5 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE GW-DUP	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW22-A	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW22-B	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW22-C	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW23-A	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Turbidity by Nephelometry										
HDPE MW23-B	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW23-C	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW25-B	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW27-B	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW28-B	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW29-B	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE MW29-C	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended
 EHTR: Exceeded ALS recommended hold time prior to sample receipt.
 EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
 EHT: Exceeded ALS recommended hold time prior to analysis.
 Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2070435	2	40	5.0	5.0	✓
pH by Meter	E108	2070427	2	40	5.0	5.0	✓
Turbidity by Nephelometry	E121	2070675	2	40	5.0	5.0	✓
TSS by Gravimetry	E160	2070831	3	56	5.3	5.0	✓
TDS by Gravimetry	E162	2070832	3	47	6.3	5.2	✓
Chloride in Water by IC	E235.Cl	2070433	2	40	5.0	5.0	✓
Fluoride in Water by IC	E235.F	2070430	2	40	5.0	5.0	✓
Nitrite in Water by IC	E235.NO2	2070432	2	40	5.0	5.0	✓
Nitrate in Water by IC	E235.NO3	2070431	2	40	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	2070434	2	40	5.0	5.0	✓
Alkalinity Species by Titration	E290	2070436	2	40	5.0	5.0	✓
Ammonia by Fluorescence	E298	2071762	1	20	5.0	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071760	2	28	7.1	5.0	✓
Colour (Apparent) by Spectrometer	E330	2076106	2	39	5.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071763	1	20	5.0	5.0	✓
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071761	1	20	5.0	5.0	✓
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	2	40	5.0	5.0	✓
Reactive Silica by Colourimetry	E392	2073375	2	35	5.7	5.0	✓
Dissolved Metals in Water by CRC ICPMS	E421	2073364	1	20	5.0	5.0	✓
Dissolved Mercury in Water by CVAAS	E509	2075997	2	40	5.0	5.0	✓
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2070435	2	40	5.0	5.0	✓
pH by Meter	E108	2070427	2	40	5.0	5.0	✓
Turbidity by Nephelometry	E121	2070675	2	40	5.0	5.0	✓
TSS by Gravimetry	E160	2070831	3	56	5.3	5.0	✓
TDS by Gravimetry	E162	2070832	3	47	6.3	5.2	✓
Chloride in Water by IC	E235.Cl	2070433	2	40	5.0	5.0	✓
Fluoride in Water by IC	E235.F	2070430	2	40	5.0	5.0	✓
Nitrite in Water by IC	E235.NO2	2070432	2	40	5.0	5.0	✓
Nitrate in Water by IC	E235.NO3	2070431	2	40	5.0	5.0	✓
Sulfate in Water by IC	E235.SO4	2070434	2	40	5.0	5.0	✓
Alkalinity Species by Titration	E290	2070436	2	40	5.0	5.0	✓
Ammonia by Fluorescence	E298	2071762	1	20	5.0	5.0	✓
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071760	2	28	7.1	5.0	✓
Colour (Apparent) by Spectrometer	E330	2076106	2	39	5.1	5.0	✓
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071763	1	20	5.0	5.0	✓



Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Control Samples (LCS) - Continued							
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071761	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	2	40	5.0	5.0	✔
Reactive Silica by Colourimetry	E392	2073375	2	35	5.7	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2073364	1	20	5.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	2075997	2	40	5.0	5.0	✔
Method Blanks (MB)							
Conductivity in Water	E100	2070435	2	40	5.0	5.0	✔
Turbidity by Nephelometry	E121	2070675	2	40	5.0	5.0	✔
TSS by Gravimetry	E160	2070831	3	56	5.3	5.0	✔
TDS by Gravimetry	E162	2070832	3	47	6.3	5.2	✔
Chloride in Water by IC	E235.Cl	2070433	2	40	5.0	5.0	✔
Fluoride in Water by IC	E235.F	2070430	2	40	5.0	5.0	✔
Nitrite in Water by IC	E235.NO2	2070432	2	40	5.0	5.0	✔
Nitrate in Water by IC	E235.NO3	2070431	2	40	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2070434	2	40	5.0	5.0	✔
Alkalinity Species by Titration	E290	2070436	2	40	5.0	5.0	✔
Ammonia by Fluorescence	E298	2071762	1	20	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071760	2	28	7.1	5.0	✔
Colour (Apparent) by Spectrometer	E330	2076106	2	39	5.1	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071763	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071761	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	2	40	5.0	5.0	✔
Reactive Silica by Colourimetry	E392	2073375	2	35	5.7	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2073364	1	20	5.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	2075997	2	40	5.0	5.0	✔
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl	2070433	2	40	5.0	5.0	✔
Fluoride in Water by IC	E235.F	2070430	2	40	5.0	5.0	✔
Nitrite in Water by IC	E235.NO2	2070432	2	40	5.0	5.0	✔
Nitrate in Water by IC	E235.NO3	2070431	2	40	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2070434	2	40	5.0	5.0	✔
Ammonia by Fluorescence	E298	2071762	1	20	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071760	2	28	7.1	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071763	1	20	5.0	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071761	1	20	5.0	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	2	40	5.0	5.0	✔
Reactive Silica by Colourimetry	E392	2073375	2	35	5.7	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2073364	1	20	5.0	5.0	✔
Dissolved Mercury in Water by CVAAS	E509	2075997	2	40	5.0	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Halifax	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally $20 \pm 5^\circ\text{C}$). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Waterloo	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry	E160 ALS Environmental - Halifax	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry	E162 ALS Environmental - Halifax	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at $180 \pm 2^\circ\text{C}$ for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC	E235.NO2 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC	E235.NO3 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Water by IC	E235.SO4 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Waterloo	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021).
Colour (Apparent) by Spectrometer	E330 ALS Environmental - Waterloo	Water	APHA 2120 C (mod)	Colour (Apparent) is measured in an unfiltered sample spectrophotometrically using the single wavelength method. The colour contribution of settleable solids are not included in the result. This method is intended for potable waters. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Waterloo	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove carbonate-based Inorganic Carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . Forms of carbon associated with inorganic or organic molecules (e.g. SCN and CN) are included in NPOC if they are not removed by purging under acidic conditions. Notably, NPOC excludes most volatile organic compounds and free cyanide. For samples where the majority of Total Carbon is inorganic, this method provides greater accuracy and reliability versus the TOC by subtraction method (TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Waterloo	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Waterloo	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Reactive Silica by Colourimetry	E392 ALS Environmental - Winnipeg	Water	APHA 4500-SiO ₂ E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Mercury in Water by CVAAS	E509 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 1631E (mod)	Water samples are filtered (0.45 um), preserved with HCl, then undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS.
Dissolved Hardness (Calculated)	EC100 ALS Environmental - Waterloo	Water	APHA 2340B	"Hardness (as CaCO ₃), dissolved" is calculated from the sum of dissolved Calcium and Magnesium concentrations, expressed in CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because it is a property of water due to dissolved divalent cations.
Ion Balance using Dissolved Metals	EC101 ALS Environmental - Waterloo	Water	APHA 1030E	Cation Sum, Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Dissolved species are used where available. Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
Saturation Index using Laboratory pH (Ca-D)	EC105 ALS Environmental - Waterloo	Water	APHA 2330B	Langelier Index provides an indication of scale formation potential at a given pH and temperature, and is calculated as per APHA 2330B Saturation Index. Positive values indicate oversaturation with respect to CaCO ₃ . Negative values indicate undersaturation of CaCO ₃ . This calculation uses laboratory pH measurements and provides estimates of Langelier Index at temperatures of 4, 15, 20, 25, 66, and 77°C. Ryznar Stability Index is an alternative index used for scale formation and corrosion potential. If available, Field pH measurements are recommended for best accuracy (test code EC104).
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Waterloo	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Dissolved Silicon as Silica (Calculation)	EC421.SiO ₂ ALS Environmental - Waterloo	Water	N/A	Dissolved Silicon (as SiO ₂) is a calculated parameter. Dissolved Silicon (as SiO ₂ mg/L) = 2.139 x Dissolved Silicon (mg/L).
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298 ALS Environmental - Waterloo	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Digestion for TKN in water	EP318 ALS Environmental - Waterloo	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Waterloo	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Waterloo	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO ₃ .
Dissolved Mercury Water Filtration	EP509 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HCl.

QUALITY CONTROL REPORT

Work Order	: HA2501942	Page	: 1 of 16
Amendment	: 2		
Client	: Englobe Corp.	Laboratory	: ALS Environmental - Halifax
Contact	: Nathalie Sahakyan	Account Manager	: Emily Smith
Address	: 97 Troop Avenue Dartmouth NS Canada B3B 2A7	Address	: 13-100 Wright Ave Dartmouth, Nova Scotia Canada B3B 1L2
Telephone	: ----	Telephone	: +1 902 707 4888
Project	: 2408035.000	Date Samples Received	: 19-Jun-2025 15:30
PO	: ----	Date Analysis Commenced	: 24-Jun-2025
C-O-C number	: ----	Issue Date	: 23-Sep-2025 17:30
Sampler	: ----		
Site	:		
Quote number	: Meadowview Landfill		
No. of samples received	: 16		
No. of samples analysed	: 16		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Angela Fleming	Supervisor - Inorganic	Waterloo Inorganics, Waterloo, Ontario
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Greg Pokocky	Manager - Inorganics	Waterloo Metals, Waterloo, Ontario
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Nik Perkio	Senior Analyst	Waterloo Metals, Waterloo, Ontario



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2070427)											
HA2501881-001	Anonymous	pH	----	E108	0.10	pH units	5.81	5.69	2.02%	4%	----
Physical Tests (QC Lot: 2070435)											
HA2501912-001	Anonymous	Conductivity	----	E100	1.0	µS/cm	2280	2270	0.440%	10%	----
Physical Tests (QC Lot: 2070436)											
HA2501912-001	Anonymous	Alkalinity, total (as CaCO ₃)	----	E290	1.0	mg/L	110	112	1.62%	20%	----
Physical Tests (QC Lot: 2070444)											
WT2516341-009	Anonymous	Conductivity	----	E100	1.0	µS/cm	21.3	20.7	2.86%	10%	----
Physical Tests (QC Lot: 2070445)											
WT2516341-009	Anonymous	Alkalinity, total (as CaCO ₃)	----	E290	1.0	mg/L	4.9	4.3	0.6	Diff <2x LOR	----
Physical Tests (QC Lot: 2070675)											
HA2501918-001	Anonymous	Turbidity	----	E121	0.10	NTU	40.4	38.5	4.81%	15%	----
Physical Tests (QC Lot: 2070676)											
HA2501942-016	GW-DUP	Turbidity	----	E121	0.10	NTU	472	476	0.844%	15%	----
Physical Tests (QC Lot: 2070831)											
HA2501551-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	7.5	8.9	1.4	Diff <2x LOR	----
Physical Tests (QC Lot: 2070832)											
HA2501881-001	Anonymous	Solids, total dissolved [TDS]	----	E162	10	mg/L	20	18	1	Diff <2x LOR	----
Physical Tests (QC Lot: 2070840)											
HA2501542-001	Anonymous	pH	----	E108	0.10	pH units	7.59	7.61	0.210%	4%	----
Physical Tests (QC Lot: 2073482)											
HA2501934-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 2073483)											
HA2501908-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	140	130	10	Diff <2x LOR	----
Physical Tests (QC Lot: 2075948)											
HA2501942-012	TH1	Solids, total suspended [TSS]	----	E160	3.0	mg/L	1570	1410	11.2%	20%	----
Physical Tests (QC Lot: 2075949)											
HA2501942-012	TH1	Solids, total dissolved [TDS]	----	E162	20	mg/L	398	395	0.883%	20%	----
Physical Tests (QC Lot: 2076106)											
HA2501941-001	Anonymous	Colour, apparent	----	E330	2.0	CU	29.2	30.0	2.92%	20%	----
Physical Tests (QC Lot: 2076108)											

Page : 4 of 16
 Work Order : HA2501942 Amendment 2
 Client : Englobe Corp.
 Project : 2408035.000



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2076108) - continued											
HA2501942-014	MW20-A	Colour, apparent	----	E330	20.0	CU	386	371	3.89%	20%	----
Anions and Nutrients (QC Lot: 2070430)											
HA2501912-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070431)											
HA2501912-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070432)											
HA2501912-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070433)											
HA2501912-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	9.96	9.25	0.71	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070434)											
HA2501912-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	1300	1300	0.0548%	20%	----
Anions and Nutrients (QC Lot: 2070437)											
HA2501912-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070438)											
HA2501942-002	MW29-C	Fluoride	16984-48-8	E235.F	0.020	mg/L	0.068	0.066	0.002	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070439)											
HA2501942-002	MW29-C	Nitrate (as N)	14797-55-8	E235.NO3	0.020	mg/L	0.142	0.141	0.0010	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070440)											
HA2501942-002	MW29-C	Nitrite (as N)	14797-65-0	E235.NO2	0.010	mg/L	<0.010	<0.010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070441)											
HA2501942-002	MW29-C	Chloride	16887-00-6	E235.Cl	0.50	mg/L	16.8	16.6	0.923%	20%	----
Anions and Nutrients (QC Lot: 2070442)											
HA2501942-002	MW29-C	Sulfate (as SO4)	14808-79-8	E235.SO4	0.30	mg/L	4.24	4.18	1.28%	20%	----
Anions and Nutrients (QC Lot: 2070447)											
HA2501942-002	MW29-C	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	0.0074	0.0075	0.00005	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2071760)											
HA2501942-002	MW29-C	Kjeldahl nitrogen, total [TKN]	----	E318	0.500	mg/L	0.717	1.29	0.572	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2071761)											
HA2501942-001	MW29-B	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	110 µg/L	0.109	0.801%	20%	----
Anions and Nutrients (QC Lot: 2071762)											
HA2501942-001	MW29-B	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2073375)											
HA2501941-001	Anonymous	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	8.74	8.43	3.66%	20%	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Anions and Nutrients (QC Lot: 2073376)											
HA2501942-014	MW20-A	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	3.35	3.44	0.08	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2076974)											
HA2501942-004	MW27-B	Kjeldahl nitrogen, total [TKN]	----	E318	0.050	mg/L	0.507	0.441	0.066	Diff <2x LOR	----
Organic / Inorganic Carbon (QC Lot: 2071763)											
HA2501942-003	MW28-B	Carbon, total organic [TOC]	----	E355-L	2.50	mg/L	4.16	3.78	0.38	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2073364)											
HA2501941-004	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0010	mg/L	0.0050	0.0050	0.000002	Diff <2x LOR	----
		Antimony, dissolved	7440-36-0	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, dissolved	7440-38-2	E421	0.00010	mg/L	0.00844	0.00844	0.0178%	20%	----
		Barium, dissolved	7440-39-3	E421	0.00010	mg/L	0.245	0.246	0.351%	20%	----
		Beryllium, dissolved	7440-41-7	E421	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, dissolved	7440-69-9	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, dissolved	7440-42-8	E421	0.010	mg/L	0.020	0.020	0.0005	Diff <2x LOR	----
		Cadmium, dissolved	7440-43-9	E421	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, dissolved	7440-70-2	E421	0.050	mg/L	22.5	22.4	0.409%	20%	----
		Chromium, dissolved	7440-47-3	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, dissolved	7440-48-4	E421	0.00010	mg/L	0.00213	0.00206	3.05%	20%	----
		Copper, dissolved	7440-50-8	E421	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Iron, dissolved	7439-89-6	E421	0.010	mg/L	6.72	6.67	0.730%	20%	----
		Lead, dissolved	7439-92-1	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Magnesium, dissolved	7439-95-4	E421	0.0050	mg/L	3.08	3.03	1.92%	20%	----
		Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	1010 µg/L	1.01	0.684%	20%	----
		Molybdenum, dissolved	7439-98-7	E421	0.000050	mg/L	0.000101	0.000102	0.0000006	Diff <2x LOR	----
		Nickel, dissolved	7440-02-0	E421	0.00050	mg/L	0.00104	0.00105	0.000009	Diff <2x LOR	----
		Potassium, dissolved	7440-09-7	E421	0.050	mg/L	3.21	3.17	0.996%	20%	----
		Selenium, dissolved	7782-49-2	E421	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Silver, dissolved	7440-22-4	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, dissolved	7440-23-5	E421	0.050	mg/L	10.9	10.7	1.96%	20%	----
		Strontium, dissolved	7440-24-6	E421	0.00020	mg/L	0.0738	0.0744	0.899%	20%	----
		Thallium, dissolved	7440-28-0	E421	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Tin, dissolved	7440-31-5	E421	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, dissolved	7440-32-6	E421	0.00030	mg/L	<0.00030	<0.00030	0	Diff <2x LOR	----
		Uranium, dissolved	7440-61-1	E421	0.000010	mg/L	0.000022	0.000023	0.000001	Diff <2x LOR	----
		Vanadium, dissolved	7440-62-2	E421	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Dissolved Metals (QC Lot: 2073364) - continued											
HA2501941-004	Anonymous	Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<1.0 µg/L	<0.0010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2075997)											
HA2501942-001	MW29-B	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2075998)											
HA2501942-004	MW27-B	Mercury, dissolved	7439-97-6	E509	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2070435)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 2070436)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 2070444)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 2070445)						
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 2070675)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 2070676)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 2070831)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 2070832)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 2073482)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 2073483)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 2075948)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 2075949)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 2076106)						
Colour, apparent	----	E330	2	CU	<2.0	----
Physical Tests (QCLot: 2076108)						
Colour, apparent	----	E330	2	CU	<2.0	----
Anions and Nutrients (QCLot: 2070430)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2070431)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2070432)						



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 2070432) - continued						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 2070433)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2070434)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 2070437)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2070438)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2070439)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2070440)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 2070441)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2070442)						
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 2070447)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2071760)						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 2071761)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2071762)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2073375)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2073376)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2076974)						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Organic / Inorganic Carbon (QCLot: 2071763)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Dissolved Metals (QCLot: 2073364)						
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	<0.0010	----



Sub-Matrix: **Water**

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Dissolved Metals (QCLot: 2073364) - continued						
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	<0.00010	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	<0.00010	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	<0.00010	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	<0.000020	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	<0.000050	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	<0.010	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	<0.0000050	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	<0.050	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	<0.00050	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	<0.00010	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	<0.00020	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	<0.010	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	<0.000050	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	<0.0050	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	<0.000050	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	<0.00050	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	<0.050	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	<0.000050	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	<0.000010	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	<0.050	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	<0.00020	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	<0.000010	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	<0.00010	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	<0.00030	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	<0.000010	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	<0.00050	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Dissolved Metals (QCLot: 2075997)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 2075998)						
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	<0.0000050	----





Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2070427)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 2070435)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	106	90.0	110	----
Physical Tests (QCLot: 2070436)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	150 mg/L	103	85.0	115	----
Physical Tests (QCLot: 2070444)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	101	90.0	110	----
Physical Tests (QCLot: 2070445)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	150 mg/L	99.3	85.0	115	----
Physical Tests (QCLot: 2070675)									
Turbidity	----	E121	0.1	NTU	200 NTU	101	85.0	115	----
Physical Tests (QCLot: 2070676)									
Turbidity	----	E121	0.1	NTU	200 NTU	101	85.0	115	----
Physical Tests (QCLot: 2070831)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	90.5	85.0	115	----
Physical Tests (QCLot: 2070832)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	94.0	85.0	115	----
Physical Tests (QCLot: 2070840)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 2073482)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	87.5	85.0	115	----
Physical Tests (QCLot: 2073483)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	95.4	85.0	115	----
Physical Tests (QCLot: 2075948)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	94.8	85.0	115	----
Physical Tests (QCLot: 2075949)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	90.0	85.0	115	----
Physical Tests (QCLot: 2076106)									
Colour, apparent	----	E330	2	CU	25 CU	100	85.0	115	----
Physical Tests (QCLot: 2076108)									
Colour, apparent	----	E330	2	CU	25 CU	101	85.0	115	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2070430)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 2070431)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070432)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070433)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070434)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	95.8	90.0	110	----
Anions and Nutrients (QCLot: 2070437)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.05 mg/L	98.4	80.0	120	----
Anions and Nutrients (QCLot: 2070438)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 2070439)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070440)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070441)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	101	90.0	110	----
Anions and Nutrients (QCLot: 2070442)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	102	90.0	110	----
Anions and Nutrients (QCLot: 2070447)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.05 mg/L	98.1	80.0	120	----
Anions and Nutrients (QCLot: 2071760)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	99.9	75.0	125	----
Anions and Nutrients (QCLot: 2071761)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.333 mg/L	97.9	80.0	120	----
Anions and Nutrients (QCLot: 2071762)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	97.4	85.0	115	----
Anions and Nutrients (QCLot: 2073375)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	105	85.0	115	----
Anions and Nutrients (QCLot: 2073376)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	106	85.0	115	----
Anions and Nutrients (QCLot: 2076974)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	111	75.0	125	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Organic / Inorganic Carbon (QCLot: 2071763)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	104	80.0	120	----
Dissolved Metals (QCLot: 2073364)									
Aluminum, dissolved	7429-90-5	E421	0.001	mg/L	0.1 mg/L	104	80.0	120	----
Antimony, dissolved	7440-36-0	E421	0.0001	mg/L	0.05 mg/L	109	80.0	120	----
Arsenic, dissolved	7440-38-2	E421	0.0001	mg/L	0.05 mg/L	112	80.0	120	----
Barium, dissolved	7440-39-3	E421	0.0001	mg/L	0.012 mg/L	110	80.0	120	----
Beryllium, dissolved	7440-41-7	E421	0.00002	mg/L	0.005 mg/L	101	80.0	120	----
Bismuth, dissolved	7440-69-9	E421	0.00005	mg/L	0.05 mg/L	110	80.0	120	----
Boron, dissolved	7440-42-8	E421	0.01	mg/L	0.05 mg/L	95.4	80.0	120	----
Cadmium, dissolved	7440-43-9	E421	0.000005	mg/L	0.005 mg/L	108	80.0	120	----
Calcium, dissolved	7440-70-2	E421	0.05	mg/L	2.5 mg/L	104	80.0	120	----
Chromium, dissolved	7440-47-3	E421	0.0005	mg/L	0.012 mg/L	105	80.0	120	----
Cobalt, dissolved	7440-48-4	E421	0.0001	mg/L	0.012 mg/L	105	80.0	120	----
Copper, dissolved	7440-50-8	E421	0.0002	mg/L	0.012 mg/L	105	80.0	120	----
Iron, dissolved	7439-89-6	E421	0.01	mg/L	0.05 mg/L	106	80.0	120	----
Lead, dissolved	7439-92-1	E421	0.00005	mg/L	0.025 mg/L	110	80.0	120	----
Magnesium, dissolved	7439-95-4	E421	0.005	mg/L	2.5 mg/L	107	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.012 mg/L	107	80.0	120	----
Molybdenum, dissolved	7439-98-7	E421	0.00005	mg/L	0.012 mg/L	107	80.0	120	----
Nickel, dissolved	7440-02-0	E421	0.0005	mg/L	0.025 mg/L	104	80.0	120	----
Potassium, dissolved	7440-09-7	E421	0.05	mg/L	2.5 mg/L	107	80.0	120	----
Selenium, dissolved	7782-49-2	E421	0.00005	mg/L	0.05 mg/L	108	80.0	120	----
Silver, dissolved	7440-22-4	E421	0.00001	mg/L	0.005 mg/L	105	80.0	120	----
Sodium, dissolved	7440-23-5	E421	0.05	mg/L	2.5 mg/L	105	80.0	120	----
Strontium, dissolved	7440-24-6	E421	0.0002	mg/L	0.012 mg/L	106	80.0	120	----
Thallium, dissolved	7440-28-0	E421	0.00001	mg/L	0.05 mg/L	109	80.0	120	----
Tin, dissolved	7440-31-5	E421	0.0001	mg/L	0.025 mg/L	107	80.0	120	----
Titanium, dissolved	7440-32-6	E421	0.0003	mg/L	0.012 mg/L	101	80.0	120	----
Uranium, dissolved	7440-61-1	E421	0.00001	mg/L	0 mg/L	112	80.0	120	----
Vanadium, dissolved	7440-62-2	E421	0.0005	mg/L	0.025 mg/L	106	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	106	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	100	80.0	120	----
Mercury, dissolved	7439-97-6	E509	0.000005	mg/L	0 mg/L	97.9	80.0	120	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2070430)										
HA2501912-001	Anonymous	Fluoride	16984-48-8	E235.F	4.88 mg/L	5 mg/L	97.7	75.0	125	----
Anions and Nutrients (QCLot: 2070431)										
HA2501912-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	11.3 mg/L	12.5 mg/L	90.5	75.0	125	----
Anions and Nutrients (QCLot: 2070432)										
HA2501912-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	2.40 mg/L	2.5 mg/L	95.9	75.0	125	----
Anions and Nutrients (QCLot: 2070433)										
HA2501912-001	Anonymous	Chloride	16887-00-6	E235.Cl	480 mg/L	500 mg/L	95.9	75.0	125	----
Anions and Nutrients (QCLot: 2070434)										
HA2501912-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2070437)										
HA2501912-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0189 mg/L	0.02 mg/L	96.3	70.0	130	----
Anions and Nutrients (QCLot: 2070438)										
HA2501942-002	MW29-C	Fluoride	16984-48-8	E235.F	1.01 mg/L	1 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 2070439)										
HA2501942-002	MW29-C	Nitrate (as N)	14797-55-8	E235.NO3	2.44 mg/L	2.5 mg/L	97.8	75.0	125	----
Anions and Nutrients (QCLot: 2070440)										
HA2501942-002	MW29-C	Nitrite (as N)	14797-65-0	E235.NO2	0.493 mg/L	0.5 mg/L	98.6	75.0	125	----
Anions and Nutrients (QCLot: 2070441)										
HA2501942-002	MW29-C	Chloride	16887-00-6	E235.Cl	98.1 mg/L	100 mg/L	98.1	75.0	125	----
Anions and Nutrients (QCLot: 2070442)										
HA2501942-002	MW29-C	Sulfate (as SO4)	14808-79-8	E235.SO4	99.0 mg/L	100 mg/L	99.0	75.0	125	----
Anions and Nutrients (QCLot: 2070447)										
HA2501942-002	MW29-C	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0198 mg/L	0.02 mg/L	101	70.0	130	----
Anions and Nutrients (QCLot: 2071760)										
HA2501942-002	MW29-C	Kjeldahl nitrogen, total [TKN]	----	E318	25.3 mg/L	25 mg/L	101	70.0	130	----
Anions and Nutrients (QCLot: 2071761)										
HA2501942-001	MW29-B	Phosphorus, total	7723-14-0	E372-U	ND mg/L	----	ND	70.0	130	----
Anions and Nutrients (QCLot: 2071762)										
HA2501942-001	MW29-B	Ammonia, total (as N)	7664-41-7	E298	0.0953 mg/L	0.1 mg/L	95.3	75.0	125	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2073375)										
HA2501941-002	Anonymous	Silicate (as SiO2)	7631-86-9	E392	10.1 mg/L	10 mg/L	101	75.0	125	----
Anions and Nutrients (QCLot: 2073376)										
HA2501942-015	MW21-C	Silicate (as SiO2)	7631-86-9	E392	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2076974)										
HA2501942-004	MW27-B	Kjeldahl nitrogen, total [TKN]	----	E318	3.13 mg/L	2.5 mg/L	125	70.0	130	----
Organic / Inorganic Carbon (QCLot: 2071763)										
HA2501942-003	MW28-B	Carbon, total organic [TOC]	----	E355-L	26.6 mg/L	25 mg/L	106	70.0	130	----
Dissolved Metals (QCLot: 2073364)										
HA2501941-005	Anonymous	Aluminum, dissolved	7429-90-5	E421	0.0965 mg/L	0.1 mg/L	96.5	70.0	130	----
		Antimony, dissolved	7440-36-0	E421	0.0547 mg/L	0.05 mg/L	109	70.0	130	----
		Arsenic, dissolved	7440-38-2	E421	0.0592 mg/L	0.05 mg/L	118	70.0	130	----
		Barium, dissolved	7440-39-3	E421	ND mg/L	----	ND	70.0	130	----
		Beryllium, dissolved	7440-41-7	E421	0.00534 mg/L	0.005 mg/L	107	70.0	130	----
		Bismuth, dissolved	7440-69-9	E421	0.0464 mg/L	0.05 mg/L	92.8	70.0	130	----
		Boron, dissolved	7440-42-8	E421	0.045 mg/L	0.05 mg/L	90.2	70.0	130	----
		Cadmium, dissolved	7440-43-9	E421	0.00550 mg/L	0.005 mg/L	110	70.0	130	----
		Calcium, dissolved	7440-70-2	E421	ND mg/L	----	ND	70.0	130	----
		Chromium, dissolved	7440-47-3	E421	0.0122 mg/L	0.012 mg/L	97.8	70.0	130	----
		Cobalt, dissolved	7440-48-4	E421	0.0122 mg/L	0.012 mg/L	97.5	70.0	130	----
		Copper, dissolved	7440-50-8	E421	0.0122 mg/L	0.012 mg/L	97.3	70.0	130	----
		Iron, dissolved	7439-89-6	E421	ND mg/L	----	ND	70.0	130	----
		Lead, dissolved	7439-92-1	E421	0.0256 mg/L	0.025 mg/L	102	70.0	130	----
		Magnesium, dissolved	7439-95-4	E421	2.47 mg/L	2.5 mg/L	98.9	70.0	130	----
		Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Molybdenum, dissolved	7439-98-7	E421	0.0129 mg/L	0.012 mg/L	103	70.0	130	----
		Nickel, dissolved	7440-02-0	E421	0.0242 mg/L	0.025 mg/L	96.6	70.0	130	----
		Potassium, dissolved	7440-09-7	E421	2.43 mg/L	2.5 mg/L	97.2	70.0	130	----
		Selenium, dissolved	7782-49-2	E421	0.0650 mg/L	0.05 mg/L	130	70.0	130	----
		Silver, dissolved	7440-22-4	E421	0.00469 mg/L	0.005 mg/L	93.7	70.0	130	----
		Sodium, dissolved	7440-23-5	E421	ND mg/L	----	ND	70.0	130	----
		Strontium, dissolved	7440-24-6	E421	ND mg/L	----	ND	70.0	130	----
		Thallium, dissolved	7440-28-0	E421	0.0509 mg/L	0.05 mg/L	102	70.0	130	----
		Tin, dissolved	7440-31-5	E421	0.0252 mg/L	0.025 mg/L	101	70.0	130	----
		Titanium, dissolved	7440-32-6	E421	0.0123 mg/L	0.012 mg/L	98.2	70.0	130	----
		Uranium, dissolved	7440-61-1	E421	0.000261 mg/L	0 mg/L	104	70.0	130	----
		Vanadium, dissolved	7440-62-2	E421	0.0250 mg/L	0.025 mg/L	99.9	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.0284 mg/L	0.025 mg/L	114	70.0	130	----
Dissolved Metals (QCLot: 2075997)										
HA2501942-002	MW29-C	Mercury, dissolved	7439-97-6	E509	0.0000882 mg/L	0 mg/L	88.2	70.0	130	----
Dissolved Metals (QCLot: 2075998)										
HA2501942-005	MW25-B	Mercury, dissolved	7439-97-6	E509	0.0000861 mg/L	0 mg/L	86.1	70.0	130	----



CERTIFICATE OF ANALYSIS

Work Order	: HA2501941		
Amendment	: 2		
Client	: Englobe Corp.	Laboratory	: ALS Environmental - Halifax
Contact	: Nathalie Sahakyan	Account Manager	: Emily Smith
Address	: 97 Troop Avenue	Address	: 13-100 Wright Ave
	Dartmouth Nova Scotia Canada B3B 2A7		Dartmouth NS Canada B3B 1L2
Telephone	: ----	E-mail	: Emily.Smith@ALSGlobal.com
Project	: 2408035.000	Telephone	: +1 902 707 4888
PO	: ----	Date Samples Received	: 19-Jun-2025 15:30
C-O-C number	: ----	Date Analysis Commenced	: 24-Jun-2025
Sampler	: ----	Issue Date	: 10-Nov-2025 16:30
Site	: ----		
Quote number	: Meadowview Landfill		
No. of samples received	: 7		
No. of samples analysed	: 7		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Certificate of Analysis contains the following information:

- General Comments
- Analytical Results

Additional information pertinent to this report will be found in the following separate attachments: Quality Control Report, QC Interpretive report to assist with Quality Review and Sample Receipt Notification (SRN).

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

<i>Signatories</i>	<i>Position</i>	<i>Laboratory Department</i>
Angela Fleming	Supervisor - Inorganic	Metals, Waterloo, Ontario
Jiaxi Wang	Supervisor - Water Chemistry	Inorganics, Dartmouth, Nova Scotia
John Tang	Lab Analyst	Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Metals, Waterloo, Ontario
Kevin Baxter	Supervisor - Inorganic	Inorganics, Winnipeg, Manitoba



General Comments

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Refer to the ALS Quality Control Interpretive report (QCI) for applicable references and methodology summaries. Reference methods may incorporate modifications to improve performance.

Where a reported less than (<) result is higher than the LOR, this may be due to primary sample extract/digestate dilution and/or insufficient sample for analysis.

Where the LOR of a reported result differs from standard LOR, this may be due to high moisture content, insufficient sample (reduced weight employed) or matrix interference.

Please refer to Quality Control Interpretive report (QCI) for information regarding Holding Time compliance.

Key: CAS Number: Chemical Abstracts Services number is a unique identifier assigned to discrete substances.
LOR: Limit of Reporting (detection limit).

Unit	Description
-	no units
%	percent
CU	colour units (1 cu = 1 mg/l pt)
meq/L	milliequivalents per litre
mg/L	milligrams per litre
NTU	nephelometric turbidity units
pH units	pH units
µg/L	micrograms per litre
µS/cm	microsiemens per centimetre

<: less than.

>: greater than.

Surrogate: An analyte that is similar in behavior to target analyte(s), but that does not occur naturally in environmental samples. For applicable tests, surrogates are added to samples prior to analysis as a check on recovery.

Test results reported relate only to the samples as received by the laboratory.

UNLESS OTHERWISE STATED on SRN or QCI Report, ALL SAMPLES WERE RECEIVED IN ACCEPTABLE CONDITION.

Workorder Comments

Amendment (04/07/2025): This report has been amended and re-released to allow the reporting of additional analytical data. Additional metals added in to report.

Amendment (10/11/2025): This report has been amended and re-released to allow the reporting of additional analytical data. Additional metals added in to report.



Qualifiers

Qualifier	Description
DLDS	Detection Limit Raised: Dilution required due to high Dissolved Solids / Electrical Conductivity.
DLHC	Detection Limit Raised: Dilution required due to high concentration of test analyte(s).
DTC	Dissolved concentration exceeds total. Results were confirmed by re-analysis.



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

Sub-Matrix: Surface Water (Matrix: Water)					Client sample ID	SW24-3 ----	SW24-2 ----	SW7A ----	SW-DUP ----	SW7 ----
Client sampling date / time					17-Jun-2025 12:15	17-Jun-2025 13:30	17-Jun-2025 14:30	17-Jun-2025 00:00	17-Jun-2025 15:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-001	HA2501941-002	HA2501941-003	HA2501941-004	HA2501941-005	
					Result	Result	Result	Result	Result	
Physical Tests										
Alkalinity, bicarbonate (as HCO3)	71-52-3	E290/WT	1.2	mg/L	72.6	77.5	119	142	61.8	
Alkalinity, carbonate (as CO3)	3812-32-6	E290/WT	1.0	mg/L	<0.6	<0.6	<0.6	<0.6	<0.6	
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WT	1.0	mg/L	<0.3	<0.3	<0.3	<0.3	<0.3	
Alkalinity, total (as CaCO3)	----	E290/WT	1.0	mg/L	59.5	63.5	97.5	116	50.7	
Colour, apparent	----	E330/WT	2.0	CU	29.2	39.0	1380	1250	31.5	
Conductivity	----	E100/WT	1.0	µS/cm	299	288	245	297	162	
Hardness (as CaCO3), from total Ca/Mg	----	EC100A/WT	0.50	mg/L	93.6	91.7	137	133	49.5	
Langelier index (@ 20°C)	----	EC105A/WT	0.010	-	-0.443	-1.38	-1.25	-1.09	-1.33	
Langelier index (@ 4°C)	----	EC105A/WT	0.010	-	-0.694	-1.63	-1.50	-1.34	-1.58	
pH	----	E108/HA	0.10	pH units	7.67	6.71	6.50	6.57	7.07	
pH, saturation (@ 20°C)	----	EC105A/WT	0.010	pH units	8.11	8.08	7.75	7.66	8.40	
pH, saturation (@ 4°C)	----	EC105A/WT	0.010	pH units	8.36	8.34	8.00	7.92	8.65	
Solids, total dissolved [TDS]	----	E162/HA	10	mg/L	176 ^{DLDS}	166 ^{DLDS}	182 ^{DLDS}	127 ^{DLDS}	77 ^{DLDS}	
Solids, total suspended [TSS]	----	E160/HA	3.0	mg/L	<3.0	<3.0	41.1	32.1	<3.0	
Turbidity	----	E121/WT	0.10	NTU	2.80	11.8	527	274	1.72	
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	0.0443	0.0614	5.30	5.32	0.120	
Chloride	16887-00-6	E235.CI/WT	0.50	mg/L	31.8	29.2	15.4	15.4	14.6	
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	0.048	0.053	0.032	0.036	0.029	
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	0.558	0.593	7.32	7.15	0.240	
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	2.26	2.31	0.171	0.060	0.042	



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

Sub-Matrix: Surface Water (Matrix: Water)					Client sample ID	SW24-3 ----	SW24-2 ----	SW7A ----	SW-DUP ----	SW7 ----
Client sampling date / time					17-Jun-2025 12:15	17-Jun-2025 13:30	17-Jun-2025 14:30	17-Jun-2025 00:00	17-Jun-2025 15:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-001	HA2501941-002	HA2501941-003	HA2501941-004	HA2501941-005	
					Result	Result	Result	Result	Result	
Anions and Nutrients										
Nitrate + Nitrite (as N)	----	EC235.N+N/WT	0.0032	mg/L	2.29	2.34	0.171	0.0600	0.0420	
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	0.034	0.035	<0.010	<0.010	<0.010	
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	0.0377	0.0428	0.0038	0.0019	0.0055	
Phosphorus, total	7723-14-0	E372-U/WT	2.0	µg/L	89.1	136	123	122	15.8	
Silicate (as SiO2)	7631-86-9	E392/WP	0.50	mg/L	8.74	8.70	12.4	14.4	10.7	
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	20.2	20.4	2.13	1.84	3.04	
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WT	0.50	mg/L	3.61	4.74	5.63	5.56	3.18	
Ion Balance										
Anion sum	----	EC101A/WT	0.10	meq/L	2.67	2.69	2.44	2.80	1.49	
Cation sum (total)	----	EC101A/WT	0.10	meq/L	2.71	2.61	5.28	5.22	1.53	
Ion balance (cations/anions)	----	EC101A/WT	0.01	%	101	97.0	216	186	103	
Total Metals										
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	0.100	0.106	0.122 ^{DLHC}	0.131 ^{DLHC}	0.0164	
Antimony, total	7440-36-0	E420/WT	0.00010	mg/L	<0.00010	<0.00010	<0.00100 ^{DLHC}	<0.00100 ^{DLHC}	<0.00010	
Arsenic, total	7440-38-2	E420/WT	0.00010	mg/L	0.00138	0.00151	0.0475 ^{DLHC}	0.0498 ^{DLHC}	0.00138	
Barium, total	7440-39-3	E420/WT	0.00010	mg/L	0.0352	0.0344	0.660 ^{DLHC}	0.663 ^{DLHC}	0.106	
Beryllium, total	7440-41-7	E420/WT	0.000020	mg/L	<0.000020	<0.000020	<0.000200 ^{DLHC}	<0.000200 ^{DLHC}	<0.000020	
Bismuth, total	7440-69-9	E420/WT	0.000050	mg/L	<0.000050	<0.000050	<0.000500 ^{DLHC}	<0.000500 ^{DLHC}	<0.000050	
Boron, total	7440-42-8	E420/WT	0.010	mg/L	0.017	0.016	<0.100 ^{DLHC}	<0.100 ^{DLHC}	<0.010	
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	<0.0000050	<0.0000050	<0.0000500 ^{DLHC}	<0.0000500 ^{DLHC}	<0.0000050	



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

Sub-Matrix: Surface Water (Matrix: Water)					Client sample ID	SW24-3 ----	SW24-2 ----	SW7A ----	SW-DUP ----	SW7 ----
Client sampling date / time					17-Jun-2025 12:15	17-Jun-2025 13:30	17-Jun-2025 14:30	17-Jun-2025 00:00	17-Jun-2025 15:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-001	HA2501941-002	HA2501941-003	HA2501941-004	HA2501941-005	
					Result	Result	Result	Result	Result	
Total Metals										
Calcium, total	7440-70-2	E420/WT	100	µg/L	31200	30600	43900 DLHC	42500 DLHC	16800	
Cesium, total	7440-46-2	E420/WT	0.000010	mg/L	0.000027	0.000029	<0.000100 DLHC	<0.000100 DLHC	<0.000010	
Chromium, total	7440-47-3	E420/WT	0.00050	mg/L	<0.00050	<0.00050	<0.00500 DLHC	<0.00500 DLHC	0.00066	
Cobalt, total	7440-48-4	E420/WT	0.00010	mg/L	0.00014	0.00017	0.00862 DLHC	0.00858 DLHC	0.00018	
Copper, total	7440-50-8	E420/WT	0.00050	mg/L	0.00055	0.00066	<0.00500 DLHC	<0.00500 DLHC	<0.00050	
Iron, total	7439-89-6	E420/WT	10	µg/L	461	479	37300 DLHC	38200 DLHC	903	
Lead, total	7439-92-1	E420/WT	0.000050	mg/L	0.000118	0.000122	0.000825 DLHC	0.000909 DLHC	0.000063	
Lithium, total	7439-93-2	E420/WT	0.0010	mg/L	0.0031	0.0029	<0.0100 DLHC	<0.0100 DLHC	0.0012	
Magnesium, total	7439-95-4	E420/WT	5.0	µg/L	3800	3720	6740 DLHC	6580 DLHC	1830	
Manganese, total	7439-96-5	E420/WT	0.10	µg/L	102	104	2490 DLHC	2460 DLHC	578	
Mercury, total	7439-97-6	E508/WT	0.0050	µg/L	<0.0050	<0.0050	<0.0050	<0.0050	<0.0050	
Molybdenum, total	7439-98-7	E420/WT	0.000050	mg/L	0.000308	0.000305	<0.000500 DLHC	<0.000500 DLHC	0.000057	
Nickel, total	7440-02-0	E420/WT	0.00050	mg/L	<0.00050	0.00112	<0.00500 DLHC	0.00618 DLHC	<0.00050	
Potassium, total	7440-09-7	E420/WT	50	µg/L	2190	2190	7490 DLHC	7340 DLHC	1300	
Rubidium, total	7440-17-7	E420/WT	0.00020	mg/L	0.00158	0.00160	0.00405 DLHC	0.00389 DLHC	0.00084	
Selenium, total	7782-49-2	E420/WT	0.000050	mg/L	0.000111	0.000095	<0.000500 DLHC	<0.000500 DLHC	<0.000050	
Silicon (as SiO2), total	7631-86-9	EC420.SiO2/WT	0.25	mg/L	9.30	9.35	19.5	19.3	11.2	
Silicon, total	7440-21-3	E420/WT	0.10	mg/L	4.35	4.37	9.10 DLHC	9.01 DLHC	5.25	
Silver, total	7440-22-4	E420/WT	0.000010	mg/L	<0.000010	<0.000010	<0.000100 DLHC	<0.000100 DLHC	<0.000010	
Sodium, total	7440-23-5	E420/WT	50	µg/L	17300	15800	12000 DLHC	11800 DLHC	10300	
Strontium, total	7440-24-6	E420/WT	0.00020	mg/L	0.119	0.116	0.183 DLHC	0.182 DLHC	0.0346	



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

Sub-Matrix: Surface Water (Matrix: Water)					Client sample ID	SW24-3 ----	SW24-2 ----	SW7A ----	SW-DUP ----	SW7 ----
Client sampling date / time					17-Jun-2025 12:15	17-Jun-2025 13:30	17-Jun-2025 14:30	17-Jun-2025 00:00	17-Jun-2025 15:00	
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-001	HA2501941-002	HA2501941-003	HA2501941-004	HA2501941-005	
					Result	Result	Result	Result	Result	
Total Metals										
Sulfur, total	7704-34-9	E420/WT	0.50	mg/L	7.70	7.68	<5.00 ^{DLHC}	<5.00 ^{DLHC}	1.55	
Tellurium, total	13494-80-9	E420/WT	0.00020	mg/L	<0.00020	<0.00020	<0.00200 ^{DLHC}	<0.00200 ^{DLHC}	<0.00020	
Thallium, total	7440-28-0	E420/WT	0.000010	mg/L	<0.000010	<0.000010	<0.000100 ^{DLHC}	<0.000100 ^{DLHC}	<0.000010	
Thorium, total	7440-29-1	E420/WT	0.00010	mg/L	<0.00010	<0.00010	<0.00100 ^{DLHC}	<0.00100 ^{DLHC}	<0.00010	
Tin, total	7440-31-5	E420/WT	0.00010	mg/L	<0.00010	<0.00010	<0.00100 ^{DLHC}	<0.00100 ^{DLHC}	0.00018	
Titanium, total	7440-32-6	E420/WT	0.00030	mg/L	0.00242	0.00225	<0.00300 ^{DLHC}	<0.00300 ^{DLHC}	0.00031	
Tungsten, total	7440-33-7	E420/WT	0.00010	mg/L	<0.00010	<0.00010	<0.00100 ^{DLHC}	<0.00100 ^{DLHC}	<0.00010	
Uranium, total	7440-61-1	E420/WT	0.000010	mg/L	0.000933	0.00100	<0.000100 ^{DLHC}	<0.000100 ^{DLHC}	0.000033	
Vanadium, total	7440-62-2	E420/WT	0.00050	mg/L	0.00115	0.00122	<0.00500 ^{DLHC}	<0.00500 ^{DLHC}	<0.00050	
Zinc, total	7440-66-6	E420/WT	3.0	µg/L	<3.0	<3.0	<30.0 ^{DLHC}	<30.0 ^{DLHC}	<3.0	
Zirconium, total	7440-67-7	E420/WT	0.00020	mg/L	<0.00020	<0.00020	<0.00200 ^{DLHC}	<0.00200 ^{DLHC}	<0.00020	
Dissolved Metals										
Manganese, dissolved	7439-96-5	E421/WT	0.10	µg/L	140 ^{DTC}	96.1	1030	1010	434	
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L	<1.0	<1.0	<1.0	<1.0	<1.0	
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	Field	Field	Field	

Please refer to the General Comments section for an explanation of any qualifiers detected.



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

					Client sample ID	SW19-B	SW24-1	----	----	----
					Client sampling date / time	18-Jun-2025 11:00	18-Jun-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-006	HA2501941-007	----	----	----	----
					Result	Result	----	----	----	----
Physical Tests										
Alkalinity, bicarbonate (as HCO ₃)	71-52-3	E290/WT	1.2	mg/L	25.4	73.9	----	----	----	----
Alkalinity, carbonate (as CO ₃)	3812-32-6	E290/WT	1.0	mg/L	<0.6	<0.6	----	----	----	----
Alkalinity, hydroxide (as OH)	14280-30-9	E290/WT	1.0	mg/L	<0.3	<0.3	----	----	----	----
Alkalinity, total (as CaCO ₃)	----	E290/WT	1.0	mg/L	20.8	60.6	----	----	----	----
Colour, apparent	----	E330/WT	2.0	CU	218	30.9	----	----	----	----
Conductivity	----	E100/WT	1.0	µS/cm	128	296	----	----	----	----
Hardness (as CaCO ₃), from total Ca/Mg	----	EC100A/WT	0.50	mg/L	19.3	91.9	----	----	----	----
Langelier index (@ 20°C)	----	EC105A/WT	0.010	-	-2.79	-0.343	----	----	----	----
Langelier index (@ 4°C)	----	EC105A/WT	0.010	-	-3.04	-0.591	----	----	----	----
pH	----	E108/HA	0.10	pH units	6.48	7.76	----	----	----	----
pH, saturation (@ 20°C)	----	EC105A/WT	0.010	pH units	9.27	8.10	----	----	----	----
pH, saturation (@ 4°C)	----	EC105A/WT	0.010	pH units	9.52	8.35	----	----	----	----
Solids, total dissolved [TDS]	----	E162/HA	10	mg/L	84 ^{DLDS}	157 ^{DLDS}	----	----	----	----
Solids, total suspended [TSS]	----	E160/HA	3.0	mg/L	5.3	7.5	----	----	----	----
Turbidity	----	E121/WT	0.10	NTU	6.81	3.68	----	----	----	----
Anions and Nutrients										
Ammonia, total (as N)	7664-41-7	E298/WT	0.0050	mg/L	0.0285	0.0113	----	----	----	----
Chloride	16887-00-6	E235.Cl/WT	0.50	mg/L	22.4	31.4	----	----	----	----
Fluoride	16984-48-8	E235.F/WT	0.020	mg/L	0.020	0.053	----	----	----	----
Kjeldahl nitrogen, total [TKN]	----	E318/WT	0.050	mg/L	0.396	0.445	----	----	----	----
Nitrate (as N)	14797-55-8	E235.NO3/WT	0.020	mg/L	<0.020	2.30	----	----	----	----



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

					Client sample ID	SW19-B	SW24-1	----	----	----
					Client sampling date / time	18-Jun-2025 11:00	18-Jun-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-006	HA2501941-007	----	----	----	----
					Result	Result	----	----	----	----
Anions and Nutrients										
Nitrate + Nitrite (as N)	----	EC235.N+N/WT	0.0032	mg/L	<0.0224	2.33	----	----	----	----
Nitrite (as N)	14797-65-0	E235.NO2/WT	0.010	mg/L	<0.010	0.028	----	----	----	----
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U/WT	0.0010	mg/L	0.0034	0.0412	----	----	----	----
Phosphorus, total	7723-14-0	E372-U/WT	2.0	µg/L	32.8	92.2	----	----	----	----
Silicate (as SiO2)	7631-86-9	E392/WP	0.50	mg/L	5.50	8.45	----	----	----	----
Sulfate (as SO4)	14808-79-8	E235.SO4/WT	0.30	mg/L	2.13	19.9	----	----	----	----
Organic / Inorganic Carbon										
Carbon, total organic [TOC]	----	E355-L/WT	0.50	mg/L	14.4	3.88	----	----	----	----
Ion Balance										
Anion sum	----	EC101A/WT	0.10	meq/L	1.09	2.68	----	----	----	----
Cation sum (total)	----	EC101A/WT	0.10	meq/L	1.31	2.67	----	----	----	----
Ion balance (cations/anions)	----	EC101A/WT	0.01	%	120	99.6	----	----	----	----
Total Metals										
Aluminum, total	7429-90-5	E420/WT	0.0030	mg/L	0.124	0.131	----	----	----	----
Antimony, total	7440-36-0	E420/WT	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Arsenic, total	7440-38-2	E420/WT	0.00010	mg/L	0.00063	0.00136	----	----	----	----
Barium, total	7440-39-3	E420/WT	0.00010	mg/L	0.0636	0.0326	----	----	----	----
Beryllium, total	7440-41-7	E420/WT	0.000020	mg/L	<0.000020	<0.000020	----	----	----	----
Bismuth, total	7440-69-9	E420/WT	0.000050	mg/L	<0.000050	<0.000050	----	----	----	----
Boron, total	7440-42-8	E420/WT	0.010	mg/L	<0.010	0.016	----	----	----	----
Cadmium, total	7440-43-9	E420/WT	0.0000050	mg/L	0.0000093	<0.0000050	----	----	----	----



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

					Client sample ID	SW19-B	SW24-1	----	----	----
					Client sampling date / time	18-Jun-2025 11:00	18-Jun-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-006	HA2501941-007	----	----	----	----
					Result	Result	----	----	----	----
Total Metals										
Calcium, total	7440-70-2	E420/WT	100	µg/L	5550	30800	----	----	----	----
Cesium, total	7440-46-2	E420/WT	0.000010	mg/L	0.000013	0.000034	----	----	----	----
Chromium, total	7440-47-3	E420/WT	0.00050	mg/L	<0.00050	0.00052	----	----	----	----
Cobalt, total	7440-48-4	E420/WT	0.00010	mg/L	0.00030	0.00016	----	----	----	----
Copper, total	7440-50-8	E420/WT	0.00050	mg/L	0.00067	0.00056	----	----	----	----
Iron, total	7439-89-6	E420/WT	10	µg/L	2770	390	----	----	----	----
Lead, total	7439-92-1	E420/WT	0.000050	mg/L	0.000301	0.000137	----	----	----	----
Lithium, total	7439-93-2	E420/WT	0.0010	mg/L	<0.0010	0.0029	----	----	----	----
Magnesium, total	7439-95-4	E420/WT	5.0	µg/L	1330	3650	----	----	----	----
Manganese, total	7439-96-5	E420/WT	0.10	µg/L	959	83.9	----	----	----	----
Mercury, total	7439-97-6	E508/WT	0.0050	µg/L	<0.0050	<0.0050	----	----	----	----
Molybdenum, total	7439-98-7	E420/WT	0.000050	mg/L	<0.000050	0.000320	----	----	----	----
Nickel, total	7440-02-0	E420/WT	0.00050	mg/L	0.00080	<0.00050	----	----	----	----
Potassium, total	7440-09-7	E420/WT	50	µg/L	922	2160	----	----	----	----
Rubidium, total	7440-17-7	E420/WT	0.00020	mg/L	0.00226	0.00156	----	----	----	----
Selenium, total	7782-49-2	E420/WT	0.000050	mg/L	<0.000050	0.000081	----	----	----	----
Silicon (as SiO2), total	7631-86-9	EC420.SiO2/WT	0.25	mg/L	6.14	9.18	----	----	----	----
Silicon, total	7440-21-3	E420/WT	0.10	mg/L	2.87	4.29	----	----	----	----
Silver, total	7440-22-4	E420/WT	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Sodium, total	7440-23-5	E420/WT	50	µg/L	17200	17200	----	----	----	----
Strontium, total	7440-24-6	E420/WT	0.00020	mg/L	0.0167	0.115	----	----	----	----



Analytical Results

Sub-Matrix: Surface Water

(Matrix: Water)

					Client sample ID	SW19-B	SW24-1	----	----	----
					Client sampling date / time	18-Jun-2025 11:00	18-Jun-2025 12:00	----	----	----
Analyte	CAS Number	Method/Lab	LOR	Unit	HA2501941-006	HA2501941-007	----	----	----	----
					Result	Result	----	----	----	----
Total Metals										
Sulfur, total	7704-34-9	E420/WT	0.50	mg/L	1.04	7.54	----	----	----	----
Tellurium, total	13494-80-9	E420/WT	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Thallium, total	7440-28-0	E420/WT	0.000010	mg/L	<0.000010	<0.000010	----	----	----	----
Thorium, total	7440-29-1	E420/WT	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Tin, total	7440-31-5	E420/WT	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Titanium, total	7440-32-6	E420/WT	0.00030	mg/L	0.00123	0.00394	----	----	----	----
Tungsten, total	7440-33-7	E420/WT	0.00010	mg/L	<0.00010	<0.00010	----	----	----	----
Uranium, total	7440-61-1	E420/WT	0.000010	mg/L	<0.000010	0.000929	----	----	----	----
Vanadium, total	7440-62-2	E420/WT	0.00050	mg/L	<0.00050	0.00130	----	----	----	----
Zinc, total	7440-66-6	E420/WT	3.0	µg/L	<3.0	<3.0	----	----	----	----
Zirconium, total	7440-67-7	E420/WT	0.00020	mg/L	<0.00020	<0.00020	----	----	----	----
Dissolved Metals										
Manganese, dissolved	7439-96-5	E421/WT	0.10	µg/L	916	70.7	----	----	----	----
Zinc, dissolved	7440-66-6	E421/WT	1.0	µg/L	2.8	<1.0	----	----	----	----
Dissolved metals filtration location	----	EP421/WT	-	-	Field	Field	----	----	----	----

Please refer to the General Comments section for an explanation of any qualifiers detected.

QUALITY CONTROL INTERPRETIVE REPORT

Work Order	: HA2501941	Page	: 1 of 26
Amendment	: 2		
Client	: Englobe Corp.	Laboratory	: ALS Environmental - Halifax
Contact	: Nathalie Sahakyan	Account Manager	: Emily Smith
Address	: 97 Troop Avenue Dartmouth NS Canada B3B 2A7	Address	: 13-100 Wright Ave Dartmouth, Nova Scotia Canada B3B 1L2
Telephone	: ----	Telephone	: +1 902 707 4888
Project	: 2408035.000	Date Samples Received	: 19-Jun-2025 15:30
PO	: ----	Issue Date	: 10-Nov-2025 16:30
C-O-C number	: ----		
Sampler	: ----		
Site	:		
Quote number	: Meadowview Landfill		
No. of samples received	: 7		
No. of samples analysed	: 7		

This report is automatically generated by the ALS LIMS (Laboratory Information Management System) through evaluation of Quality Control (QC) results and other QA parameters associated with this submission, and is intended to facilitate rapid data validation by auditors or reviewers. The report highlights any exceptions and outliers to ALS Data Quality Objectives, provides holding time details and exceptions, summarizes QC sample frequencies, and lists applicable methodology references and summaries.

Key

Anonymous: Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number: Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO: Data Quality Objective.

LOR: Limit of Reporting (detection limit).

RPD: Relative Percent Difference.

Workorder Comments

Holding times are displayed as "----" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.

Summary of Outliers

Outliers : Quality Control Samples

- No Method Blank value outliers occur.
- No Duplicate outliers occur.
- No Laboratory Control Sample (LCS) outliers occur
- No Matrix Spike outliers occur.
- No Test sample Surrogate recovery outliers exist.

Outliers: Reference Material (RM) Samples

- No Reference Material (RM) Sample outliers occur.

Outliers : Analysis Holding Time Compliance (Breaches)

- Analysis Holding Time Outliers exist - please see following pages for full details.

Outliers : Frequency of Quality Control Samples

- No Quality Control Sample Frequency Outliers occur.



Analysis Holding Time Compliance

This report summarizes extraction / preparation and analysis times and compares each with ALS recommended holding times, which are selected to meet known provincial and /or federal requirements. In the absence of regulatory hold times, ALS establishes recommendations based on guidelines published by organizations such as CCME, US EPA, APHA Standard Methods, ASTM, or Environment Canada (where available). Dates and holding times reported below represent the first dates of extraction or analysis. If subsequent tests or dilutions exceeded holding times, qualifiers are added (refer to COA).

If samples are identified below as having been analyzed or extracted outside of recommended holding times, measurement uncertainties may be increased, and this should be taken into consideration when interpreting results.

Where actual sampling date is not provided on the chain of custody, the date of receipt with time at 00:00 is used for calculation purposes.

Where only the sample date without time is provided on the chain of custody, the sampling date at 00:00 is used for calculation purposes.

Matrix: **Water**

Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW19-B	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW24-1	E298	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW24-2	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW24-3	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW7	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW7A	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Ammonia by Fluorescence										
Amber glass total (sulfuric acid) SW-DUP	E298	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Chloride in Water by IC										
HDPE SW19-B	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW24-1	E235.Cl	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW24-2	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW24-3	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW7	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW7A	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Chloride in Water by IC										
HDPE SW-DUP	E235.Cl	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SW19-B	E378-U	18-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SW24-1	E378-U	18-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SW24-2	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SW24-3	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SW7	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SW7A	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)										
HDPE SW-DUP	E378-U	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW19-B	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✔	24-Jun-2025	28 days	6 days	✔
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW24-1	E235.F	18-Jun-2025	24-Jun-2025	28 days	6 days	✔	24-Jun-2025	28 days	6 days	✔
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW24-2	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✔	24-Jun-2025	28 days	7 days	✔
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW24-3	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✔	24-Jun-2025	28 days	7 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW7	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW7A	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Fluoride in Water by IC										
HDPE SW-DUP	E235.F	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW19-B	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW24-1	E235.NO3	18-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW24-2	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW24-3	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW7	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW7A	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✗ EHT	24-Jun-2025	3 days	6 days	✗ EHT



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Nitrate in Water by IC										
HDPE SW-DUP	E235.NO3	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW19-B	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW24-1	E235.NO2	18-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW24-2	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW24-3	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW7	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW7A	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Nitrite in Water by IC										
HDPE SW-DUP	E235.NO2	17-Jun-2025	24-Jun-2025	3 days	6 days	✖ EHT	24-Jun-2025	3 days	6 days	✖ EHT
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SW19-B	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✔



Matrix: **Water** Evaluation: **x** = Holding time exceedance ; **✓** = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SW24-1	E392	18-Jun-2025	----	----	----		25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SW24-2	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SW24-3	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SW7	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SW7A	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Reactive Silica by Colourimetry										
HDPE SW-DUP	E392	17-Jun-2025	----	----	----		25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW19-B	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW24-1	E235.SO4	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW24-2	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW24-3	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW7	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW7A	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Sulfate in Water by IC										
HDPE SW-DUP	E235.SO4	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) SW19-B	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) SW24-1	E318	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) SW24-2	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) SW24-3	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) SW7	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) SW7A	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Kjeldahl Nitrogen by Fluorescence (Low Level)										
Amber glass total (sulfuric acid) SW-DUP	E318	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SW19-B	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SW24-1	E372-U	18-Jun-2025	25-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SW24-2	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SW24-3	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SW7	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SW7A	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓
Anions and Nutrients : Total Phosphorus by Colourimetry (0.002 mg/L)										
Amber glass total (sulfuric acid) SW-DUP	E372-U	17-Jun-2025	25-Jun-2025	28 days	8 days	✓	25-Jun-2025	28 days	8 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method	Method	Sampling Date	Extraction / Preparation				Analysis			
Container / Client Sample ID(s)			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW19-B	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW24-1	E421	18-Jun-2025	25-Jun-2025	180 days	7 days	✓	26-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW24-2	E421	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW24-3	E421	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW7A	E421	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW7	E421	17-Jun-2025	25-Jun-2025	180 days	8 days	✓	26-Jun-2025	180 days	8 days	✓
Dissolved Metals : Dissolved Metals in Water by CRC ICPMS										
HDPE dissolved (nitric acid) SW-DUP	E421	17-Jun-2025	25-Jun-2025	180 days	8 days	✓	26-Jun-2025	180 days	8 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW19-B	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW24-1	E355-L	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	25-Jun-2025	28 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW24-2	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW24-3	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW7	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW7A	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Organic / Inorganic Carbon : Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)										
Amber glass total (sulfuric acid) SW-DUP	E355-L	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	25-Jun-2025	28 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SW19-B	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	24-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SW24-1	E290	18-Jun-2025	24-Jun-2025	14 days	6 days	✓	24-Jun-2025	14 days	6 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SW24-2	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	24-Jun-2025	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SW24-3	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	24-Jun-2025	14 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Alkalinity Species by Titration										
HDPE SW7	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	24-Jun-2025	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SW7A	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	24-Jun-2025	14 days	7 days	✓
Physical Tests : Alkalinity Species by Titration										
HDPE SW-DUP	E290	17-Jun-2025	24-Jun-2025	14 days	7 days	✓	24-Jun-2025	14 days	7 days	✓
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE SW24-1	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	192 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE SW19-B	E330	18-Jun-2025	----	----	----		26-Jun-2025	48 hrs	193 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE SW7	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	213 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE SW-DUP	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	213 hrs	✖ EHTL
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE SW7A	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	213 hrs	✖ EHTR
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE SW24-2	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	214 hrs	✖ EHTR



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : Colour (Apparent) by Spectrometer										
HDPE SW24-3	E330	17-Jun-2025	----	----	----		26-Jun-2025	48 hrs	216 hrs	✖ EHTR
Physical Tests : Conductivity in Water										
HDPE SW19-B	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SW24-1	E100	18-Jun-2025	24-Jun-2025	28 days	6 days	✓	24-Jun-2025	28 days	6 days	✓
Physical Tests : Conductivity in Water										
HDPE SW24-2	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE SW24-3	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE SW7	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE SW7A	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Physical Tests : Conductivity in Water										
HDPE SW-DUP	E100	17-Jun-2025	24-Jun-2025	28 days	7 days	✓	24-Jun-2025	28 days	7 days	✓
Physical Tests : pH by Meter										
HDPE SW24-1	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	144 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	144 hrs	✖ EHTR-FM



Matrix: **Water** Evaluation: * = Holding time exceedance ; ✓ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : pH by Meter										
HDPE SW19-B	E108	18-Jun-2025	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	145 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SW7	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	162 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	162 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SW7A	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	162 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	162 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SW-DUP	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	162 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	162 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SW24-2	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	163 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	163 hrs	✖ EHTR-FM
Physical Tests : pH by Meter										
HDPE SW24-3	E108	17-Jun-2025	24-Jun-2025	0.25 hrs	165 hrs	✖ EHTR-FM	24-Jun-2025	0.25 hrs	165 hrs	✖ EHTR-FM
Physical Tests : TDS by Gravimetry										
HDPE SW19-B	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✔
Physical Tests : TDS by Gravimetry										
HDPE SW24-1	E162	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✔
Physical Tests : TDS by Gravimetry										
HDPE SW24-2	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✔



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TDS by Gravimetry										
HDPE SW24-3	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE SW7	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE SW7A	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TDS by Gravimetry										
HDPE SW-DUP	E162	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SW19-B	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SW24-1	E160	18-Jun-2025	----	----	----		25-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SW24-2	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SW24-3	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SW7	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Physical Tests : TSS by Gravimetry										
HDPE SW7A	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : TSS by Gravimetry										
HDPE SW-DUP	E160	17-Jun-2025	----	----	----		24-Jun-2025	7 days	7 days	✓
Physical Tests : Turbidity by Nephelometry										
HDPE SW19-B	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SW24-1	E121	18-Jun-2025	----	----	----		24-Jun-2025	3 days	6 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SW24-2	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SW24-3	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SW7	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SW7A	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT
Physical Tests : Turbidity by Nephelometry										
HDPE SW-DUP	E121	17-Jun-2025	----	----	----		24-Jun-2025	3 days	7 days	✖ EHT



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SW24-2	E508	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SW24-3	E508	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SW7	E508	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SW7A	E508	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SW-DUP	E508	17-Jun-2025	27-Jun-2025	28 days	10 days	✓	27-Jun-2025	28 days	10 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SW19-B	E508	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Total Metals : Total Mercury in Water by CVAAS										
Glass vial total (hydrochloric acid) SW24-1	E508	18-Jun-2025	27-Jun-2025	28 days	9 days	✓	27-Jun-2025	28 days	9 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW19-B	E420	18-Jun-2025	24-Jun-2025	180 days	6 days	✓	24-Jun-2025	180 days	6 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW24-1	E420	18-Jun-2025	24-Jun-2025	180 days	6 days	✓	24-Jun-2025	180 days	6 days	✓



Matrix: **Water** Evaluation: ✖ = Holding time exceedance ; ✔ = Within Holding Time

Analyte Group : Analytical Method Container / Client Sample ID(s)	Method	Sampling Date	Extraction / Preparation				Analysis			
			Preparation Date	Holding Times		Eval	Analysis Date	Holding Times		Eval
				Rec	Actual			Rec	Actual	
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW24-2	E420	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW24-3	E420	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW7	E420	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW7A	E420	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓
Total Metals : Total Metals in Water by CRC ICPMS										
HDPE total (nitric acid) SW-DUP	E420	17-Jun-2025	24-Jun-2025	180 days	7 days	✓	24-Jun-2025	180 days	7 days	✓

Legend & Qualifier Definitions

EHTR-FM: Exceeded ALS recommended hold time prior to sample receipt. Field Measurement recommended
 EHTR: Exceeded ALS recommended hold time prior to sample receipt.
 EHTL: Exceeded ALS recommended hold time prior to analysis. Sample was received less than 24 hours prior to expiry.
 EHT: Exceeded ALS recommended hold time prior to analysis.
 Rec. HT: ALS recommended hold time (see units).



Quality Control Parameter Frequency Compliance

The following report summarizes the frequency of laboratory QC samples analyzed within the analytical batches (QC lots) in which the submitted samples were processed. The actual frequency should be greater than or equal to the expected frequency.

Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Duplicates (DUP)							
Conductivity in Water	E100	2070435	1	20	5.0	5.0	✔
pH by Meter	E108	2070427	2	40	5.0	5.0	✔
Turbidity by Nephelometry	E121	2070675	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	2070831	2	38	5.2	5.0	✔
TDS by Gravimetry	E162	2070832	2	29	6.9	5.2	✔
Chloride in Water by IC	E235.Cl	2070433	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	2070430	1	20	5.0	5.0	✔
Nitrite in Water by IC	E235.NO2	2070432	1	20	5.0	5.0	✔
Nitrate in Water by IC	E235.NO3	2070431	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2070434	1	20	5.0	5.0	✔
Alkalinity Species by Titration	E290	2070436	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2071435	1	20	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071436	1	17	5.8	5.0	✔
Colour (Apparent) by Spectrometer	E330	2076106	1	20	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071431	1	17	5.8	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071432	1	17	5.8	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	1	20	5.0	5.0	✔
Reactive Silica by Colourimetry	E392	2073375	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2070141	1	19	5.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2071533	2	32	6.2	5.0	✔
Total Mercury in Water by CVAAS	E508	2075999	2	40	5.0	5.0	✔
Laboratory Control Samples (LCS)							
Conductivity in Water	E100	2070435	1	20	5.0	5.0	✔
pH by Meter	E108	2070427	2	40	5.0	5.0	✔
Turbidity by Nephelometry	E121	2070675	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	2070831	2	38	5.2	5.0	✔
TDS by Gravimetry	E162	2070832	2	29	6.9	5.2	✔
Chloride in Water by IC	E235.Cl	2070433	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	2070430	1	20	5.0	5.0	✔
Nitrite in Water by IC	E235.NO2	2070432	1	20	5.0	5.0	✔
Nitrate in Water by IC	E235.NO3	2070431	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2070434	1	20	5.0	5.0	✔
Alkalinity Species by Titration	E290	2070436	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2071435	1	20	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071436	1	17	5.8	5.0	✔
Colour (Apparent) by Spectrometer	E330	2076106	1	20	5.0	5.0	✔



Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
Analytical Methods	Method	QC Lot #	QC	Regular	Actual	Expected	Evaluation
Laboratory Control Samples (LCS) - Continued							
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071431	1	17	5.8	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071432	1	17	5.8	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	1	20	5.0	5.0	✔
Reactive Silica by Colourimetry	E392	2073375	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2070141	1	19	5.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2071533	2	32	6.2	5.0	✔
Total Mercury in Water by CVAAS	E508	2075999	2	40	5.0	5.0	✔
Method Blanks (MB)							
Conductivity in Water	E100	2070435	1	20	5.0	5.0	✔
Turbidity by Nephelometry	E121	2070675	1	20	5.0	5.0	✔
TSS by Gravimetry	E160	2070831	2	38	5.2	5.0	✔
TDS by Gravimetry	E162	2070832	2	29	6.9	5.2	✔
Chloride in Water by IC	E235.Cl	2070433	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	2070430	1	20	5.0	5.0	✔
Nitrite in Water by IC	E235.NO2	2070432	1	20	5.0	5.0	✔
Nitrate in Water by IC	E235.NO3	2070431	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2070434	1	20	5.0	5.0	✔
Alkalinity Species by Titration	E290	2070436	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2071435	1	20	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071436	1	17	5.8	5.0	✔
Colour (Apparent) by Spectrometer	E330	2076106	1	20	5.0	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071431	1	17	5.8	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071432	1	17	5.8	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	1	20	5.0	5.0	✔
Reactive Silica by Colourimetry	E392	2073375	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2070141	1	19	5.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2071533	2	32	6.2	5.0	✔
Total Mercury in Water by CVAAS	E508	2075999	2	40	5.0	5.0	✔
Matrix Spikes (MS)							
Chloride in Water by IC	E235.Cl	2070433	1	20	5.0	5.0	✔
Fluoride in Water by IC	E235.F	2070430	1	20	5.0	5.0	✔
Nitrite in Water by IC	E235.NO2	2070432	1	20	5.0	5.0	✔
Nitrate in Water by IC	E235.NO3	2070431	1	20	5.0	5.0	✔
Sulfate in Water by IC	E235.SO4	2070434	1	20	5.0	5.0	✔
Ammonia by Fluorescence	E298	2071435	1	20	5.0	5.0	✔
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318	2071436	1	17	5.8	5.0	✔
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L	2071431	1	17	5.8	5.0	✔
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U	2071432	1	17	5.8	5.0	✔
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U	2070437	1	20	5.0	5.0	✔

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 Work Order : HA2501941 Amendment 2
 Client : Englobe Corp.
 Project : 2408035.000



Matrix: **Water**

Evaluation: ✖ = QC frequency outside specification; ✔ = QC frequency within specification.

Quality Control Sample Type			Count		Frequency (%)		
<i>Analytical Methods</i>	<i>Method</i>	<i>QC Lot #</i>	<i>QC</i>	<i>Regular</i>	<i>Actual</i>	<i>Expected</i>	<i>Evaluation</i>
Matrix Spikes (MS) - Continued							
Reactive Silica by Colourimetry	E392	2073375	1	20	5.0	5.0	✔
Total Metals in Water by CRC ICPMS	E420	2070141	1	19	5.2	5.0	✔
Dissolved Metals in Water by CRC ICPMS	E421	2071533	2	32	6.2	5.0	✔
Total Mercury in Water by CVAAS	E508	2075999	2	40	5.0	5.0	✔



Methodology References and Summaries

The analytical methods used by ALS are developed using internationally recognized reference methods (where available), such as those published by US EPA, APHA Standard Methods, ASTM, ISO, Environment Canada, BC MOE, and Ontario MOE. Reference methods may incorporate modifications to improve performance (indicated by "mod").

Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Conductivity in Water	E100 ALS Environmental - Waterloo	Water	APHA 2510 (mod)	Conductivity, also known as Electrical Conductivity (EC) or Specific Conductance, is measured by immersion of a conductivity cell with platinum electrodes into a water sample. Conductivity measurements are temperature-compensated to 25°C.
pH by Meter	E108 ALS Environmental - Halifax	Water	APHA 4500-H (mod)	pH is determined by potentiometric measurement with a pH electrode, and is conducted at ambient laboratory temperature (normally $20 \pm 5^\circ\text{C}$). For high accuracy test results, pH should be measured in the field within the recommended 15 minute hold time.
Turbidity by Nephelometry	E121 ALS Environmental - Waterloo	Water	APHA 2130 B (mod)	Turbidity is measured by the nephelometric method, by measuring the intensity of light scatter under defined conditions.
TSS by Gravimetry	E160 ALS Environmental - Halifax	Water	APHA 2540 D (mod)	Total Suspended Solids (TSS) are determined by filtering a sample through a glass fibre filter, following by drying of the filter at $104 \pm 1^\circ\text{C}$, with gravimetric measurement of the filtered solids. Samples containing very high dissolved solid content (i.e. seawaters, brackish waters) may produce a positive bias by this method. Alternate analysis methods are available for these types of samples.
TDS by Gravimetry	E162 ALS Environmental - Halifax	Water	APHA 2540 C (mod)	Total Dissolved Solids (TDS) are determined by filtering a sample through a glass fibre filter, with evaporation of the filtrate at $180 \pm 2^\circ\text{C}$ for 16 hours or to constant weight, with gravimetric measurement of the residue.
Chloride in Water by IC	E235.Cl ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Fluoride in Water by IC	E235.F ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrite in Water by IC	E235.NO2 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Nitrate in Water by IC	E235.NO3 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Sulfate in Water by IC	E235.SO4 ALS Environmental - Waterloo	Water	EPA 300.1 (mod)	Inorganic anions are analyzed by Ion Chromatography with conductivity and/or UV detection.
Alkalinity Species by Titration	E290 ALS Environmental - Waterloo	Water	APHA 2320 B (mod)	Total alkalinity is determined by potentiometric titration to a pH 4.5 endpoint. Bicarbonate, carbonate and hydroxide alkalinity are calculated from phenolphthalein alkalinity and total alkalinity values.
Ammonia by Fluorescence	E298 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	Ammonia in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021)
Total Kjeldahl Nitrogen by Fluorescence (Low Level)	E318 ALS Environmental - Waterloo	Water	Method Fialab 100, 2018	TKN in water is determined by automated continuous flow analysis with membrane diffusion and fluorescence detection, after reaction with OPA (ortho-phthalaldehyde). This method is approved under US EPA 40 CFR Part 136 (May 2021).
Colour (Apparent) by Spectrometer	E330 ALS Environmental - Waterloo	Water	APHA 2120 C (mod)	Colour (Apparent) is measured in an unfiltered sample spectrophotometrically using the single wavelength method. The colour contribution of settleable solids are not included in the result. This method is intended for potable waters. Colour measurements can be highly pH dependent, and apply to the pH of the sample as received (at time of testing), without pH adjustment.
Total Organic Carbon (Non-Purgeable) by Combustion (Low Level)	E355-L ALS Environmental - Waterloo	Water	APHA 5310 B (mod)	Total Organic Carbon (Non-Purgeable), also known as NPOC (total), is a direct measurement of TOC after an acidified sample has been purged to remove carbonate-based Inorganic Carbon (IC). Analysis is by high temperature combustion with infrared detection of CO ₂ . Forms of carbon associated with inorganic or organic molecules (e.g. SCN and CN) are included in NPOC if they are not removed by purging under acidic conditions. Notably, NPOC excludes most volatile organic compounds and free cyanide. For samples where the majority of Total Carbon is inorganic, this method provides greater accuracy and reliability versus the TOC by subtraction method (TC minus TIC).
Total Phosphorus by Colourimetry (0.002 mg/L)	E372-U ALS Environmental - Waterloo	Water	APHA 4500-P E (mod).	Total Phosphorus is determined colourimetrically using a discrete analyzer after heated persulfate digestion of the sample.
Dissolved Orthophosphate by Colourimetry (Ultra Trace Level 0.001 mg/L)	E378-U ALS Environmental - Waterloo	Water	APHA 4500-P F (mod)	Dissolved Orthophosphate is determined colourimetrically on a sample that has been lab or field filtered through a 0.45 micron membrane filter. Field filtration is recommended to ensure test results represent conditions at time of sampling.
Reactive Silica by Colourimetry	E392 ALS Environmental - Winnipeg	Water	APHA 4500-SiO ₂ E (mod)	Silicate (molybdate-reactive silica) is determined by the molybdosilicate-heteropoly blue colourimetric method using a discrete analyzer. Method Limitation: Arsenic (5+) above 100 mg/L is a negative interference on this test



Analytical Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Total Metals in Water by CRC ICPMS	E420 ALS Environmental - Waterloo	Water	EPA 200.2/6020B (mod)	Water samples are digested with nitric and hydrochloric acids, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Dissolved Metals in Water by CRC ICPMS	E421 ALS Environmental - Waterloo	Water	APHA 3030B/EPA 6020B (mod)	Water samples are filtered (0.45 um), preserved with nitric acid, and analyzed by Collision/Reaction Cell ICPMS. Method Limitation (re: Sulfur): Sulfide and volatile sulfur species may not be recovered by this method.
Total Mercury in Water by CVAAS	E508 ALS Environmental - Waterloo	Water	EPA 1631E (mod)	Water samples undergo a cold-oxidation using bromine monochloride prior to reduction with stannous chloride, and analyzed by CVAAS
Hardness (Calculated) from Total Ca/Mg	EC100A ALS Environmental - Waterloo	Water	APHA 2340B	"Hardness (as CaCO ₃), from total Ca/Mg" is calculated from the sum of total Calcium and Magnesium concentrations, expressed as CaCO ₃ equivalents. "Total Hardness" refers to the sum of Calcium and Magnesium Hardness. Hardness is normally or preferentially calculated from dissolved Calcium and Magnesium concentrations, because hardness is a property of water due to dissolved divalent cations. In non-turbid waters, Hardness from total Ca/Mg is normally comparable to Dissolved Hardness, but may be biased high if particulate forms of Ca or Mg are present.
Ion Balance using Total Metals	EC101A ALS Environmental - Waterloo	Water	APHA 1030E	Cation Sum (using total metals), Anion Sum, and Ion Balance are calculated based on guidance from APHA Standard Methods (1030E Checking Correctness of Analysis). Minor ions are included where data is present. Ion Balance cannot be calculated accurately for waters with very low electrical conductivity (EC).
Saturation Index using Laboratory pH (Ca-T)	EC105A ALS Environmental - Waterloo	Water	APHA 2330B	Langelier Index provides an indication of scale formation potential at a given pH and temperature, and is calculated as per APHA 2330B Saturation Index. Positive values indicate oversaturation with respect to CaCO ₃ . Negative values indicate undersaturation of CaCO ₃ . This calculation uses laboratory pH measurements and provides estimates of Langelier Index at temperatures of 4, 15, 20, 25, 66, and 77°C. Ryznar Stability Index is an alternative index used for scale formation and corrosion potential.
Nitrate and Nitrite (as N) (Calculation)	EC235.N+N ALS Environmental - Waterloo	Water	EPA 300.0	Nitrate and Nitrite (as N) is a calculated parameter. Nitrate and Nitrite (as N) = Nitrite (as N) + Nitrate (as N).
Total Silicon as Silica (Calculation)	EC420.SiO ₂ ALS Environmental - Waterloo	Water	N/A	Total Silicon (as SiO ₂) is a calculated parameter. Total Silicon (as SiO ₂ mg/L) = 2.139 x Total Silicon (mg/L).
Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
Preparation for Ammonia	EP298	Water		Sample preparation for Preserved Nutrients Water Quality Analysis.



Preparation Methods	Method / Lab	Matrix	Method Reference	Method Descriptions
	ALS Environmental - Waterloo			
Digestion for TKN in water	EP318 ALS Environmental - Waterloo	Water	APHA 4500-Norg D (mod)	Samples are digested at high temperature using Sulfuric Acid with Copper catalyst, which converts organic nitrogen sources to Ammonia, which is then quantified by the analytical method as TKN. This method is unsuitable for samples containing high levels of nitrate. If nitrate exceeds TKN concentration by ten times or more, results may be biased low.
Preparation for Total Organic Carbon by Combustion	EP355 ALS Environmental - Waterloo	Water		Preparation for Total Organic Carbon by Combustion
Digestion for Total Phosphorus in water	EP372 ALS Environmental - Waterloo	Water	APHA 4500-P E (mod).	Samples are heated with a persulfate digestion reagent.
Dissolved Metals Water Filtration	EP421 ALS Environmental - Waterloo	Water	APHA 3030B	Water samples are filtered (0.45 um), and preserved with HNO ₃ .

QUALITY CONTROL REPORT

Work Order	: HA2501941	Page	: 1 of 14
Amendment	: 2		
Client	: Englobe Corp.	Laboratory	: ALS Environmental - Halifax
Contact	: Nathalie Sahakyan	Account Manager	: Emily Smith
Address	: 97 Troop Avenue Dartmouth NS Canada B3B 2A7	Address	: 13-100 Wright Ave Dartmouth, Nova Scotia Canada B3B 1L2
Telephone	: ----	Telephone	: +1 902 707 4888
Project	: 2408035.000	Date Samples Received	: 19-Jun-2025 15:30
PO	: ----	Date Analysis Commenced	: 24-Jun-2025
C-O-C number	: ----	Issue Date	: 10-Nov-2025 16:30
Sampler	: ----		
Site	:		
Quote number	: Meadowview Landfill		
No. of samples received	: 7		
No. of samples analysed	: 7		

This report supersedes any previous report(s) with this reference. Results apply to the sample(s) as submitted. This document shall not be reproduced, except in full.

This Quality Control Report contains the following information:

- Laboratory Duplicate (DUP) Report; Relative Percent Difference (RPD) and Data Quality Objectives
- Matrix Spike (MS) Report; Recovery and Data Quality Objectives
- Method Blank (MB) Report; Recovery and Data Quality Objectives
- Laboratory Control Sample (LCS) Report; Recovery and Data Quality Objectives

Signatories

This document has been electronically signed by the authorized signatories below. Electronic signing is conducted in accordance with US FDA 21 CFR Part 11.

Signatories	Position	Laboratory Department
Angela Fleming	Supervisor - Inorganic	Waterloo Metals, Waterloo, Ontario
Jiaxi Wang	Supervisor - Water Chemistry	Halifax Inorganics, Dartmouth, Nova Scotia
John Tang	Lab Analyst	Waterloo Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Waterloo Inorganics, Waterloo, Ontario
Jon Fisher	Laboratory Manager - Environmental	Waterloo Metals, Waterloo, Ontario
Kevin Baxter	Supervisor - Inorganic	Winnipeg Inorganics, Winnipeg, Manitoba



General Comments

The ALS Quality Control (QC) report is optionally provided to ALS clients upon request. ALS test methods include comprehensive QC checks with every analysis to ensure our high standards of quality are met. Each QC result has a known or expected target value, which is compared against predetermined Data Quality Objectives (DQOs) to provide confidence in the accuracy of associated test results. This report contains detailed results for all QC results applicable to this sample submission. Please refer to the ALS Quality Control Interpretation report (QCI) for applicable method references and methodology summaries.

Key :

Anonymous = Refers to samples which are not part of this work order, but which formed part of the QC process lot.

CAS Number = Chemical Abstracts Service number is a unique identifier assigned to discrete substances.

DQO = Data Quality Objective.

LOR = Limit of Reporting (detection limit).

RPD = Relative Percent Difference

= Indicates a QC result that did not meet the ALS DQO.

Workorder Comments

Holding times are displayed as "---" if no guidance exists from CCME, Canadian provinces, or broadly recognized international references.



Laboratory Duplicate (DUP) Report

A Laboratory Duplicate (DUP) is a randomly selected intralaboratory replicate sample. Laboratory Duplicates provide information regarding method precision and sample heterogeneity. ALS DQOs for Laboratory Duplicates are expressed as test-specific limits for Relative Percent Difference (RPD), or as an absolute difference limit of 2 times the LOR for low concentration duplicates within ~ 4-10 times the LOR (cut-off is test-specific).

Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Physical Tests (QC Lot: 2070427)											
HA2501881-001	Anonymous	pH	----	E108	0.10	pH units	5.81	5.69	2.02%	4%	----
Physical Tests (QC Lot: 2070435)											
HA2501912-001	Anonymous	Conductivity	----	E100	1.0	µS/cm	2280	2270	0.440%	10%	----
Physical Tests (QC Lot: 2070436)											
HA2501912-001	Anonymous	Alkalinity, total (as CaCO3)	----	E290	1.0	mg/L	110	112	1.62%	20%	----
Physical Tests (QC Lot: 2070675)											
HA2501918-001	Anonymous	Turbidity	----	E121	0.10	NTU	40.4	38.5	4.81%	15%	----
Physical Tests (QC Lot: 2070831)											
HA2501551-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	7.5	8.9	1.4	Diff <2x LOR	----
Physical Tests (QC Lot: 2070832)											
HA2501881-001	Anonymous	Solids, total dissolved [TDS]	----	E162	10	mg/L	20	18	1	Diff <2x LOR	----
Physical Tests (QC Lot: 2070840)											
HA2501542-001	Anonymous	pH	----	E108	0.10	pH units	7.59	7.61	0.210%	4%	----
Physical Tests (QC Lot: 2073482)											
HA2501934-001	Anonymous	Solids, total suspended [TSS]	----	E160	3.0	mg/L	<3.0	<3.0	0	Diff <2x LOR	----
Physical Tests (QC Lot: 2073483)											
HA2501908-001	Anonymous	Solids, total dissolved [TDS]	----	E162	20	mg/L	140	130	10	Diff <2x LOR	----
Physical Tests (QC Lot: 2076106)											
HA2501941-001	SW24-3	Colour, apparent	----	E330	2.0	CU	29.2	30.0	2.92%	20%	----
Anions and Nutrients (QC Lot: 2070430)											
HA2501912-001	Anonymous	Fluoride	16984-48-8	E235.F	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070431)											
HA2501912-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	0.100	mg/L	<0.100	<0.100	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070432)											
HA2501912-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	0.050	mg/L	<0.050	<0.050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070433)											
HA2501912-001	Anonymous	Chloride	16887-00-6	E235.Cl	2.50	mg/L	9.96	9.25	0.71	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2070434)											
HA2501912-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	1.50	mg/L	1300	1300	0.0548%	20%	----
Anions and Nutrients (QC Lot: 2070437)											



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Anions and Nutrients (QC Lot: 2070437) - continued											
HA2501912-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0010	mg/L	<0.0010	<0.0010	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2071432)											
HA2501934-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0020	mg/L	0.0026	0.0024	0.0003	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2071435)											
HA2501934-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.0050	mg/L	<0.0050	<0.0050	0	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2071436)											
HA2501934-005	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	0.050	mg/L	0.106	0.172	0.065	Diff <2x LOR	----
Anions and Nutrients (QC Lot: 2073375)											
HA2501941-001	SW24-3	Silicate (as SiO2)	7631-86-9	E392	0.50	mg/L	8.74	8.43	3.66%	20%	----
Organic / Inorganic Carbon (QC Lot: 2071431)											
HA2501934-003	Anonymous	Carbon, total organic [TOC]	----	E355-L	0.50	mg/L	4.44	4.39	0.05	Diff <2x LOR	----
Total Metals (QC Lot: 2070141)											
HA2501941-001	SW24-3	Aluminum, total	7429-90-5	E420	0.0030	mg/L	0.100	0.0929	7.64%	20%	----
		Antimony, total	7440-36-0	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Arsenic, total	7440-38-2	E420	0.00010	mg/L	0.00138	0.00137	0.742%	20%	----
		Barium, total	7440-39-3	E420	0.00010	mg/L	0.0352	0.0353	0.137%	20%	----
		Beryllium, total	7440-41-7	E420	0.000020	mg/L	<0.000020	<0.000020	0	Diff <2x LOR	----
		Bismuth, total	7440-69-9	E420	0.000050	mg/L	<0.000050	<0.000050	0	Diff <2x LOR	----
		Boron, total	7440-42-8	E420	0.010	mg/L	0.017	0.016	0.0002	Diff <2x LOR	----
		Cadmium, total	7440-43-9	E420	0.0000050	mg/L	<0.0000050	<0.0000050	0	Diff <2x LOR	----
		Calcium, total	7440-70-2	E420	0.100	mg/L	31200 µg/L	30.8	1.12%	20%	----
		Cesium, total	7440-46-2	E420	0.000010	mg/L	0.000027	0.000028	0.000001	Diff <2x LOR	----
		Chromium, total	7440-47-3	E420	0.00050	mg/L	<0.00050	<0.00050	0	Diff <2x LOR	----
		Cobalt, total	7440-48-4	E420	0.00010	mg/L	0.00014	0.00014	0.000004	Diff <2x LOR	----
		Copper, total	7440-50-8	E420	0.00050	mg/L	0.00055	0.00055	0.000004	Diff <2x LOR	----
		Iron, total	7439-89-6	E420	0.010	mg/L	461 µg/L	0.457	0.710%	20%	----
		Lead, total	7439-92-1	E420	0.000050	mg/L	0.000118	0.000116	0.000001	Diff <2x LOR	----
		Lithium, total	7439-93-2	E420	0.0010	mg/L	0.0031	0.0030	0.0001	Diff <2x LOR	----
		Magnesium, total	7439-95-4	E420	0.0050	mg/L	3800 µg/L	3.77	0.879%	20%	----
		Manganese, total	7439-96-5	E420	0.00010	mg/L	102 µg/L	0.104	1.12%	20%	----
		Molybdenum, total	7439-98-7	E420	0.000050	mg/L	0.000308	0.000289	0.000019	Diff <2x LOR	----
		Nickel, total	7440-02-0	E420	0.00050	mg/L	<0.00050	0.00073	0.00023	Diff <2x LOR	----
		Potassium, total	7440-09-7	E420	0.050	mg/L	2190 µg/L	2.19	0.0576%	20%	----
		Rubidium, total	7440-17-7	E420	0.00020	mg/L	0.00158	0.00160	0.00001	Diff <2x LOR	----

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 Client : Englobe Corp.
 Project : 2408035.000



Sub-Matrix: Water					Laboratory Duplicate (DUP) Report						
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	LOR	Unit	Original Result	Duplicate Result	RPD(%) or Difference	Duplicate Limits	Qualifier
Total Metals (QC Lot: 2070141) - continued											
HA2501941-001	SW24-3	Selenium, total	7782-49-2	E420	0.000050	mg/L	0.000111	0.000084	0.000027	Diff <2x LOR	----
		Silicon, total	7440-21-3	E420	0.10	mg/L	4.35	4.34	0.310%	20%	----
		Silver, total	7440-22-4	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Sodium, total	7440-23-5	E420	0.050	mg/L	17300 µg/L	17.3	0.0126%	20%	----
		Strontium, total	7440-24-6	E420	0.00020	mg/L	0.119	0.118	1.02%	20%	----
		Sulfur, total	7704-34-9	E420	0.50	mg/L	7.70	7.63	0.807%	20%	----
		Tellurium, total	13494-80-9	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
		Thallium, total	7440-28-0	E420	0.000010	mg/L	<0.000010	<0.000010	0	Diff <2x LOR	----
		Thorium, total	7440-29-1	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Tin, total	7440-31-5	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Titanium, total	7440-32-6	E420	0.00030	mg/L	0.00242	0.00222	0.00020	Diff <2x LOR	----
		Tungsten, total	7440-33-7	E420	0.00010	mg/L	<0.00010	<0.00010	0	Diff <2x LOR	----
		Uranium, total	7440-61-1	E420	0.000010	mg/L	0.000933	0.000927	0.710%	20%	----
		Vanadium, total	7440-62-2	E420	0.00050	mg/L	0.00115	0.00112	0.00002	Diff <2x LOR	----
		Zinc, total	7440-66-6	E420	0.0030	mg/L	<3.0 µg/L	<0.0030	0	Diff <2x LOR	----
		Zirconium, total	7440-67-7	E420	0.00020	mg/L	<0.00020	<0.00020	0	Diff <2x LOR	----
Total Metals (QC Lot: 2075999)											
HA2501941-001	SW24-3	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
Total Metals (QC Lot: 2076000)											
HA2501941-006	SW19-B	Mercury, total	7439-97-6	E508	0.0000050	mg/L	<0.0050 µg/L	<0.0000050	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2071533)											
HA2501941-001	SW24-3	Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	140 µg/L	0.140	0.368%	20%	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<1.0 µg/L	<0.0010	0	Diff <2x LOR	----
Dissolved Metals (QC Lot: 2073364)											
HA2501941-004	SW-DUP	Manganese, dissolved	7439-96-5	E421	0.00010	mg/L	1010 µg/L	1.01	0.684%	20%	----
		Zinc, dissolved	7440-66-6	E421	0.0010	mg/L	<1.0 µg/L	<0.0010	0	Diff <2x LOR	----



Method Blank (MB) Report

A Method Blank is an analyte-free matrix that undergoes sample processing identical to that carried out for test samples. Method Blank results are used to monitor and control for potential contamination from the laboratory environment and reagents. For most tests, the DQO for Method Blanks is for the result to be < LOR.

Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Physical Tests (QCLot: 2070435)						
Conductivity	----	E100	1	µS/cm	<1.0	----
Physical Tests (QCLot: 2070436)						
Alkalinity, total (as CaCO ₃)	----	E290	1	mg/L	<1.0	----
Physical Tests (QCLot: 2070675)						
Turbidity	----	E121	0.1	NTU	<0.10	----
Physical Tests (QCLot: 2070831)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 2070832)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 2073482)						
Solids, total suspended [TSS]	----	E160	3	mg/L	<3.0	----
Physical Tests (QCLot: 2073483)						
Solids, total dissolved [TDS]	----	E162	10	mg/L	<10	----
Physical Tests (QCLot: 2076106)						
Colour, apparent	----	E330	2	CU	<2.0	----
Anions and Nutrients (QCLot: 2070430)						
Fluoride	16984-48-8	E235.F	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2070431)						
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	<0.020	----
Anions and Nutrients (QCLot: 2070432)						
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	<0.010	----
Anions and Nutrients (QCLot: 2070433)						
Chloride	16887-00-6	E235.Cl	0.5	mg/L	<0.50	----
Anions and Nutrients (QCLot: 2070434)						
Sulfate (as SO ₄)	14808-79-8	E235.SO4	0.3	mg/L	<0.30	----
Anions and Nutrients (QCLot: 2070437)						
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	<0.0010	----
Anions and Nutrients (QCLot: 2071432)						
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	<0.0020	----
Anions and Nutrients (QCLot: 2071435)						
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	<0.0050	----
Anions and Nutrients (QCLot: 2071436)						



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Anions and Nutrients (QCLot: 2071436) - continued						
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	<0.050	----
Anions and Nutrients (QCLot: 2073375)						
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	<0.50	----
Organic / Inorganic Carbon (QCLot: 2071431)						
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	<0.50	----
Total Metals (QCLot: 2070141)						
Aluminum, total	7429-90-5	E420	0.003	mg/L	<0.0030	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	<0.00010	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	<0.00010	----
Barium, total	7440-39-3	E420	0.0001	mg/L	<0.00010	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	<0.000020	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	<0.000050	----
Boron, total	7440-42-8	E420	0.01	mg/L	<0.010	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	<0.0000050	----
Calcium, total	7440-70-2	E420	0.05	mg/L	<0.050	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	<0.000010	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	<0.00050	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	<0.00010	----
Copper, total	7440-50-8	E420	0.0005	mg/L	<0.00050	----
Iron, total	7439-89-6	E420	0.01	mg/L	<0.010	----
Lead, total	7439-92-1	E420	0.00005	mg/L	<0.000050	----
Lithium, total	7439-93-2	E420	0.001	mg/L	<0.0010	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	<0.0050	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	<0.00010	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	<0.000050	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	<0.00050	----
Potassium, total	7440-09-7	E420	0.05	mg/L	<0.050	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	<0.00020	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	<0.000050	----
Silicon, total	7440-21-3	E420	0.1	mg/L	<0.10	----
Silver, total	7440-22-4	E420	0.00001	mg/L	<0.000010	----
Sodium, total	7440-23-5	E420	0.05	mg/L	<0.050	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	<0.00020	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	<0.50	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	<0.00020	----



Sub-Matrix: Water

Analyte	CAS Number	Method	LOR	Unit	Result	Qualifier
Total Metals (QCLot: 2070141) - continued						
Thallium, total	7440-28-0	E420	0.00001	mg/L	<0.000010	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	<0.00010	----
Tin, total	7440-31-5	E420	0.0001	mg/L	<0.00010	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	<0.00030	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	<0.00010	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	<0.000010	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	<0.00050	----
Zinc, total	7440-66-6	E420	0.003	mg/L	<0.0030	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	<0.00020	----
Total Metals (QCLot: 2075999)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Total Metals (QCLot: 2076000)						
Mercury, total	7439-97-6	E508	0.000005	mg/L	<0.0000050	----
Dissolved Metals (QCLot: 2071533)						
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----
Dissolved Metals (QCLot: 2073364)						
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	<0.00010	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	<0.0010	----



Laboratory Control Sample (LCS) Report

A Laboratory Control Sample (LCS) is an analyte-free matrix that has been fortified (spiked) with test analytes at known concentration and processed in an identical manner to test samples. LCS results are expressed as percent recovery, and are used to monitor and control test method accuracy and precision, independent of test sample matrix.

Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Physical Tests (QCLot: 2070427)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 2070435)									
Conductivity	----	E100	1	µS/cm	1410 µS/cm	106	90.0	110	----
Physical Tests (QCLot: 2070436)									
Alkalinity, total (as CaCO3)	----	E290	1	mg/L	150 mg/L	103	85.0	115	----
Physical Tests (QCLot: 2070675)									
Turbidity	----	E121	0.1	NTU	200 NTU	101	85.0	115	----
Physical Tests (QCLot: 2070831)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	90.5	85.0	115	----
Physical Tests (QCLot: 2070832)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	94.0	85.0	115	----
Physical Tests (QCLot: 2070840)									
pH	----	E108	----	pH units	7 pH units	101	98.0	102	----
Physical Tests (QCLot: 2073482)									
Solids, total suspended [TSS]	----	E160	3	mg/L	150 mg/L	87.5	85.0	115	----
Physical Tests (QCLot: 2073483)									
Solids, total dissolved [TDS]	----	E162	10	mg/L	1000 mg/L	95.4	85.0	115	----
Physical Tests (QCLot: 2076106)									
Colour, apparent	----	E330	2	CU	25 CU	100	85.0	115	----
Anions and Nutrients (QCLot: 2070430)									
Fluoride	16984-48-8	E235.F	0.02	mg/L	1 mg/L	103	90.0	110	----
Anions and Nutrients (QCLot: 2070431)									
Nitrate (as N)	14797-55-8	E235.NO3	0.02	mg/L	2.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070432)									
Nitrite (as N)	14797-65-0	E235.NO2	0.01	mg/L	0.5 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070433)									
Chloride	16887-00-6	E235.Cl	0.5	mg/L	100 mg/L	100	90.0	110	----
Anions and Nutrients (QCLot: 2070434)									
Sulfate (as SO4)	14808-79-8	E235.SO4	0.3	mg/L	100 mg/L	95.8	90.0	110	----
Anions and Nutrients (QCLot: 2070437)									
Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.001	mg/L	0.05 mg/L	98.4	80.0	120	----



Sub-Matrix: Water					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Anions and Nutrients (QCLot: 2071432)									
Phosphorus, total	7723-14-0	E372-U	0.002	mg/L	0.333 mg/L	102	80.0	120	----
Anions and Nutrients (QCLot: 2071435)									
Ammonia, total (as N)	7664-41-7	E298	0.005	mg/L	0.2 mg/L	100.0	85.0	115	----
Anions and Nutrients (QCLot: 2071436)									
Kjeldahl nitrogen, total [TKN]	----	E318	0.05	mg/L	4 mg/L	102	75.0	125	----
Anions and Nutrients (QCLot: 2073375)									
Silicate (as SiO2)	7631-86-9	E392	0.5	mg/L	10 mg/L	105	85.0	115	----
Organic / Inorganic Carbon (QCLot: 2071431)									
Carbon, total organic [TOC]	----	E355-L	0.5	mg/L	8.57 mg/L	105	80.0	120	----
Total Metals (QCLot: 2070141)									
Aluminum, total	7429-90-5	E420	0.003	mg/L	0.1 mg/L	106	80.0	120	----
Antimony, total	7440-36-0	E420	0.0001	mg/L	0.05 mg/L	103	80.0	120	----
Arsenic, total	7440-38-2	E420	0.0001	mg/L	0.05 mg/L	107	80.0	120	----
Barium, total	7440-39-3	E420	0.0001	mg/L	0.012 mg/L	103	80.0	120	----
Beryllium, total	7440-41-7	E420	0.00002	mg/L	0.005 mg/L	106	80.0	120	----
Bismuth, total	7440-69-9	E420	0.00005	mg/L	0.05 mg/L	104	80.0	120	----
Boron, total	7440-42-8	E420	0.01	mg/L	0.05 mg/L	103	80.0	120	----
Cadmium, total	7440-43-9	E420	0.000005	mg/L	0.005 mg/L	103	80.0	120	----
Calcium, total	7440-70-2	E420	0.05	mg/L	2.5 mg/L	102	80.0	120	----
Cesium, total	7440-46-2	E420	0.00001	mg/L	0.002 mg/L	103	80.0	120	----
Chromium, total	7440-47-3	E420	0.0005	mg/L	0.012 mg/L	102	80.0	120	----
Cobalt, total	7440-48-4	E420	0.0001	mg/L	0.012 mg/L	102	80.0	120	----
Copper, total	7440-50-8	E420	0.0005	mg/L	0.012 mg/L	102	80.0	120	----
Iron, total	7439-89-6	E420	0.01	mg/L	0.05 mg/L	103	80.0	120	----
Lead, total	7439-92-1	E420	0.00005	mg/L	0.025 mg/L	104	80.0	120	----
Lithium, total	7439-93-2	E420	0.001	mg/L	0.012 mg/L	109	80.0	120	----
Magnesium, total	7439-95-4	E420	0.005	mg/L	2.5 mg/L	110	80.0	120	----
Manganese, total	7439-96-5	E420	0.0001	mg/L	0.012 mg/L	106	80.0	120	----
Molybdenum, total	7439-98-7	E420	0.00005	mg/L	0.012 mg/L	103	80.0	120	----
Nickel, total	7440-02-0	E420	0.0005	mg/L	0.025 mg/L	102	80.0	120	----
Potassium, total	7440-09-7	E420	0.05	mg/L	2.5 mg/L	106	80.0	120	----
Rubidium, total	7440-17-7	E420	0.0002	mg/L	0.005 mg/L	104	80.0	120	----
Selenium, total	7782-49-2	E420	0.00005	mg/L	0.05 mg/L	104	80.0	120	----
Silicon, total	7440-21-3	E420	0.1	mg/L	0.5 mg/L	107	80.0	120	----



Sub-Matrix: Water

					Laboratory Control Sample (LCS) Report				
					Spike	Recovery (%)	Recovery Limits (%)		
Analyte	CAS Number	Method	LOR	Unit	Target Concentration	LCS	Low	High	Qualifier
Total Metals (QCLot: 2070141) - continued									
Silver, total	7440-22-4	E420	0.00001	mg/L	0.005 mg/L	102	80.0	120	----
Sodium, total	7440-23-5	E420	0.05	mg/L	2.5 mg/L	107	80.0	120	----
Strontium, total	7440-24-6	E420	0.0002	mg/L	0.012 mg/L	103	80.0	120	----
Sulfur, total	7704-34-9	E420	0.5	mg/L	2.5 mg/L	106	80.0	120	----
Tellurium, total	13494-80-9	E420	0.0002	mg/L	0.005 mg/L	104	80.0	120	----
Thallium, total	7440-28-0	E420	0.00001	mg/L	0.05 mg/L	103	80.0	120	----
Thorium, total	7440-29-1	E420	0.0001	mg/L	0.005 mg/L	100	80.0	120	----
Tin, total	7440-31-5	E420	0.0001	mg/L	0.025 mg/L	103	80.0	120	----
Titanium, total	7440-32-6	E420	0.0003	mg/L	0.012 mg/L	103	80.0	120	----
Tungsten, total	7440-33-7	E420	0.0001	mg/L	0.005 mg/L	104	80.0	120	----
Uranium, total	7440-61-1	E420	0.00001	mg/L	0 mg/L	105	80.0	120	----
Vanadium, total	7440-62-2	E420	0.0005	mg/L	0.025 mg/L	104	80.0	120	----
Zinc, total	7440-66-6	E420	0.003	mg/L	0.025 mg/L	102	80.0	120	----
Zirconium, total	7440-67-7	E420	0.0002	mg/L	0.005 mg/L	100	80.0	120	----
Total Metals (QCLot: 2075999)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	99.6	80.0	120	----
Total Metals (QCLot: 2076000)									
Mercury, total	7439-97-6	E508	0.000005	mg/L	0 mg/L	96.8	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.012 mg/L	108	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	103	80.0	120	----
Manganese, dissolved	7439-96-5	E421	0.0001	mg/L	0.012 mg/L	107	80.0	120	----
Zinc, dissolved	7440-66-6	E421	0.001	mg/L	0.025 mg/L	106	80.0	120	----



Matrix Spike (MS) Report

A Matrix Spike (MS) is a randomly selected intra-laboratory replicate sample that has been fortified (spiked) with test analytes at known concentration, and processed in an identical manner to test samples. Matrix Spikes provide information regarding analyte recovery and potential matrix effects. MS DQO exceedances due to sample matrix may sometimes be unavoidable; in such cases, test results for the associated sample (or similar samples) may be subject to bias. ND – Recovery not determined, background level >= 1x spike level.

Laboratory sample ID					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		Qualifier
					Concentration	Target	MS	Low	High	
Client sample ID	Analyte	CAS Number	Method							
Anions and Nutrients (QCLot: 2070430)										
HA2501912-001	Anonymous	Fluoride	16984-48-8	E235.F	4.88 mg/L	5 mg/L	97.7	75.0	125	----
Anions and Nutrients (QCLot: 2070431)										
HA2501912-001	Anonymous	Nitrate (as N)	14797-55-8	E235.NO3	11.3 mg/L	12.5 mg/L	90.5	75.0	125	----
Anions and Nutrients (QCLot: 2070432)										
HA2501912-001	Anonymous	Nitrite (as N)	14797-65-0	E235.NO2	2.40 mg/L	2.5 mg/L	95.9	75.0	125	----
Anions and Nutrients (QCLot: 2070433)										
HA2501912-001	Anonymous	Chloride	16887-00-6	E235.Cl	480 mg/L	500 mg/L	95.9	75.0	125	----
Anions and Nutrients (QCLot: 2070434)										
HA2501912-001	Anonymous	Sulfate (as SO4)	14808-79-8	E235.SO4	ND mg/L	----	ND	75.0	125	----
Anions and Nutrients (QCLot: 2070437)										
HA2501912-001	Anonymous	Phosphate, ortho-, dissolved (as P)	14265-44-2	E378-U	0.0189 mg/L	0.02 mg/L	96.3	70.0	130	----
Anions and Nutrients (QCLot: 2071432)										
HA2501934-001	Anonymous	Phosphorus, total	7723-14-0	E372-U	0.0970 mg/L	0.1 mg/L	97.0	70.0	130	----
Anions and Nutrients (QCLot: 2071435)										
HA2501934-002	Anonymous	Ammonia, total (as N)	7664-41-7	E298	0.103 mg/L	0.1 mg/L	103	75.0	125	----
Anions and Nutrients (QCLot: 2071436)										
HA2501934-005	Anonymous	Kjeldahl nitrogen, total [TKN]	----	E318	3.22 mg/L	2.5 mg/L	129	70.0	130	----
Anions and Nutrients (QCLot: 2073375)										
HA2501941-002	SW24-2	Silicate (as SiO2)	7631-86-9	E392	10.1 mg/L	10 mg/L	101	75.0	125	----
Organic / Inorganic Carbon (QCLot: 2071431)										
HA2501934-003	Anonymous	Carbon, total organic [TOC]	----	E355-L	5.27 mg/L	5 mg/L	105	70.0	130	----
Total Metals (QCLot: 2070141)										
HA2501941-002	SW24-2	Aluminum, total	7429-90-5	E420	ND mg/L	----	ND	70.0	130	----
		Antimony, total	7440-36-0	E420	0.0508 mg/L	0.05 mg/L	102	70.0	130	----
		Arsenic, total	7440-38-2	E420	0.0538 mg/L	0.05 mg/L	108	70.0	130	----
		Barium, total	7440-39-3	E420	ND mg/L	----	ND	70.0	130	----
		Beryllium, total	7440-41-7	E420	0.00510 mg/L	0.005 mg/L	102	70.0	130	----
		Bismuth, total	7440-69-9	E420	0.0481 mg/L	0.05 mg/L	96.1	70.0	130	----
		Boron, total	7440-42-8	E420	0.051 mg/L	0.05 mg/L	101	70.0	130	----
		Cadmium, total	7440-43-9	E420	0.00499 mg/L	0.005 mg/L	99.9	70.0	130	----
		Calcium, total	7440-70-2	E420	ND mg/L	----	ND	70.0	130	----
		Cesium, total	7440-46-2	E420	0.00257 mg/L	0.002 mg/L	103	70.0	130	----
		Chromium, total	7440-47-3	E420	0.0131 mg/L	0.012 mg/L	105	70.0	130	----



Sub-Matrix: Water					Matrix Spike (MS) Report					
					Spike		Recovery (%)	Recovery Limits (%)		
Laboratory sample ID	Client sample ID	Analyte	CAS Number	Method	Concentration	Target	MS	Low	High	Qualifier
Total Metals (QCLot: 2070141) - continued										
HA2501941-002	SW24-2	Cobalt, total	7440-48-4	E420	0.0127 mg/L	0.012 mg/L	102	70.0	130	----
		Copper, total	7440-50-8	E420	0.0123 mg/L	0.012 mg/L	98.8	70.0	130	----
		Iron, total	7439-89-6	E420	ND mg/L	----	ND	70.0	130	----
		Lead, total	7439-92-1	E420	0.0244 mg/L	0.025 mg/L	97.8	70.0	130	----
		Lithium, total	7439-93-2	E420	0.0128 mg/L	0.012 mg/L	102	70.0	130	----
		Magnesium, total	7439-95-4	E420	ND mg/L	----	ND	70.0	130	----
		Manganese, total	7439-96-5	E420	ND mg/L	----	ND	70.0	130	----
		Molybdenum, total	7439-98-7	E420	0.0129 mg/L	0.012 mg/L	104	70.0	130	----
		Nickel, total	7440-02-0	E420	0.0242 mg/L	0.025 mg/L	96.9	70.0	130	----
		Potassium, total	7440-09-7	E420	2.54 mg/L	2.5 mg/L	102	70.0	130	----
		Rubidium, total	7440-17-7	E420	0.00526 mg/L	0.005 mg/L	105	70.0	130	----
		Selenium, total	7782-49-2	E420	0.0516 mg/L	0.05 mg/L	103	70.0	130	----
		Silicon, total	7440-21-3	E420	ND mg/L	----	ND	70.0	130	----
		Silver, total	7440-22-4	E420	0.00489 mg/L	0.005 mg/L	97.8	70.0	130	----
		Sodium, total	7440-23-5	E420	ND mg/L	----	ND	70.0	130	----
		Strontium, total	7440-24-6	E420	ND mg/L	----	ND	70.0	130	----
		Sulfur, total	7704-34-9	E420	ND mg/L	----	ND	70.0	130	----
		Tellurium, total	13494-80-9	E420	0.00466 mg/L	0.005 mg/L	93.3	70.0	130	----
		Thallium, total	7440-28-0	E420	0.0494 mg/L	0.05 mg/L	98.8	70.0	130	----
		Thorium, total	7440-29-1	E420	0.00488 mg/L	0.005 mg/L	97.7	70.0	130	----
		Tin, total	7440-31-5	E420	0.0257 mg/L	0.025 mg/L	103	70.0	130	----
		Titanium, total	7440-32-6	E420	0.0138 mg/L	0.012 mg/L	110	70.0	130	----
		Tungsten, total	7440-33-7	E420	0.00512 mg/L	0.005 mg/L	102	70.0	130	----
		Uranium, total	7440-61-1	E420	ND mg/L	----	ND	70.0	130	----
		Vanadium, total	7440-62-2	E420	0.0263 mg/L	0.025 mg/L	105	70.0	130	----
		Zinc, total	7440-66-6	E420	0.0234 mg/L	0.025 mg/L	93.4	70.0	130	----
		Zirconium, total	7440-67-7	E420	0.00457 mg/L	0.005 mg/L	91.5	70.0	130	----
Total Metals (QCLot: 2075999)										
HA2501941-002	SW24-2	Mercury, total	7439-97-6	E508	0.0000936 mg/L	0 mg/L	93.6	70.0	130	----
Total Metals (QCLot: 2076000)										
HA2501941-007	SW24-1	Mercury, total	7439-97-6	E508	0.0000890 mg/L	0 mg/L	89.0	70.0	130	----
Dissolved Metals (QCLot: 2071533)										
HA2501941-002	SW24-2	Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.0276 mg/L	0.025 mg/L	110	70.0	130	----
Dissolved Metals (QCLot: 2073364)										
HA2501941-005	SW7	Manganese, dissolved	7439-96-5	E421	ND mg/L	----	ND	70.0	130	----
		Zinc, dissolved	7440-66-6	E421	0.0284 mg/L	0.025 mg/L	114	70.0	130	----



Appendix E

Service Provider Statement



eNGLOBE

STATEMENT OF LIMITATIONS

This report (hereinafter, the “**Report**”) was prepared by Englobe Corp (hereinafter the “**Company**”) and is provided for the sole and exclusive use and benefit of Municipality of the County of Kings (the “**Client**”). Ownership in and copyright for the contents of the Report belong to the Company.

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This Report should be considered in its entirety; selecting specific portions of the Report may result in the misinterpretation of the content.

The work performed by the Company was carried out in accordance with the terms and conditions specified in the *Professional Services Agreement* between the Company and the Client, in accordance with currently accepted engineering standards and practices and in a manner consistent with the level of skill, care and competence ordinarily exercised by members of the same profession currently practicing under similar conditions and like circumstances in the same jurisdiction in which the services were provided. Standards, guidelines and practices may change over time; those which were applied to produce this Report may be obsolete or unacceptable at a later date.

The findings, recommendations, suggestions, or opinions expressed in this Report reflect the Company’s best professional judgment based on observations and/or information reasonably available at the time the work was performed, as appropriate for the scope, work schedule and budgetary constraints established by the Client. No other warranty or representation, expressed or implied, is included in this Report including, but not limited to, that the Report deals with all issues potentially applicable to the site and/or that the Report deals with any and all of the important features of the site, except as expressly provided in the scope of work.

This Report has been prepared for the specific site, development, building, design or building assessment objectives and/or purposes that were described to the Company by the Client. The applicability and reliability of the content of this Report, subject to the limitations provided herein, are only valid to the extent that there has been no material alteration or variation thereto, and the Company expressly disclaims any obligation to update the Report. However, the Company reserves the right to amend or supplement this Report based on additional information, documentation or evidence made available to it.

The Company makes no representation concerning the legal significance of its findings, nor as to the present or future value of the property, or its fitness for a particular purpose and hereby disclaims any responsibility or liability for consequential financial effects on transactions or property values, or requirements for follow-up actions and costs.

Since the passage of time, natural occurrences, and direct or indirect human intervention may affect the views, conclusions and recommendations (if any) provided in this Report, it is intended for immediate use. This Statement of Limitations forms an integral part of the Report.

In preparing this Report, the Company has relied in good faith on information provided by others and has assumed that such information is factual, accurate and complete. The Company accepts no responsibility or liability for any deficiency, misstatement or inaccuracy in this Report resulting from the information provided, concealed or not fully disclosed by those individuals.]

The assessment should not be considered a comprehensive audit that covers and eliminates all present, past and future risks. The information presented in this Report is based on data collected during the completion of the monitoring conducted. The overall site/subsurface/groundwater conditions were extrapolated based on information collected at specific sampling locations. Professional judgement was exercised in gathering and analyzing data; however, no monitoring method can completely eliminate the possibility of obtaining partially imprecise or incomplete information; it can only reduce the possibility to an acceptable level. Consequently, the actual site/subsurface/groundwater conditions between the sampling points may vary. In addition, analysis has been carried out only for the chemical and physical parameters identified, and it should not be inferred that other chemical species or physical conditions are not present.]

It is recommended practice that the Company be retained during subsequent phases of the project, to confirm that the conditions throughout the site do not deviate materially from those encountered throughout the sampling program.]

Any description of the site and its physical setting documented in this Report is presented for informational purposes only, to provide the reader a better understanding of the site and scope of work. Any topographic benchmarks and elevations are primarily to establish relative elevation differences between sampling locations and should not be used for other purposes such as grading, excavation, planning, development, or similar purposes.

Any results from laboratory or other subcontractors reported herein have been carried out by others, and the Company cannot warrant their accuracy.

Appendix F

Historical Monitoring Well Information & Logs



KINGS COUNTY
MEADOWVIEW DISPOSAL SITE CLOSURE
TABLE 2-1
MONITOR WELL SPECIFICATIONS

PIEZ.	DATE CONST.	PRESENT DEPTH+ (FTPVC) (m)	PVC DIAMETER (cm)	REF. PT. HGT ABOVE GROUND (cm)	FORM- ATION	BORE- HOLE DIAM. (cm)	GROUND ELEV. (m)	BEDROCK SURFACE		TOP OF SCREEN		BOTTOM OF SCREEN		TOP OF SANDPACK		EFFECTIVE MONITORING LENGTH (m)	EFFECTIVE MONITORING MIDPT. ELEV. (m)	BENT/GROUT INTERVAL DEPTH (m)	REF. DATUM ELEV. (m)
								DEPTH (m)	ELEV. (m)	DEPTH (m)	ELEV. (m)	DEPTH (m)	ELEV. (m)	DEPTH (m)	ELEV. (m)				
1A	1 Feb 83	6.0	3.18	1.7	MS/STS	10.2	25.05	4.3	20.7	5.9	19.2	6.4	18.6	1.5	23.6	4.9	21.1	1.2-1.5	25.07
1B	2 Feb 83	15.7	3.18	5.6	MS/STS	10.2	25.12	4.3	20.8	15.8	9.3	16.3	8.8	9.5	15.6	6.8	12.2	9.5-9.6	25.18
1C	3 Feb 83	2.7	3.18	0.4	SD	15.2	24.96	3.0	22.0	2.4	22.5	2.9	22.1	0.0	25.0	0.6	22.4	none	24.97
3B	18 Feb 83	23.4	3.18	0	SD	15.2	28.80	24.9	3.9	24.0	4.8	24.5	4.3	0.0	28.8	6.7	7.6	none	28.80
4A*	9 Feb 83	10.1	3.18	-3.2	SD	15.2	11.73	—	—	10.2	1.5	10.7	1.0	0.0	11.7	6.7	4.4	none	11.70
4B*	9 Feb 83	4.6	3.18	-4.4	SD	15.2	11.73	—	—	4.7	7.0	4.9	6.8	0.0	11.7	0.9	7.3	none	11.69
4C	10 Feb 83	16.8	3.18	-0.7	SD/SS?	15.2	11.68	15.6?	-3.92?	16.5	-4.8	17.0	-5.3	15.4	-3.7	1.6	-4.5	15.4-15.7	11.67
5A	11 Feb 83	22.9	3.18	0	SS	15.2	30.54	21.3	9.2	22.3	8.3	23.1	7.4	0.0	30.5	3.0	9.0	none	30.54
5B	16 Feb 83	28.0	3.18	-0.2	SS/MS	15.2	30.46	21.3	9.1	28.2	2.3	28.7	1.8	26.6	3.9	2.1	2.8	26.6-28.8	30.46
6A	11 Feb 83	18.2	3.18	-2.7	SS	15.2	26.18	6.1	20.1	18.0	8.2	18.3	7.9	15.8	10.4	2.5	9.1	10.2-10.4	26.15
6B	15 Feb 83	7.5	3.18	1.4	SS/MS	15.2	26.21	6.1	20.1	6.9	19.3	7.6	18.6	0.0	26.2	3.0	20.1	none	26.23
7A	16 Feb 83	24.0	3.18	1.1	SS	15.2	27.21	24.4	2.8	23.9	3.3	24.4	2.8	0.0	27.2	5.3	5.5	none	27.22
9	22 Feb 83	17.3	3.18	-1.2	SD	15.2	23.99	—	—	17.8	6.2	18.3	5.7	0.0	24.0	4.7	8.1	none	23.98
12A	14 Sept 93	5.5	5.08	35.2	SD	22.9	13.29	—	—	2.1	11.2	5.1	8.2	1.8	11.5	3.3	9.8	1.5-1.8	13.64
12B	Sept 93**	14.0	5.08	8.5	SD	12.7	13.23	11.3	2.0	10.8	2.4	13.9	-0.7	9.9	3.3	4.0	1.3	9.8-10.2	13.32
13A	25 Feb 83	4.5	3.18	-2	SD	15.2	14.72	—	—	4.7	10.0	5.5	9.2	0.0	14.7	1.5	10.0	none	14.70
13C	Sept 93**	26.8	5.08	50	MS/STS	9.6***	14.72	19.7	-5.0	20.1	-5.4	26.3	-11.6	19.8	-5.1	6.5	-8.3	0-19.8	15.22
19A	Feb 86	25.6	5.08	20.3	SD	15.2	30.55	—	—	22.9	7.7	26.2	4.3	—	—	4.7	6.6	—	30.75
19B	Sept 93**	40.8	5.08	19.5	MS/SS/STS	15.2	30.51	25.9	4.6	31.7	-1.2	40.7	-10.2	31.0	-0.5	9.6	-5.4	30.6-31.0	30.71
20A	Feb 86	26.8	5.08	17.8	SD	15.2	28.82	26.5	2.3	24.1	4.7	27.2	1.6	—	—	8.1	5.6	—	29.00
20B	Sept 93**	36.7	5.08	13.7	MS/SS	15.2	28.48	25.9	2.6	27.4	1.0	36.6	-8.1	26.4	2.0	10.1	-3.0	25.1-26.4	28.62
21C	9 Sept 93	22.9	5.08	28.7	SS	19.1	9.09	12.2	-3.1	16.6	-7.5	22.7	-13.6	15.1	-6.0	7.6	-9.8	0-15.1	9.38
22A	19 Sept 93	8.6	5.08	40.5	SD	22.9	10.62	—	—	5.1	5.5	8.2	2.4	3.9	6.7	4.4	4.6	0-3.9	11.02
22B	19 Sept 93	14.0	5.08	42.6	SD/SS	22.9	10.65	—	—	12.1	-1.5	13.6	-3.0	11.5	-0.9	2.1	-1.9	0-11.5	11.08
22C	10 Sept 93	24.7	5.08	38.1	SD/STS	9.6***	10.67	12.8	-2.1	18.3	-7.6	24.4	-13.7	16.8	-6.1	7.6	-9.9	0-16.8	11.05
23A	18 Sept 93	5.0	5.08	32.7	SD	22.9	12.57	—	—	3.1	9.5	4.6	8.0	2.4	10.1	2.1	9.1	2.0-2.4	12.90
23B	18 Sept 93	11.7	5.08	46	SD	22.9	12.49	—	—	8.3	4.2	11.2	1.3	7.0	5.5	4.2	3.4	6.7-7 & 2.5-3	12.95
23C	11 Sept 93	22.8	5.08	12.1	SS	22.9	12.50	18.3	-5.8	16.5	-4.0	22.6	-10.1	15.2	-2.7	7.4	-6.4	0-15.2	12.62

* Wells 4A and 4B were installed within the same hole + Depth measured during 1993 sampling (except well 32A - see note #4 below).

** PVC was installed in existing wells in September, 1993. ? Bedrock contact inferred from drilling conditions.

*** (9.6cm) Represents diameter of lower borehole; upper borehole diameter = 22.9cm

NOTES: 1 All depths measured from ground surface unless otherwise noted.

- Well specifications for wells 24A, 25A and 32A to 36A were obtained from the report : Preliminary Environmental Assessment, Clyde Wood Lands; compiled by Groundwater Technology Inc. for CFB Greenwood, September, 1992.
- 4.1m is the original depth of well 32A taken from the GTI report specified above. Porter Dillon Limited was unable to measure the depth due to an obstruction in the well.
- Formation data for wells 19A, 19B, 20A and 20B was obtained from a Nova Scotia Department of Environment memorandum regarding well installations, written in April, 1986. (From N. McLeod. To F. Potter.)
- Formation data for wells 12B, TH1 and TH2 was obtained from the report: Solid Waste Study, compiled by Hiltz & Seamone Co. Ltd. for Kings County Municipality in 1981.
- Piezometer names have changed as follows: Present Name: 12B 24A 25A 32A 33A 34A 35A 36A
Previous Name: TH-4 MW6 MW3 MW7 MW5 MW4 MW2 MW1
- Effective monitoring length is measured from the top of sandpack or watertable, whichever is lower, to the bottom of screen.
- Effective midpoint is the midpoint elevation of the monitoring length.

FTPVC = Reference from top of PVC

SD = sand

MS = mudstone

SS = sandstone

STS = siltstone

KINGS COUNTY
MEADOWVIEW DISPOSAL SITE CLOSURE
TABLE 2-1
MONITOR WELL SPECIFICATIONS

PIEZ.	DATE CONST.	PRESENT DEPTH- (FTPVC) (m)	PVC DIAMETER (cm)	REF. PT. HGT ABOVE GROUND (cm)	FORM- ATION	BORE- HOLE DIAM. (cm)	GROUND ELEV. (m)	BEDROCK SURFACE		TOP OF SCREEN		BOTTOM OF SCREEN		TOP OF SANDPACK		EFFECTIVE MONITORING LENGTH (m)	EFFECTIVE MONITORING MIDPT. ELEV. (m)	BENT/GROUT INTERVAL DEPTH (m)	REF. DATUM ELEV. (m)
								DEPTH (m)	ELEV. (m)	DEPTH (m)	ELEV. (m)	DEPTH (m)	ELEV. (m)	DEPTH (m)	ELEV. (m)				
24A	2 July 92	4.6	5.08	54.2	sd	22.9	12.78	—	—	1.1	11.7	4.1	8.6	0.6	12.2	1.2	9.3	0-0.6	13.33
24B	18 Sept 93	11.8	5.08	49.8	sd	22.9	12.67	—	—	8.3	4.4	11.3	1.4	5.2	7.5	6.1	4.4	0-5.2	13.17
25A	2 July 92	5.3	5.08	51.4	sd	22.9	11.05	—	—	1.8	9.2	4.9	6.2	0.5	10.5	0.9	6.6	0-0.5	11.57
25B	18 Sept 93	13.5	5.08	47.4	sd	22.9	10.99	—	—	10.0	1.0	12.8	-1.8	9.1	1.9	3.7	0.0	0-9.1	11.46
26B	17 Sept 93	13.7	5.08	53.9	STS/MS	9.6***	24.40	4.6	19.8	10.1	14.2	13.1	11.3	9.1	15.3	4.0	13.3	0-9.1	24.94
27B	17 Sept 93	13.5	5.08	38.2	STS/MS	9.6***	23.82	—	—	10.1	13.8	13.1	10.7	9.4	14.4	3.7	12.6	0-9.4	24.21
27C	13 Sept 93	23.1	5.08	35.7	STS/MS	9.6***	23.70	7.7	16.0	16.6	7.1	22.7	1.0	15.5	8.2	7.2	4.6	0-15.5	24.06
28B	18 Sept 93	14.8	5.08	28.1	MS/STS	15.2	29.56	5.5	24.0	11.6	17.9	14.6	15.0	9.3	20.3	5.3	17.6	0-9.3	29.84
29B	17 Sept 93	9.7	5.08	40.5	MS/SS	9.6***	22.66	—	—	6.3	16.4	9.3	13.4	6.1	16.6	3.2	15.0	0-6.1	23.07
29C	16 Sept 93	21.8	5.08	49.4	SS/MS	9.6***	22.70	6.1	16.6	15.1	7.6	21.2	1.5	13.8	8.9	7.4	5.2	0-13.8	23.20
30A	16 Sept 93	11.9	5.08	45.1	SD/STS	22.9	30.18	—	—	6.9	23.3	11.5	18.7	6.4	23.8	5.1	21.2	0-6.4	30.64
30C	12 Sept 93	25.5	5.08	42.5	STS	9.6***	30.24	7.6	22.6	18.9	11.3	25.0	5.2	18.5	11.7	6.5	8.5	0-18.5	30.66
31A	16 Sept 93	9.1	5.08	47.3	sd	22.9	25.17	—	—	5.3	19.9	8.3	16.8	5.0	20.2	3.3	18.5	0-5	25.64
31B	15 Sept 93	17.7	5.08	35.7	STS	9.6***	25.06	—	—	14.3	10.7	17.3	7.7	14.0	11.0	3.3	9.4	0-14.0	25.41
31C	15 Sept 93	23.1	5.08	30.8	STS/SS	9.6***	24.96	9.1	15.8	19.8	5.2	22.6	2.3	19.3	5.7	3.4	4.0	0-19.3	25.27
32A	2 July 92	4.1	5.08	68.1	sd	22.9	12.08	—	—	1.1	11.0	4.1	7.9	0.6	11.5	2.4	9.2	0-0.6	12.76
33A	2 July 92	6.2	5.08	65.3	sd	22.9	13.48	—	—	1.5	12.0	5.5	8.0	0.5	13.0	0.9	8.4	0-0.5	14.13
34A	2 July 92	3.4	5.08	77.1	sd	22.9	7.99	—	—	0.5	7.5	2.7	5.2	0.3	7.7	1.5	6.0	0-0.3	8.76
35A	2 July 92	4.1	5.08	71.8	sd	22.9	9.41	—	—	0.5	8.9	3.5	5.9	0.3	9.1	1.5	6.7	0-0.3	10.13
36A	2 July 92	4.5	5.08	62.3	sd	22.9	10.35	—	—	0.9	9.4	4.0	6.4	0.5	9.9	0.9	6.8	0-0.5	10.98
TH-1	Sept 93**	9.2	5.08	9.6	sd	12.7	13.15	—	—	6.2	7.0	9.2	3.9	5.7	7.5	3.6	5.7	4.8-5.7	13.25
TH-2	Sept 93**	16.6	5.08	64.2	ss	12.7	11.25	13.4	-2.2	13.0	-1.8	16.1	-4.8	12.7	-1.4	3.4	-3.1	11.9-12.7	11.90

* Wells 4A and 4B were installed within the same hole

+ Depth measured during 1993 sampling (except well 32A - see note #4 below).

FTPVC = Reference from top of PVC

** PVC was installed in existing wells in September, 1993.

? Bedrock contact inferred from drilling conditions.

SD = sand

*** (9.6cm) Represents diameter of lower borehole; upper borehole diameter = 22.9cm

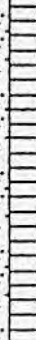
MS = mudstone

NOTES:1 All depths measured from ground surface unless otherwise noted.

SS = sandstone

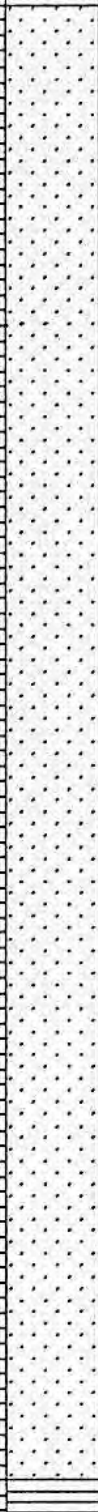
STS = siltstone

- Well specifications for wells 24A, 25A and 32A to 36A were obtained from the report: Preliminary Environmental Assessment, Clyde Wood Lands; compiled by Groundwater Technology Inc. for CFB Greenwood, September, 1992.
- 4.1m is the original depth of well 32A taken from the GTI report specified above. Porter Dillon Limited was unable to measure the depth due to an obstruction in the well.
- Formation data for wells 19A, 19B, 20A and 20B was obtained from a Nova Scotia Department of Environment memorandum regarding well installations, written in April, 1986. (From N. McLeod. To F. Potter.)
- Formation data for wells 12B, TH1 and TH2 was obtained from the report: Solid Waste Study, compiled by Hiltz & Seamone Co. Ltd. for Kings County Municipality in 1981.
- Piezometer names have changed as follows:
Present Name: 12B 24A 25A 32A 33A 34A 35A 36A
Previous Name: TH-4 MW6 MW3 MW7 MW5 MW4 MW2 MW1
- Effective monitoring length is measured from the top of sandpack or watertable, whichever is lower, to the bottom of screen.
- Effective midpoint is the midpoint elevation of the monitoring length.

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 12A Sheet 1 of 1				
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 14 September 1993		INSPECTOR: T. Rushton				
LOCATION: KINGS COUNTY								
DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
1		Fine grained red brown sand; topsoil					Solid 5cm PVC	12.3
2		Inferred; fine to medium grained brown sand, saturated at 3.6m					Bentonite	11.3
3							 Screen	10.3
4								9.3
5								8.3
6		EOH @6.1m						7.3
7							6.3	
8							5.3	
9							4.3	

[illegible]

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 13C Sheet 2 of 3	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 14 September 1993		INSPECTOR: T. Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
11								3.7
12								2.7
13								1.7
14								0.7
15							Bentonite Grout	-0.3
16								-1.3
17								-2.3
18								-3.3
19								-4.3
			RUN #1	100		71.4	Bentonite	

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 21C Sheet 1 of 3				
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 8 September 1993		INSPECTOR: T.Rushton				
LOCATION: KINGS COUNTY								
DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
1		Fill, garbage.						8.1
2		Garbage; ash						7.1
3			4	1				6.1
4								5.1
5								4.1
6		As above	2	2				3.1
7		Medium grained red brown silty sand with minor clay lenses throughout	5 12					2.1
8		As above, minor clay lenses.	2 4 11	3			Bentonite Grout	1.1
9								0.1

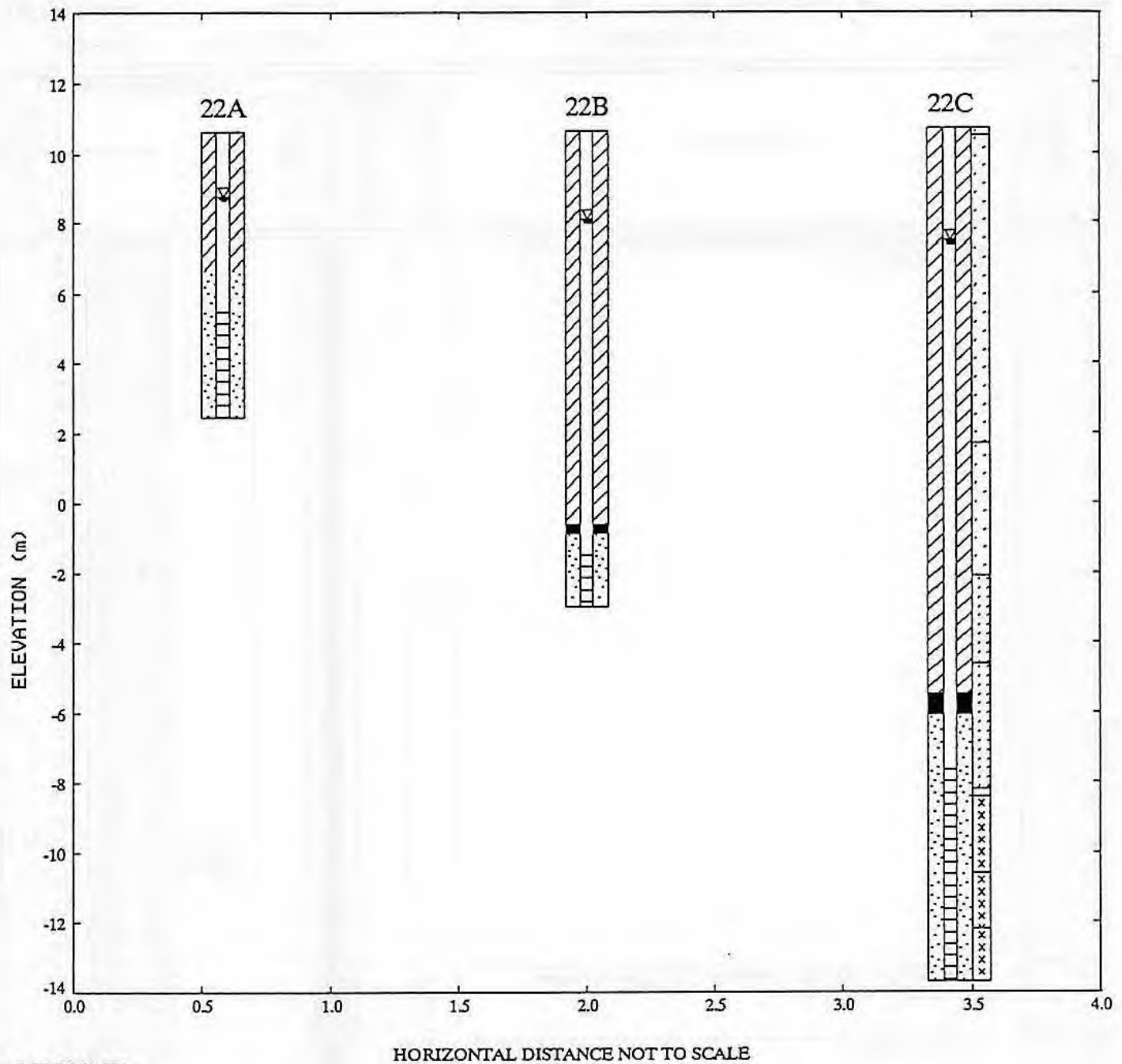
PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 22C Sheet 1 of 3	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 10 September 1993		INSPECTOR: T.Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
1		Fine grained red brown sand; topsoil. Inferred; medium to coarse grained red brown sand; water @ 2.5m.						9.7
2							8.7	
3							7.7	
4							6.7	
5							5.7	
6							4.7	
7				1 1 1 2			3.7	
8							2.7	
9			Piping sands encountered @ 9.0m.	1 1 2 3			1.7	

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 22C Sheet 2 of 3				
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 10 September 1993		INSPECTOR: T.Rushton				
LOCATION: KINGS COUNTY								
DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% ROD		
11								-0.3
12								-1.3
13		Inferred; bedrock; weathered, poorly consolidated red brown sandstone.						-2.3
14								-3.3
15								-4.3
16		As above.	23 26 50 50/Scm					-5.3
17							Bentonite Solid 5cm PVC	-6.3
18								-7.3
19		Inferred; red brown mudstone; poorly defined interface	35 60 67 63/Scm					-8.3
		RUN #1 Red brown siltstone with minor grey sandstone lenses; soft						

[illegible]

MONITOR WELLS



LEGEND:

- | | | |
|---|--|---|
|  Grout |  Sandpack |  Water Elevation (m) |
|  Bentonite Seal |  Screen with Sandpack | |

MEADOWVIEW DISPOSAL SITE CLOSURE

KINGS COUNTY

HYDROGEOLOGICAL INVESTIGATION

Porter Dillon Limited

Project No: 92-3896

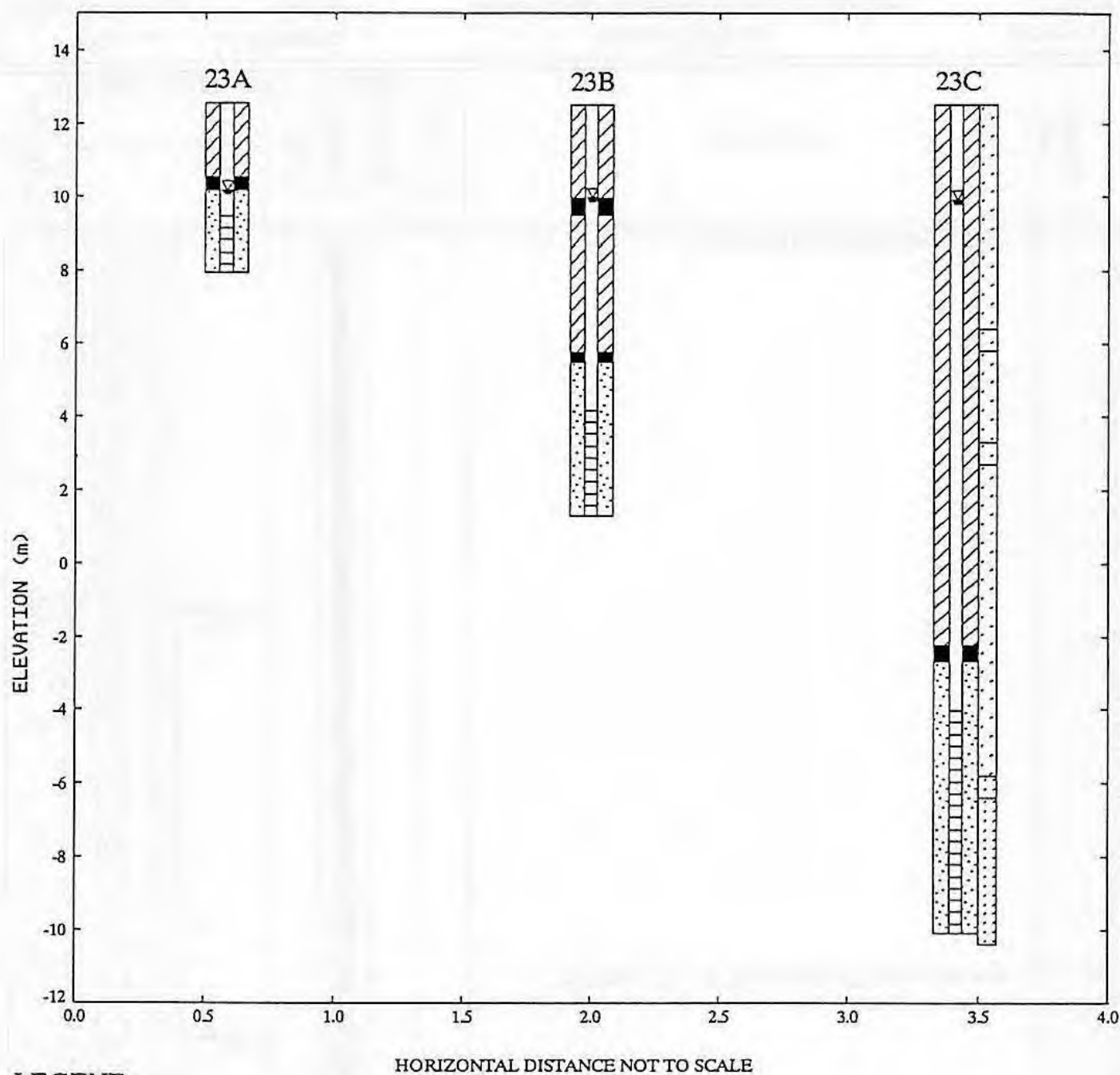
PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 23C Sheet 1 of 3	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE LOCATION: KINGS COUNTY				DATE: 11 September 1993 INSPECTOR: T.Rushton	

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
1		Fine to medium grained red brown sand; water encountered @ approximately 3.0m						11.5
2								10.5
3								9.5
4								8.5
5								7.5
6								6.5
7		Fine grained red brown sand with layers and lenses of coarse grained sand and silty clay.	0 0 2 2					5.5
8		Inferred; As above						4.5
9		Attempted split spoon sample; piping sands						3.5

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 23C Sheet 2 of 3	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 11 September 1993		INSPECTOR: T.Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
11		Inferred; As above						1.5
12						0.5		
13						-0.5		
14						-1.5		
15						-2.5		
16						-3.5		
17						-4.5		
18						-5.5		
19						-6.5		
			Bedrock, weathered, poorly consolidated red brown sandstone.	22				
		Inferred; As above	25					
			36					
			40					

MONITOR WELLS



LEGEND:

- | | | |
|---|--|---|
|  Grout |  Sandpack |  Water Elevation (m) |
|  Bentonite Seal |  Screen with Sandpack | |

MEADOWVIEW DISPOSAL SITE CLOSURE

KINGS COUNTY

Porter Dillon Limited

HYDROGEOLOGICAL INVESTIGATION

Project No: 92-3896

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 24B Sheet 1 of 2	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 18 September 1993		INSPECTOR: T. Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% ROD		
1		Fine to medium grained red brown sand.					Bentonite Grout	11.7
2								10.7
3								9.7
4								8.7
5								7.7
6								6.7
7		Medium to coarse grained red brown sand; gravel throughout.					Solid 5cm PVC	5.7
8								4.7
9								3.7
							Screen	

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 25B Sheet 1 of 2	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE LOCATION: KINGS COUNTY				DATE: 18 September 1993 INSPECTOR: T. Rushton	

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL		ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD			
1 2 3 4 5 6 7 8 9		Medium grained red brown sand.							10.0 9.0 8.0 7.0 6.0 5.0 4.0 3.0 2.0
		Inferred; compact red brown silty sand.							

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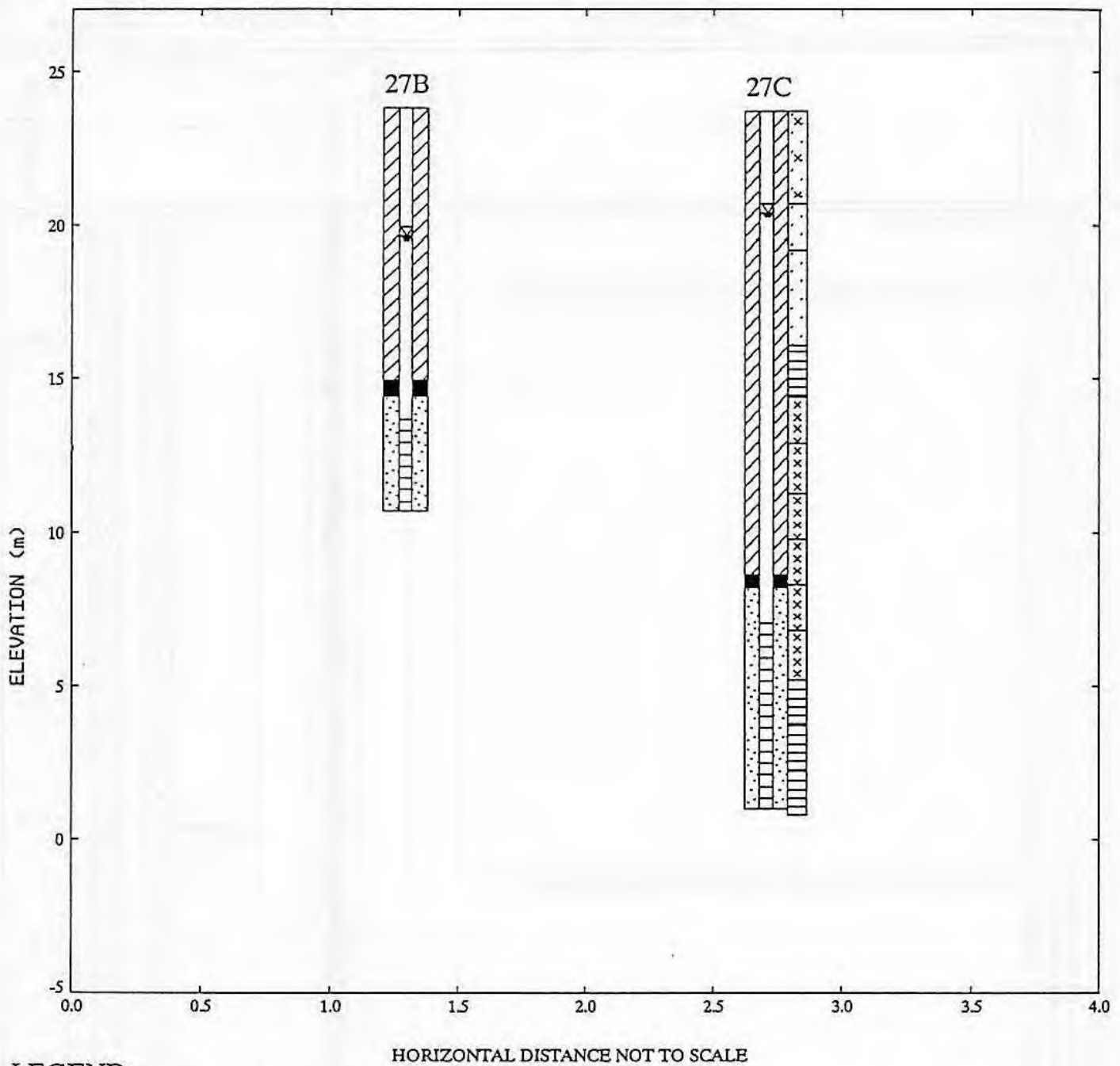
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PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 26B Sheet 2 of 2	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 17 September 1993		INSPECTOR: T. Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
11	XXXXXXXXXXXXXXXXXXXX							13.4
12	XXXXXXXXXXXXXXXXXXXX							12.4
13	XXXXXXXXXXXXXXXXXXXX	Inferred: Red brown mudstone, soft.					Screen	11.4
14	XXXXXXXXXXXXXXXXXXXX	EOH @ 13.4m.						10.4
15	XXXXXXXXXXXXXXXXXXXX							9.4
16	XXXXXXXXXXXXXXXXXXXX							8.4
17	XXXXXXXXXXXXXXXXXXXX							7.4
18	XXXXXXXXXXXXXXXXXXXX							6.4
19	XXXXXXXXXXXXXXXXXXXX							5.4

PORTER DILLON LTD.						PROJECT No. 92-3896-13-01							BOREHOLE No. 27C Sheet 3 of 3																
PROJECT: LOCATION:										MEADOWVIEW DISPOSAL SITE CLOSURE KINGS COUNTY										DATE: 13 September 1993 INSPECTOR: T. Rushton									
DEPTH (m)		SYMBOLIC LOG		DESCRIPTION		BLOW COUNT	% RECOVERY	SAMPLE INTERVAL	% RQD	MONITOR WELL		ELEVATION (m)																	
21		[Symbolic Log]		RUN #9 As above			100	[Sample Interval]	70	Screen		2.7																	
22		[Symbolic Log]		RUN #10 As above, interbedded with siltstone.			100	[Sample Interval]	73.3	[Monitor Well]		1.7																	
23		[Symbolic Log]		EOH @ 22.9m.				[Sample Interval]		[Monitor Well]		0.7																	
24		[Symbolic Log]								[Monitor Well]		-0.3																	
25		[Symbolic Log]								[Monitor Well]		-1.3																	
26		[Symbolic Log]								[Monitor Well]		-2.3																	
27		[Symbolic Log]								[Monitor Well]		-3.3																	
28		[Symbolic Log]								[Monitor Well]		-4.3																	
29		[Symbolic Log]								[Monitor Well]		-5.3																	

MONITOR WELLS



LEGEND:

- | | | |
|---|--|---|
|  Grout |  Sandpack |  Water Elevation (m) |
|  Bentonite Seal |  Screen with Sandpack | |

MEADOWVIEW DISPOSAL SITE CLOSURE

KINGS COUNTY

Porter Dillon Limited

HYDROGEOLOGICAL INVESTIGATION

Project No: 92-3896

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 28B Sheet 1 of 2	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 18 September 1993		INSPECTOR: T. Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
		Organics/ roots.						
1		Fine to medium grained red brown silty sand; loose and gravelly.						28.6
2								27.6
3								26.6
4								25.6
5							Bentonite Grout	24.6
6		Inferred; bedrock; poorly consolidated, soft red brown siltstone.						23.6
7								22.6
8								21.6
9							Bentonite	20.6

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 28B Sheet 2 of 2	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 18 September 1993		INSPECTOR: T. Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
10.6	XXXXXX						Solid 5cm PVC	18.6
11.6	XXXXXX	Inferred; red brown mudstone; soft						17.6
12.6	XXXXXX							16.6
13.6	XXXXXX						Screen	15.6
14.6	XXXXXX	EOH @ 14.6m.						14.6
15.6	XXXXXX							13.6
16.6	XXXXXX							12.6
17.6	XXXXXX							11.6
18.6	XXXXXX							10.6

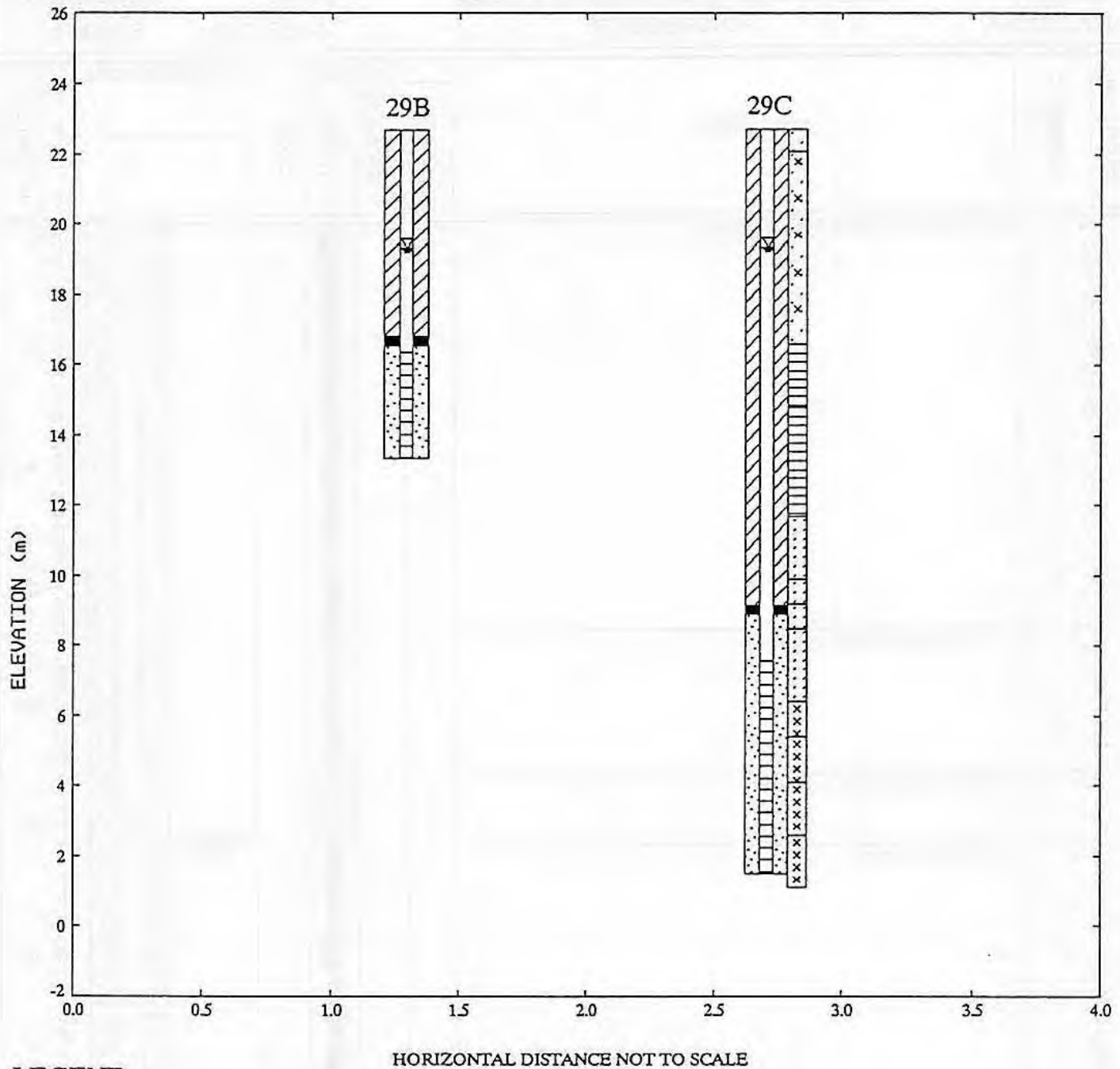
PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 29C Sheet 1 of 3	
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 16 September 1993		INSPECTOR: T. Rushton	
LOCATION: KINGS COUNTY					

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
1		Fine grained red brown sand; topsoil						21.7
2		Red brown silty sand						20.7
3								19.7
4								18.7
5								17.7
6		Red brown mudstone; weathered and soft.	5 10 42 41/56cm					16.7
7								15.7
8		RUN #1 Poorly consolidated silty mudstone; interbedded sandy lenses	100		90			14.7
9		RUN #2 As above	100		78.3			13.7

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 29C Sheet 2 of 3				
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 16 September 1993		INSPECTOR: T. Rushton				
LOCATION: KINGS COUNTY								
DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% ROD		
11		RUN #3 Grey fine to medium grained sandstone	100		90			11.7
12							Bentonite Grout	10.7
13		RUN #4 Sandstone, red,brown and grey layers with interbedded mudstone	100		83.30			9.7
14		Silty sandstone, fine to medium grained, consolidated.					Bentonite	
15		RUN #5 As above	100		95		Solid 5cm PVC	8.7
16			100		66.7			7.7
17		RUN #6 Muddy siltstone, subhorizontal and subvertical fractures throughout.	100		73.3		Screen	5.7
18		RUN #7 As above						4.7
19		RUN #8 Interbedded red brown mudstone and siltstone with sandstone clasts and lenses throughout; broken and fractured.	100		30			3.7

[illegible]

MONITOR WELLS



LEGEND:

- | | | |
|---|--|---|
|  Grout |  Sandpack |  Water Elevation (m) |
|  Bentonite Seal |  Screen with Sandpack | |

MEADOWVIEW DISPOSAL SITE CLOSURE

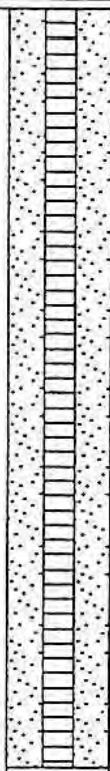
KINGS COUNTY

HYDROGEOLOGICAL INVESTIGATION

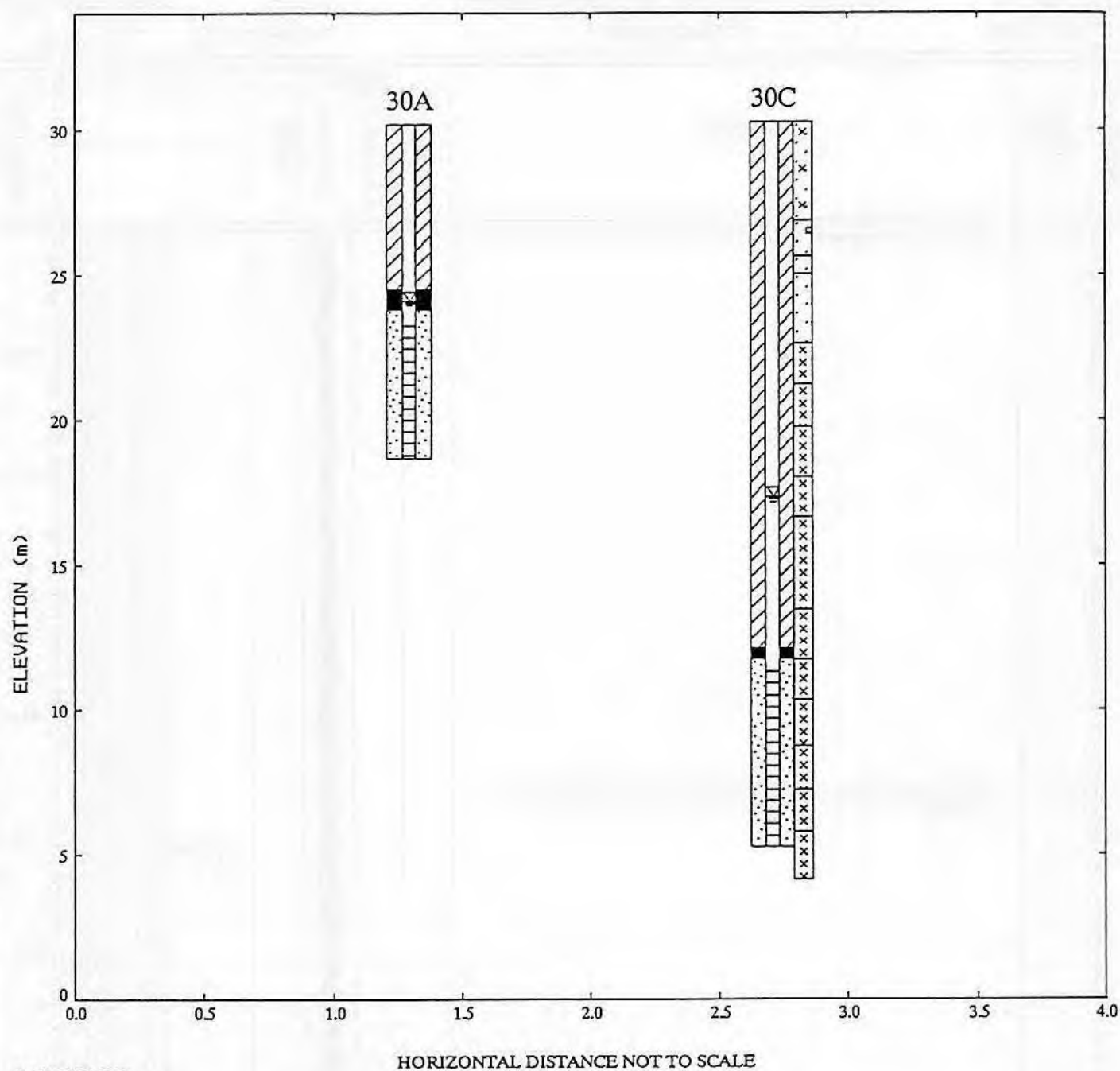
Porter Dillon Limited

Project No: 92-3896

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 30C Sheet 2 of 3				
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 12 September 1993		INSPECTOR: T.Rushton				
LOCATION: KINGS COUNTY								
DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
11	xxxxxx	As above.	20 38 55 60					19.2
12	xxxxxx	As above.	22 36 32 57					18.2
13	xxxxxx	As above.						17.2
14	xxxxxx		42 84					16.2
15	xxxxxx						Bentonite Grout	15.2
16	xxxxxx							14.2
17	xxxxxx	Bedrock; red brown weathered siltstone, medium grained, compact.	22 90					13.2
18	xxxxxx							12.2
19	xxxxxx	RUN #1 Red brown siltstone, soft, poorly consolidated, muddy, no apparent fractures. Breaks appear to be the result of incompetency of the formation.		100		100	Bentonite Pack Solid 5cm PVC	11.2

PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 30C Sheet 3 of 3				
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE		DATE: 12 September 1993		INSPECTOR: T.Rushton				
LOCATION: KINGS COUNTY								
DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
21	XXXXXXXXXXXXXXXXXXXX	RUN #2 As above, very soft with green-grey, medium grained siltstone lenses; formation breaks throughout.		100		50		9.2
22	XXXXXXXXXXXXXXXXXXXX	RUN #3 As above, but generally more competent; minor lenses of coarser grained, red-brown siltstone; minor mechanical or formation breaks throughout.		100		92		8.2
23	XXXXXXXXXXXXXXXXXXXX	RUN #4 As above		100		90		7.2
24	XXXXXXXXXXXXXXXXXXXX							6.2
25	XXXXXXXXXXXXXXXXXXXX	RUN #5 As above		100		75		5.2
26	XXXXXXXXXXXXXXXXXXXX	EOH @ 26.1 m.						4.2
27								3.2
28								2.2
29								1.2

MONITOR WELLS



LEGEND:

- | | | |
|---|--|---|
|  Grout |  Sandpack |  Water Elevation (m) |
|  Bentonite Seal |  Screen with Sandpack | |

MEADOWVIEW DISPOSAL SITE CLOSURE

KINGS COUNTY

HYDROGEOLOGICAL INVESTIGATION

Porter Dillon Limited

Project No: 92-3896

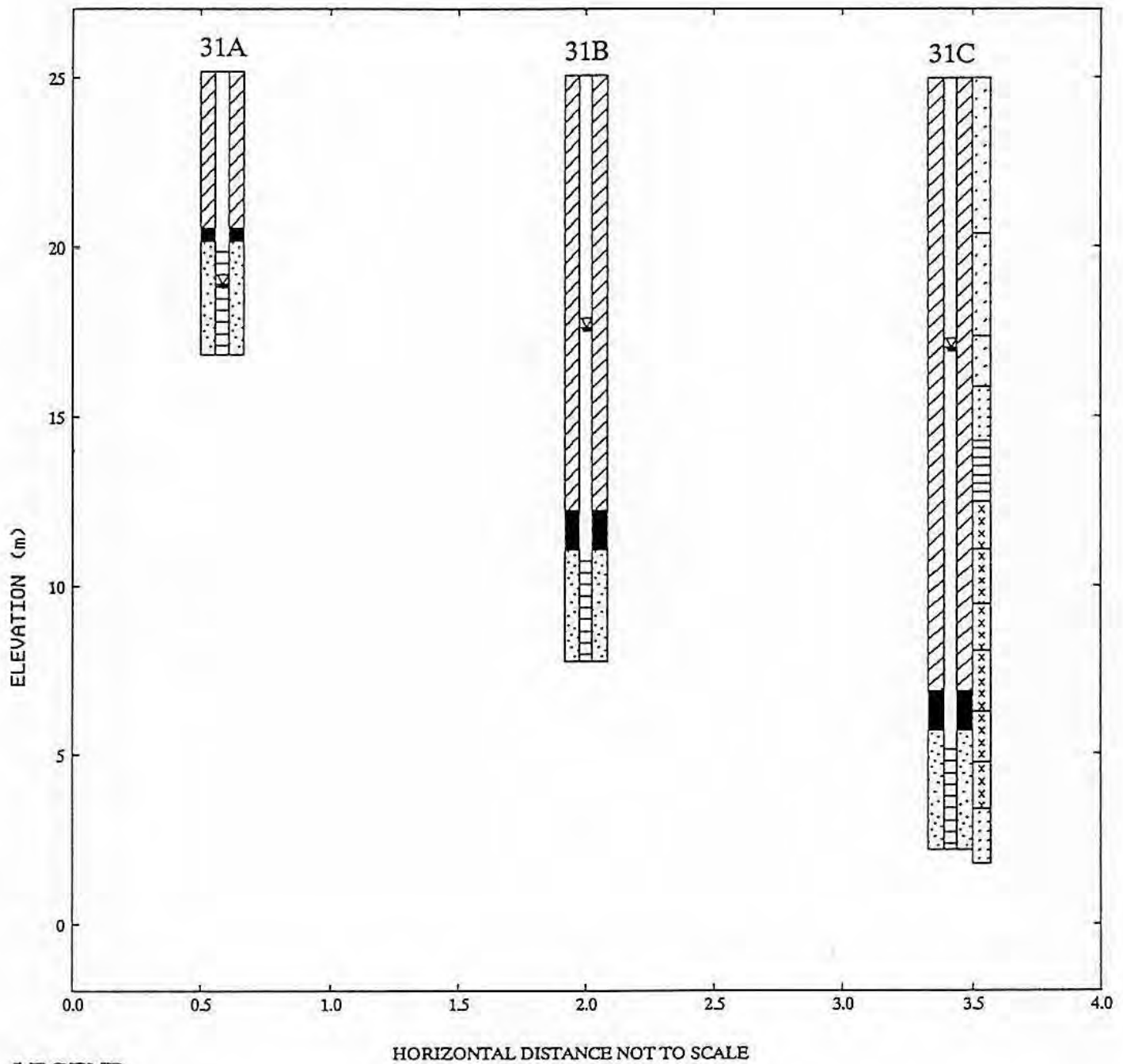
PORTER DILLON LTD.		PROJECT No. 92-3896-13-01		BOREHOLE No. 31C Sheet 1 of 3	
PROJECT: LOCATION:		MEADOWVIEW DISPOSAL SITE CLOSURE KINGS COUNTY		DATE: 15 September 1993 INSPECTOR: T. Rushton	

DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
1		Fine to medium grained red brown sand,						24.0
2						23.0		
3						22.0		
4						21.0		
5		Coarse grained red brown sand with minor gravel throughout; saturated.					Bentonite Grout	20.0
6						19.0		
7		Inferred; fine grained red brown sand, well sorted and moderately compact.						18.0
8						17.0		
9		Inferred; bedrock, poorly consolidated red brown silty sandstone.						16.0

PORTER DILLON LTD.			PROJECT No. 92-3896-13-01		BOREHOLE No. 31C Sheet 2 of 3			
PROJECT: MEADOWVIEW DISPOSAL SITE CLOSURE			DATE: 15 September 1993		INSPECTOR: T. Rushton			
LOCATION: KINGS COUNTY								
DEPTH (m)	SYMBOLIC LOG	DESCRIPTION	SAMPLE				MONITOR WELL	ELEVATION (m)
			BLOW COUNT	% RECOVERY	INTERVAL	% RQD		
11		Red mudstone, weathered.						14.0
		RUN #1 Interbedded layers of red brown mudstone and silty mudstone; poorly consolidated		16.7		40		
12								13.0
		RUN #2 Red brown siltstone, competent. Vertical to subvertical fractures.		88.3		100		12.0
13								
		RUN #3 Red brown muddy siltstone; vertical and subvertical fracturing throughout		96.7		100		11.0
14								
		RUN #4 As above		85		100	Bentonite Grout	10.0
15								9.0
		RUN #5 As above; poorly consolidated		56.7		100		8.0
16								
		RUN #6 Red brown siltstone with minor clay		88.3		100	Bentonite	7.0
17								
							Solid 5cm PVC	6.0
18								
19								

[illegible]

MONITOR WELLS



MEADOWVIEW DISPOSAL SITE CLOSURE

KINGS COUNTY

Porter Dillon Limited

HYDROGEOLOGICAL INVESTIGATION

Project No: 92-3896

WELL 18

compry
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL

tstdat
14 OCTOBER, 1993

tstwel
18

slugt1
1062

1.59

5.08

slugt2

4000

20

1180

tsdata

30 1047 1

60 1032 1

90 1017 1

120 1003.3 1

150 989 1

180 975 1

210 961.5 1

240 947.5 1

270 934 1

300 921.3 1

360 896 1

420 870.2 1

480 845.5 1

540 821 1

600 797 1

930 676 1

1050 636.5 1

1200 588.5 1

1500 507.2 1

1800 434.6 1

2400 316.2 1

3780 144.4 1

4200 112.1 1

4500 94.8 1

WELL 58

comphy

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

15 OCTOBER, 1993

tsrwei

58

slugt1

289.1

1.59

7.62

slugt2

5000

20

775.6

tsdata

30	270.6	1
60	253.6	1
90	237.6	1
120	222.6	1
150	208.8	1
180	195.6	1
240	172.5	1
300	161.6	1
330	141.6	1
360	133.9	1
450	111.1	1
660	71.4	1

WELL 68

compry

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

8 OCTOBER, 1993

tstwel

68

slugt1

257.855

1.58796

7.61991

slugt2

1828.75

60.0449

257.858

tsdata

60 230.423 1

120 222.495 1

180 215.485 1

240 207.565 1

300 199.945 1

360 191.105 1

420 180.436 1

480 170.076 1

540 160.926 1

600 152.396 1

900 114.597 1

1200 86.8669 1

1800 50.292 1

2400 30.48 1

3000 18.8976 1

3600 11.5824 1

4200 7.62 1

4800 4.572 1

WELL 9

compny
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
HEADQUVIEW LANDFILL
tstdat
19 OCTOBER, 1993
tstwel
9
slugt1
278.89
1.588
7.62
slugt2
2743.2
10
367.89
tsdata
30 265.173 1
60 253.591 1
90 242.008 1
120 230.731 1
150 219.453 1
180 210.309 1
240 191.717 1
300 175.563 1
360 160.323 1
420 146.912 1
480 134.72 1
540 124.052 1
600 113.994 1

WELL 12A
company
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
7 OCTOBER, 1993
tstwel
12A
slugt1
60
2.54
11.43
slugt2
3000
300
211.5
tsdata
30 44 1
60 32.5 1
90 25 1
120 20.8 1
150 16.6 1
180 13.8 1
240 8 1
300 2.9 1
360 1.8 1

WELL 128

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

7 OCTOBER, 1993

tstwel

128

slugt1

31.3

2.54

6.35

slugt2

3000

310

1088

tsdata

15 3.3 1

30 0.6 1

60 0.2 1

90 0.001 1

WELL 13C

compry

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

29 SEPTEMBER, 1993

tstwel

138

slugt1

1298.8

2.54

4.8

slugt2

5000

610

2198

tsdata

30	1269.8	1
45	1256.8	1
60	1243.8	1
90	1217.8	1
120	1192.8	1
150	1167.8	1
180	1143.8	1
210	1120.8	1
240	1097.8	1
270	1075.3	0
300	1053.3	0
330	1031.8	1
360	1010.8	1
420	970.3	1
480	931.8	1
540	894.8	1
600	858.8	1
900	703.3	1
1200	567.3	1
1500	476.8	1
1800	396.5	1
2400	281.3	1
3000	207.5	1
3600	160.4	1
4200	129.5	1
4800	108.9	1
5400	94.3	1
6000	83.3	1
6900	73.5	1

WELL 19A

company
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL

tstdat
6 OCTOBER, 1993

tstwel
19A

slugt1
136.55

2.539

7.6

slugt2

457.2

330

393.19

tsdata

60	19.2022	1
120	14.6302	1
180	10.0583	1
240	7.01031	1
300	4.87674	1
360	3.65756	1
420	2.74317	1
480	2.13357	1
540	1.52398	1
600	1.2192	1

198
comphy
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
6 OCTOBER, 1993
tstwel
198
slugt1
582.17
2.539
7.6
slugt2
3352.8
914.4
1895.83
tsdata
30 341.372 1
60 316.988 1
120 304.796 1
180 291.994 1
240 278.889 1
300 265.478 1
360 252.676 1
420 238.655 1
480 226.768 1
540 214.881 1
600 202.995 1
900 152.398 1
1200 112.165 1

WELL 20A

company
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
6 OCTOBER, 1993
tstwel
20A
slugt1
444.89
2.5383
7.6
slugt2
800
304.72
757.23
tsdata
29.999 103.605 1
59.9976 84.4083 1
89.994 83.7987 1
119.994 80.7507 1
179.993 71.6097 1
239.99 61.5538 1
299.988 52.4122 1
359.986 44.4894 1
419.983 37.4808 1
479.981 31.9958 1
539.978 28.0344 1
599.976 24.3778 1
899.964 14.0172 1
1199.95 9.14166 1
1499.94 6.39916 1

WELL 208

company
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL

tstdat
6 OCTOBER, 1993

tstwel
208

slugt1
232.26

2.539
7.6

slugt2
3591

914.4
1813.56

tsdata
30 66.1416 1
60 60.6552 1
90 55.4736 1
120 50.9016 1
150 46.9392 1
180 43.8912 1
240 39.624 1
300 35.9664 1
360 33.2232 1
420 30.7848 1
480 28.6512 1
540 27.1272 1
600 25.908 1
900 20.4216 1
1500 13.716 1
2100 10.3632 1

WELL 22A

compry

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

28 SEPTEMBER, 1993

tstwel

22A

slugt1

224.94

2.539

11.43

slugt2

1645.92

304.8

624.84

tsdata

30 62.1792 1

60 24.384 1

90 12.4968 1

120 9.7536 1

150 9.4488 1

180 9.144 1

240 9.144 1

300 9.144 1

360 9.144 1

420 9.144 1

480 9.144 1

540 9.144 1

600 9.144 1

WELL 228

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

28 SEPTEMBER, 1993

tstwel

228

slugt1

901.6

2.539

11.43

slugt2

1615.4

152.4

1138.1

tsdata

60	846.734	1
120	842.162	1
180	838.81	1
240	835.457	1
300	832.104	1
360	828.751	1
420	826.008	1
480	822.655	1
540	819.607	1
600	816.864	1
900	802.234	1
1200	787.908	1
1500	775.716	1
1800	761.695	1
2400	740.664	1
3000	719.633	1
3600	699.211	1
5400	645.566	1
7200	598.322	1
9000	552.602	1
10800	518.16	1

WELL 22C

company
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
29 SEPTEMBER, 1993
tstwel

22C
slugt1
512.98
2.539
4.8
slugt2
3657.6
609.6
2097.94

tsdata
30 260.296 1
60 154.227 1
90 98.754 1
120 71.9319 1
150 59.4353 1
180 52.7298 1
240 47.2434 1
300 45.4146 1
360 44.1955 1
420 43.2811 1
480 42.6715 1
540 42.0619 1
600 41.1475 1
900 38.0995 1
1200 36.2708 1
1800 33.5276 1
2400 31.394 1
3000 30.1748 1

WELL 23A

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

28 SEPTEMBER, 1993

tstwel

23A

slugt1

71.933

2.539

11.43

slugt2

2133.6

152.4

204.216

tsdata

30 13.4112 1

60 8.2296 1

90 7.0104 1

120 6.4008 1

150 5.4864 1

180 2.7432 1

210 1.524 1

270 1.524 1

300 1.524 1

360 1.2192 1

420 1.2192 1

WELL 23B

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

28 SEPTEMBER, 1993

tstwel

238

slugt1

49.073

2.539

11.43

slugt2

2133.6

304.8

859.231

tsdata

15 11.8871 1

30 7.31511 1

45 5.18154 1

60 4.57194 1

90 2.74317 1

120 2.74317 1

150 2.13357 1

180 2.13357 1

240 1.82878 1

300 1.82878 1

600 1.21919 1

900 0.914389 1

WELL 23C

compny
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
28 SEPTEMBER, 1993
tstwel
23C
slugt1
938.48
2.539
11.43
slugt2
4572
609.6
2002.54
tsdata
30 810.463 1
60 708.355 1
120 551.993 1
150 493.471 1
180 441.655 1
210 397.459 1
240 359.359 1
300 299.009 1
360 253.289 1
420 217.627 0
480 190.5 0
540 169.774 1
600 152.705 1
720 127.711 1
900 103.327 1
1200 79.8576 1
1500 65.532 1
1800 56.9976 1
2400 46.6344 1

WELL 248

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

29 SEPTEMBER, 1993

tstwel

248

slugt1

427.33

2.539

11.43

slugt2

1828.8

304.8

829.056

tsdata

60	307.848	1
120	256.639	1
180	214.576	1
240	179.22	1
300	149.045	1
360	125.576	1
420	105.155	1
480	87.4765	1
540	73.1511	1
600	60.6545	1
900	26.5173	1
1200	11.8871	1
1800	3.65756	1

WELL 25B

compry
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
30 SEPTEMBER, 1993
tstwel
25B
slugt1
628.8
2.539
11.43
slugt2
1828.77
304.8
914.4
tsdata
30 548.023 1
60 537.355 1
120 522.421 1
180 505.352 1
240 490.112 1
300 475.482 1
360 460.547 1
420 445.917 1
480 432.811 1
540 419.095 1
600 406.293 1
900 348.382 1
1200 298.09 1
1800 220.367 1
2400 160.628 1
3000 119.785 1
3600 86.8669 1
5400 40.5379 1
7200 17.6782 1

WELL 268

compry
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
30 SEPTEMBER, 1993
tstwel
268
slugt1
896.112
2.53897
4.80364
slugt2
2743.17
304.796
990.588
tsdata
60 886.347 1
120 883.299 1
180 880.556 1
240 879.337 1
300 877.508 1
360 876.289 1
420 875.679 1
480 874.765 1
540 873.546 1
600 872.936 1
900 870.193 1
1200 867.755 1
1800 864.097 1
3000 858.002 1
3600 854.954 1
5100 847.944 1

WELL 27B

compny

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

14 OCTOBER, 1993

tstwel

27B

slugt1

633.4

2.54

4.8

slugt2

3000

300

1000

tsdata

30 633.3 1

60 633.3 1

90 633.3 1

120 633.2 1

180 633.2 1

240 633.1 1

300 633 1

600 632.6 1

900 632.4 1

1200 632.2 1

1500 632 1

6000 629.3 1

12900 625.9 1

17400 623.6 1

51780 598 1

WELL 27C

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

6 OCTOBER, 1993

tstwel

27C

slugt1

1150.3

2.54

4.8

slugt2

4000

610

1960

tsdata

30	1147	1
60	1144.7	1
90	1142.4	1
120	1139.9	1
150	1137.6	1
180	1135.4	1
240	1131	1
300	1126.7	1
360	1122.6	1
420	1118.5	1
480	1114.6	1
540	1110.8	1
600	1107.1	1
900	1089	1
1200	1072	1
1800	1040	1
7980	788.3	1
15000	596.8	1
24540	423.7	1
29160	363.8	1
88680	102	1

WELL 288

compry
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL

tstdat
1 OCTOBER, 1993

tstwel

288

slugt1

331.7

2.54

7.6

slugt2

3000

310

810

tsdata

15	320.2	1
30	309.7	1
60	290.7	1
90	273.7	1
120	258.2	1
150	243.7	1
180	236.7	1
210	220.7	1
240	210.3	1
300	192.7	1
360	178.1	1
420	166	1
480	155.2	1
540	146.2	1
600	138.8	1
900	112.3	1
1200	93	1
1500	77.8	1
1800	61.4	1
2400	40.4	1

WELL 298

compry

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

6 OCTOBER, 1993

tstwel

298

slugt1

152.2

2.54

4.8

slugt2

600

300

580

tsdata

30	151.5	1
60	150.7	1
120	149.3	1
180	147.8	1
240	146.3	1
300	144.9	1
420	142.1	1
600	138	1
900	131.7	1
1200	125.3	1
1800	113.6	1
4200	77.3	1
7200	47.5	1

WELL 29C

compry

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

6 OCTOBER, 1993

tstwel

29C

slugt1

1016

2.54

4.803

slugt2

4000

610

1780

tsdata

30 1009 1

60 1002.7 1

90 996.3 1

120 990 1

150 983.8 1

180 977.5 1

240 965.1 1

300 953 1

360 940.8 1

420 928.9 1

600 894.3 1

960 829 1

1200 786 1

1800 691.4 1

2400 607.2 1

3000 532.7 1

4200 411.1 1

5400 318.8 1

6600 249 1

9900 131 1

13800 66.8 1

14400 61.2 1

24060 19.6 1

84780 1.7 1

WELL 30A

company
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL

tstdat
7 OCTOBER, 1993
tstwel

30A
slugt1
322.48
2.539
11.43
slugt2
1066.8
457.2
573.024

tsdata
60 289.255 1
120 287.122 1
180 285.598 1
240 284.074 1
300 282.854 1
360 281.635 1
420 280.416 1
480 279.197 1
540 278.282 1
600 277.063 1
900 272.796 1
1200 268.834 1
1800 262.128 1
3000 250.241 1
3600 245.059 1
5400 228.905 1
8700 206.654 1
10800 193.243 1

WELL 30C

compry

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

7 OCTOBER, 1993

tstwel

30C

slugt1

799.795

2.53898

4.79999

slugt2

3048

609.6

1214.32

tsdata

60	630.014	1
120	559.911	1
180	496.513	1
240	437.078	1
300	382.214	1
360	331.618	1
420	285.899	1
480	245.056	1
540	210.919	1
600	178.001	1
900	67.6648	1
1200	21.3357	1
1500	8.2295	1

WELL 318

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

14 OCTOBER, 1993

tstwel

318

slugt1

564.7

2.54

4.8

slugt2

3000

304.8

981.6

tsdata

30 563.5 1

60 562.7 1

90 561.6 1

120 560.6 1

150 559.7 1

180 558.7 1

240 557 1

270 556.1 1

300 555.2 1

360 553.5 1

420 551.7 1

600 546.7 1

900 538.6 1

1200 530.1 1

1800 514.7 1

6420 421.7 1

7920 394.3 1

13380 309.8 1

51540 36.7 1

WELL 31C

company

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

7 OCTOBER, 1993

tstwel

31C

slugt1

1079

2.54

4.8

slugt2

4000

310

1480

tsdata

30 1057.4 1

60 1037 1

90 1017.1 1

120 997.1 1

150 978.1 1

180 958.1 1

240 921.1 1

270 903.1 1

300 885.4 1

330 868 1

360 851 1

420 817.6 1

480 785.1 1

540 754.6 1

600 724.6 1

660 696.1 1

780 641.6 1

900 591.1 1

1020 546 1

1200 483.4 1

1560 378 1

1800 320.6 1

2100 261.1 1

2400 207.6 1

2700 172.9 1

3030 138.3 1

3600 94.7 1

4500 53.6 1

5400 31.2 1

7500 11.1 1

WELL 33A

comany
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL

tstdat
12 OCTOBER, 1993

tstwel
33A

slugt1
15.849

2.539
11.43

slugt2
1828.8

310
24.384

tsdata
30 9.75348 1
60 6.70552 1
90 4.57194 1
120 3.04796 1
150 2.13357 1
180 1.52398 1
210 1.21919 1
240 0.914389 1
270 0.914389 1
300 0.609593 1
360 0.609593 1
420 0.609593 1
480 0.304796 1

WELL 34A

compry
PORTER DILLON LTD.
projno
92-3896
client
KINGS COUNTY
locsit
MEADOWVIEW LANDFILL
tstdat
12 OCTOBER, 1993
tstwel
34A
slugt1
35.052
2.539
11.43
slugt2
1828.8
220
173.733
tsdata
30 4.2672 1
60 2.43837 1
90 1.2192 1
120 0.9144 1
150 0.6096 1
180 0.3048 1

WELL 35A

compony

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

18 OCTOBER, 1993

tstwel

35A

slugt1

52.73

2.539

11.43

slugt2

1828.8

300

87.782

tsdata

15 43.8912 1

30 36.2708 1

45 29.2604 1

60 23.7741 1

75 18.2878 1

90 14.935 1

120 9.44869 1

150 6.09593 1

180 3.96235 1

210 2.43837 1

240 1.82878 1

WELL TH 1

compny

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

5 OCTOBER, 1993

tstwel

TH 1

slugt1

172.822

2.53898

6.34898

slugt2

762

304.8

356.311

tsdata

30 145.085 1

60 140.818 1

90 136.855 1

120 133.807 1

150 130.454 1

180 127.102 1

240 121.006 1

300 114.91 1

360 109.423 1

420 104.242 1

480 99.6696 1

540 95.0976 1

600 90.8304 1

960 70.104 1

1200 57.912 1

1500 46.3296 1

WELL TH 2

compry

PORTER DILLON LTD.

projno

92-3896

client

KINGS COUNTY

locsit

MEADOWVIEW LANDFILL

tstdat

5 OCTOBER, 1993

tstwel

TH 2

slugt1

675.437

2.53898

6.34898

slugt2

2133.6

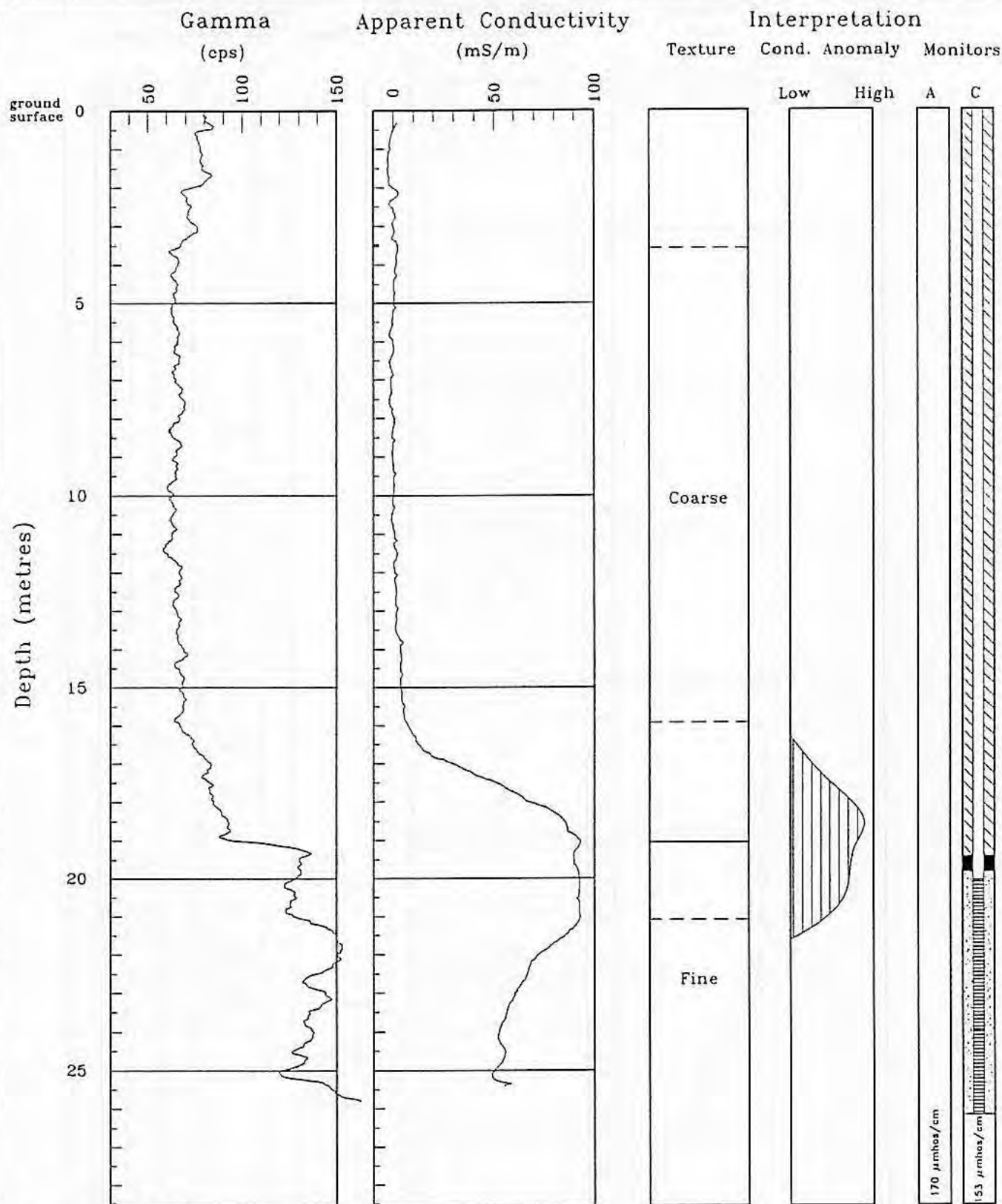
304.8

1185.67

tsdata

30	504.749	1
60	445.313	1
120	366.37	1
180	307.543	1
240	263.957	1
300	239.573	1
360	231.648	1
420	231.648	1
480	231.648	1
540	231.648	1
900	202.082	1
1200	154.838	1
1500	117.653	1
1800	84.1248	1
2100	56.6928	1
2400	38.4048	1

Figure 6: Borehole No. 13C Meadowview SW Disposal Closure



[NOTE: Gamma logged through steel casing;
25% correction factor applied.]

Logged 14/09/93 Gamma referenced to casing, 0.55m above ground level.

Note: The grain sizes presented in the Interpretation are intended
to explain apparent contacts and are a relative comparison only.

Vertical Scale
1:150

Figure 7: Borehole No. 20C Meadowview SW Disposal Closure

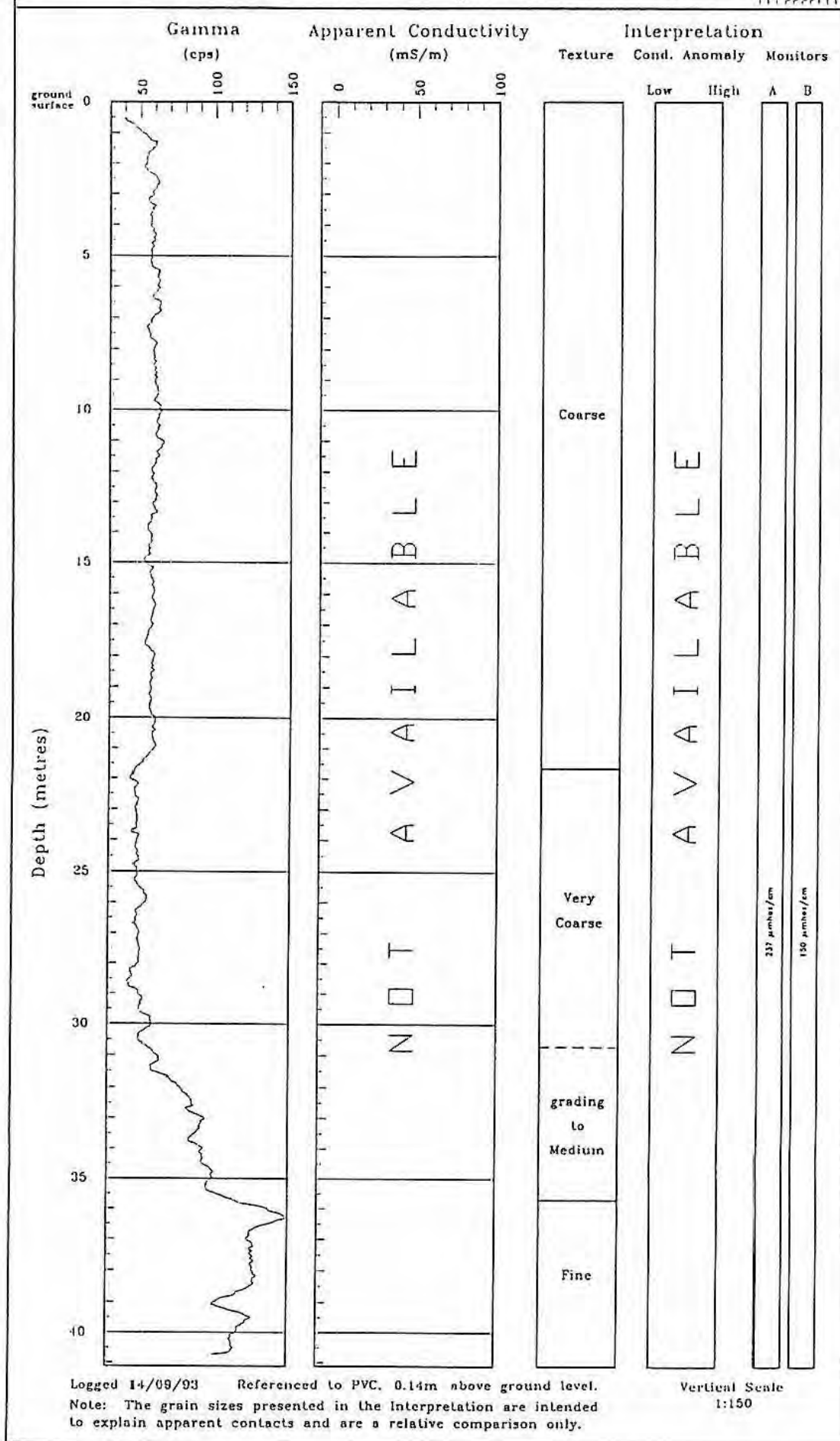
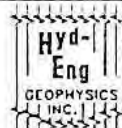
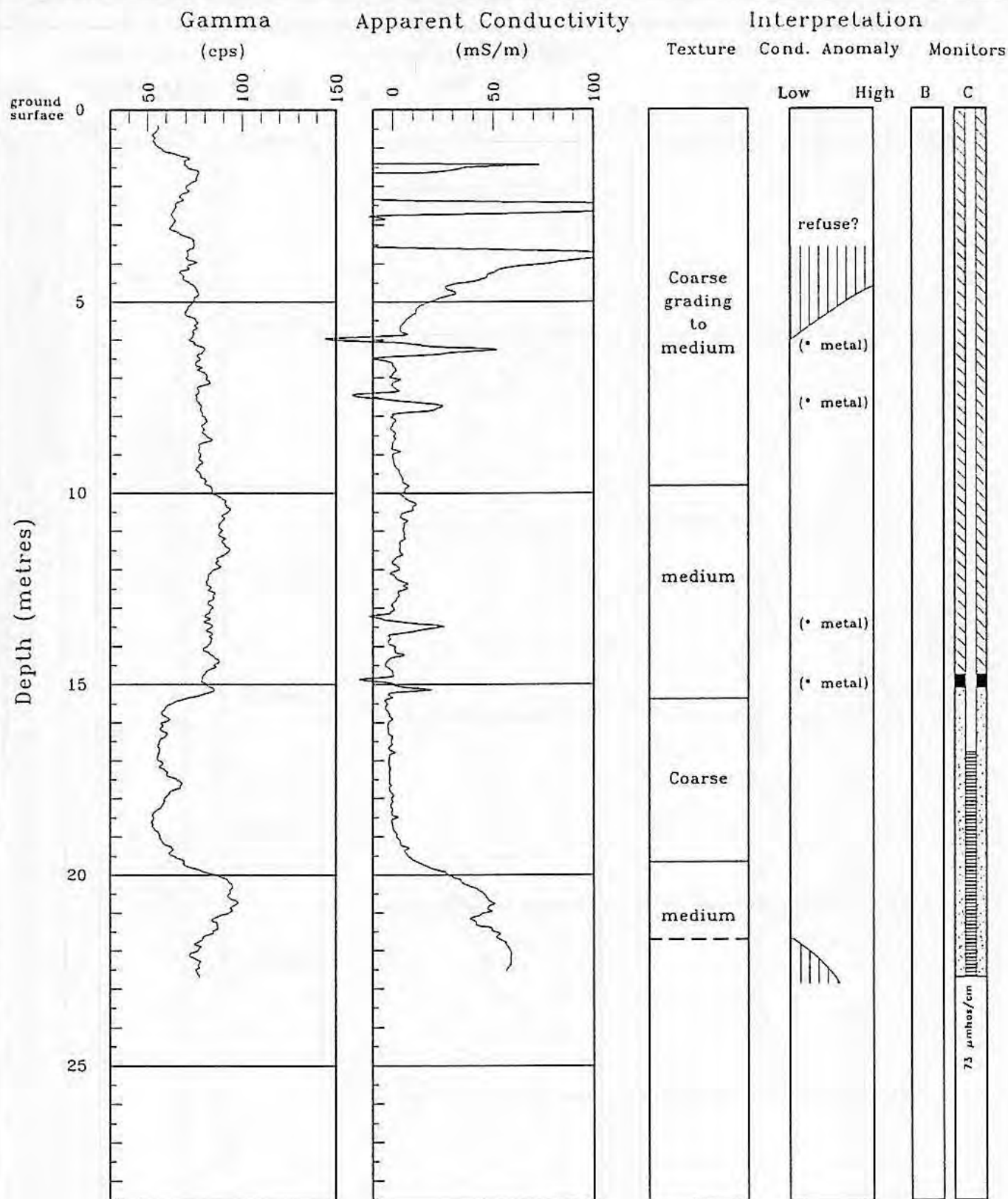
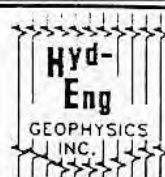


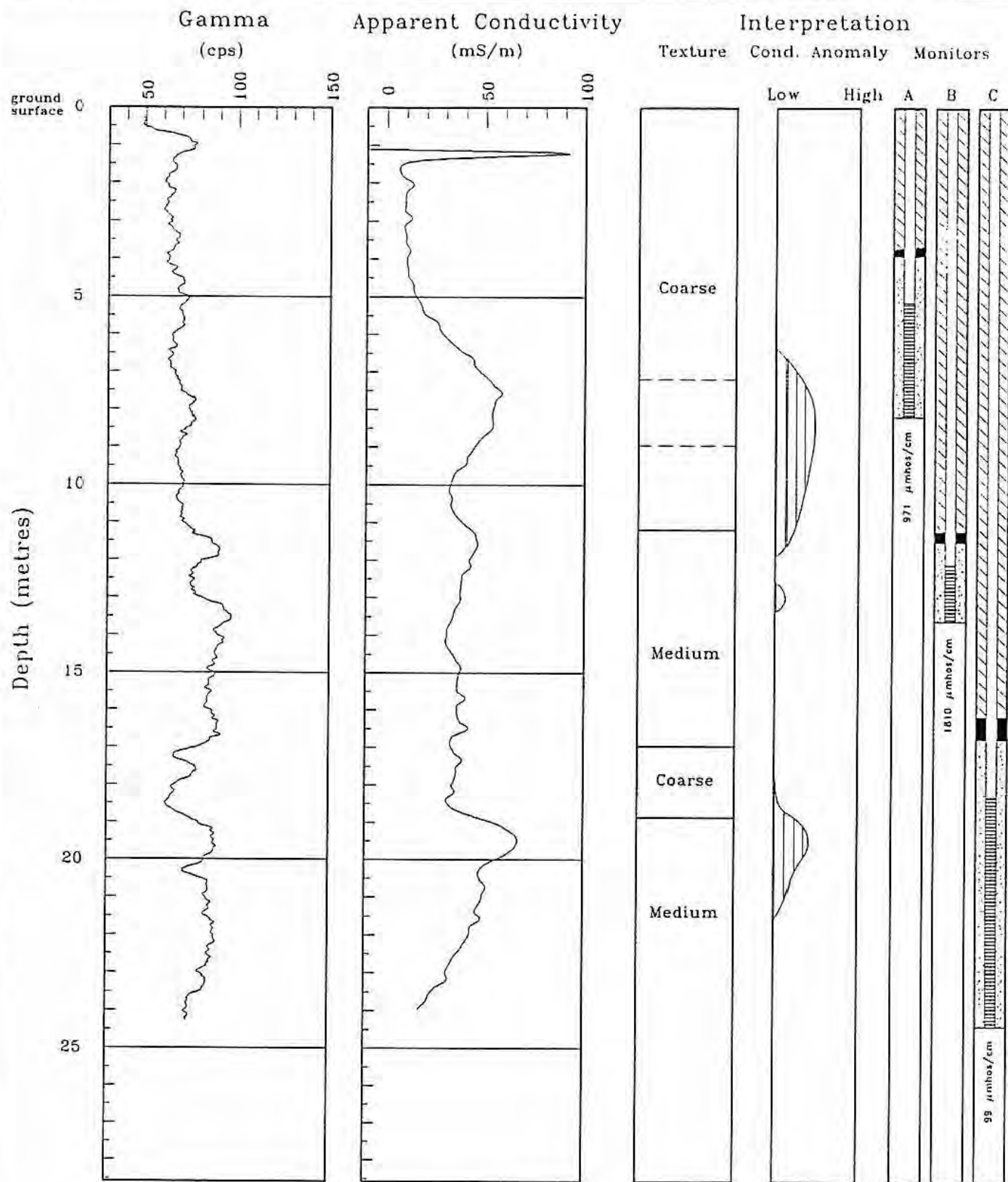
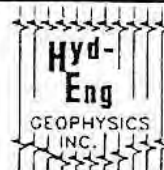
Figure 8: Borehole No. 21C Meadowview SW Disposal Closure



Logged 14/09/93 Referenced to PVC, 0.25m above ground level.
 Note: The grain sizes presented in the Interpretation are intended to explain apparent contacts and are a relative comparison only.

Vertical Scale
1:150

Figure 9: Borehole No. 22C Meadowview SW Disposal Closure

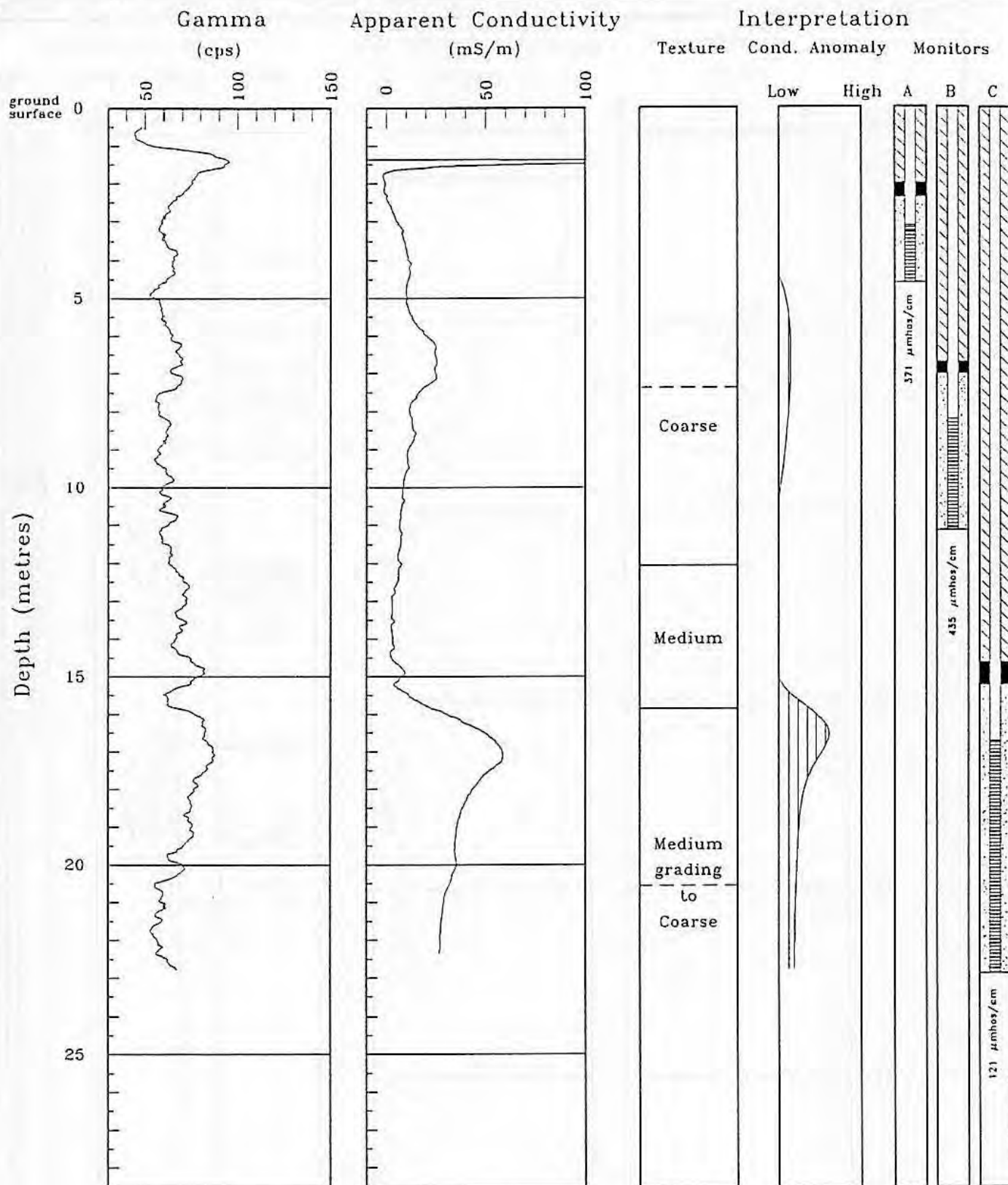


Logged 14/09/93 Referenced to PVC, 0.38m above ground level.

Note: The grain sizes presented in the Interpretation are intended to explain apparent contacts and are a relative comparison only.

Vertical Scale
1:150

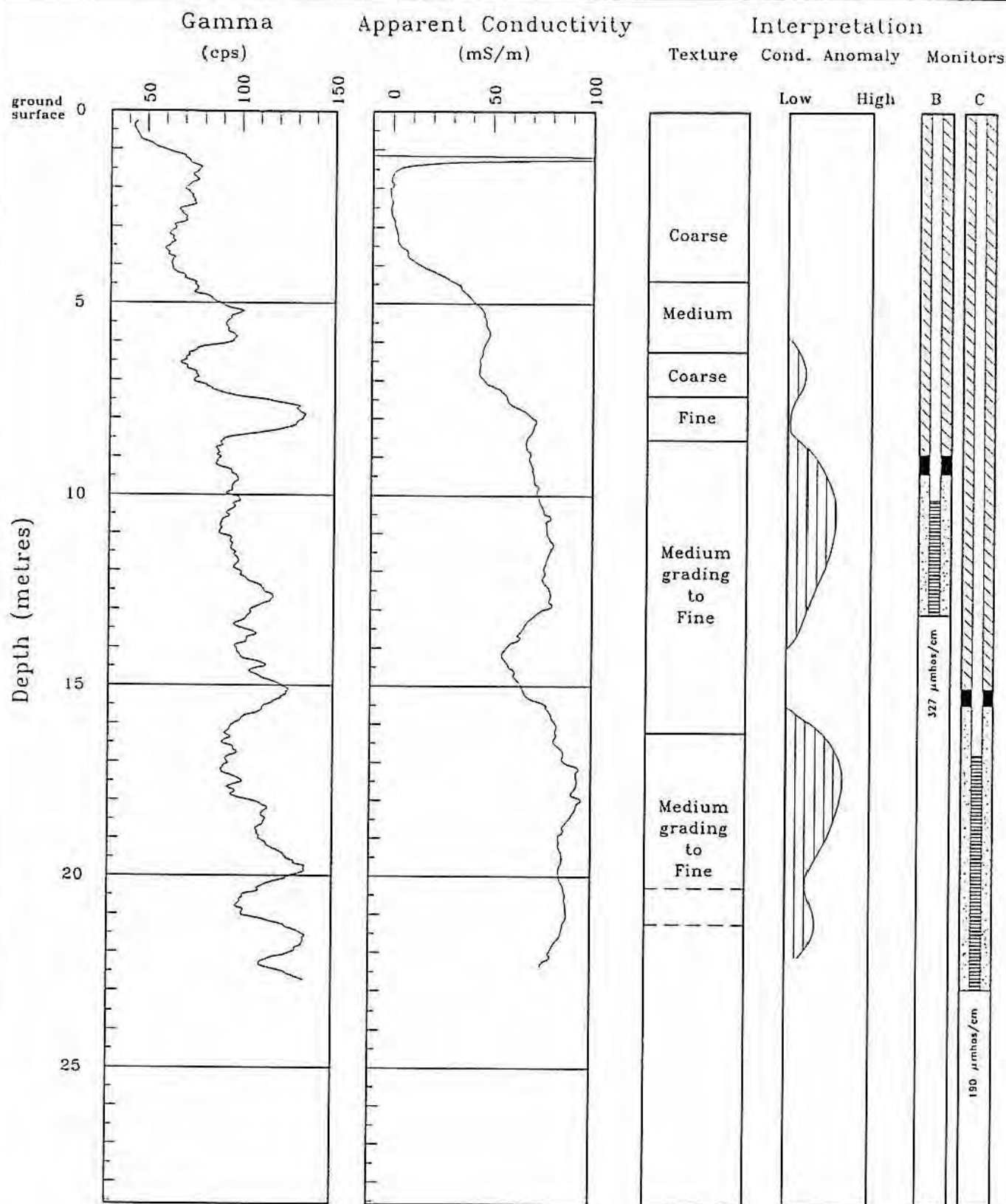
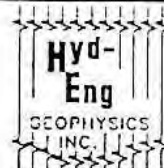
Figure 10: Borehole No. 23C Meadowview SW Disposal Closure



Logged 14/09/93 Referenced to PVC, 0.17m above ground level.
Note: The grain sizes presented in the Interpretation are intended to explain apparent contacts and are a relative comparison only.

Vertical Scale
1:150

Figure 11: Borehole No. 27C Meadowview SW Disposal Closure

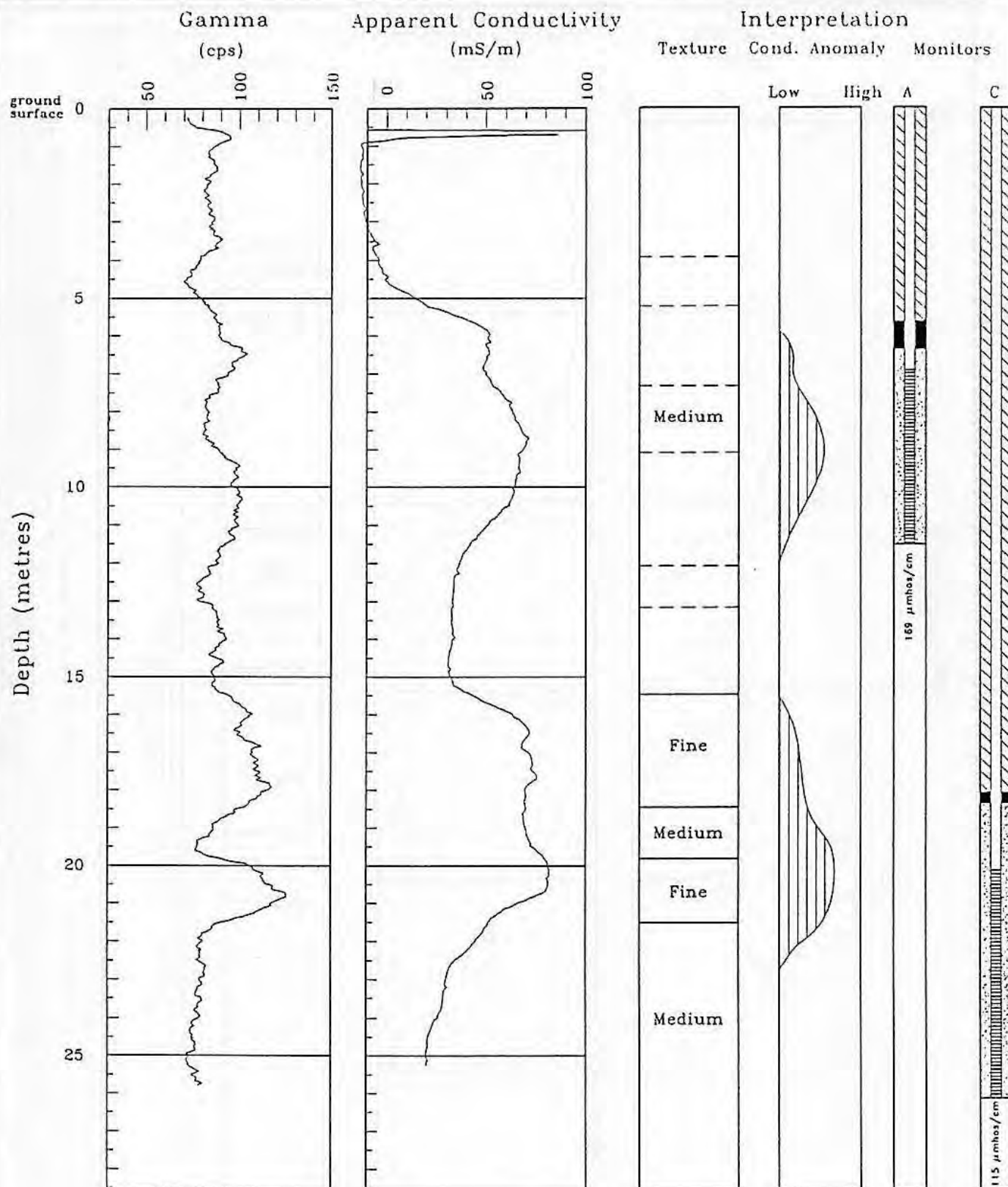


Logged 14/09/93 Referenced to casing, 0.17m above ground level.

Note: The grain sizes presented in the Interpretation are intended to explain apparent contacts and are a relative comparison only.

Vertical Scale
1:150

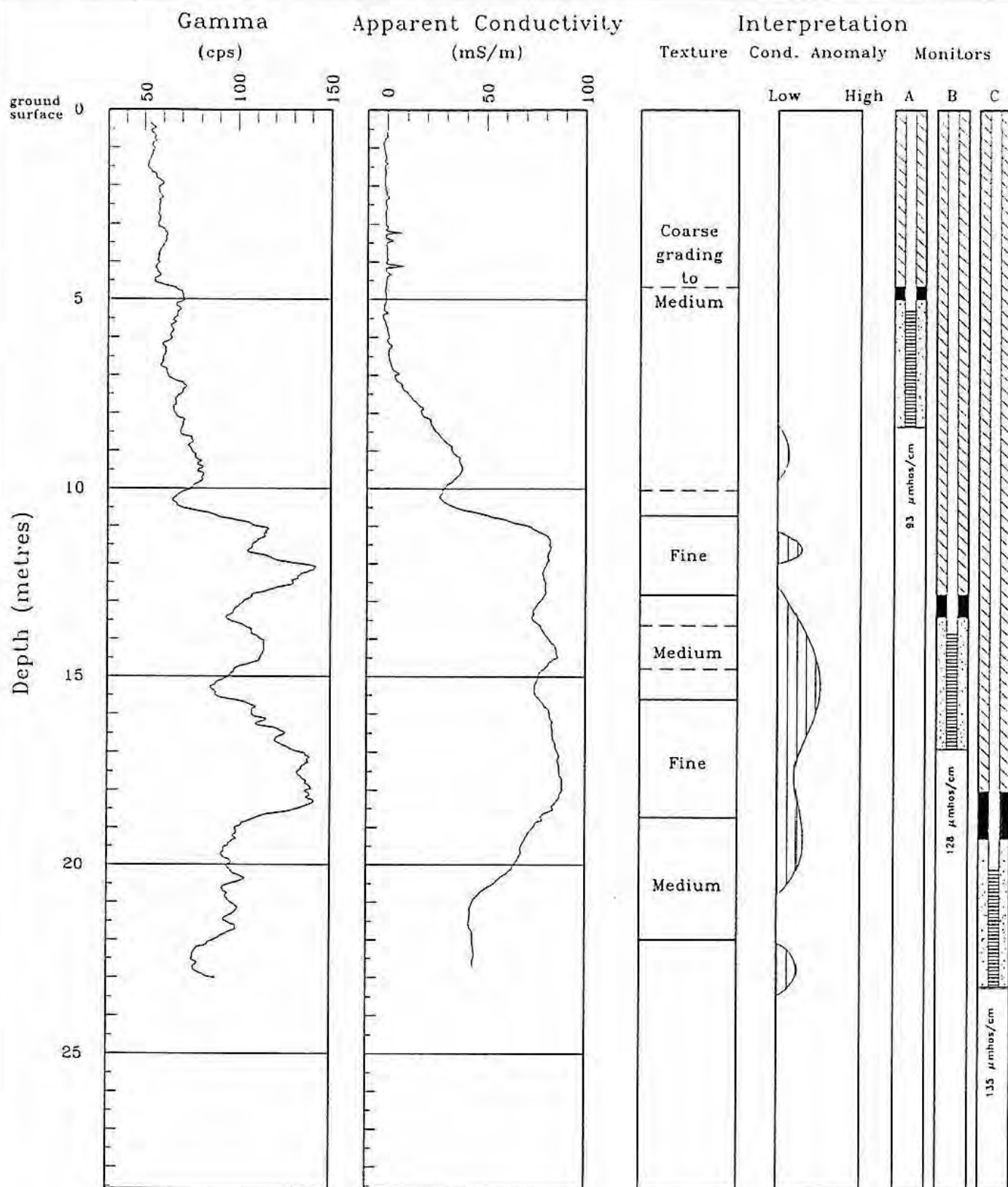
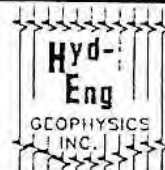
Figure 12: Borehole No. 30C Meadowview SW Disposal Closure



Logged 14/09/93 Referenced to PVC, 0.42m above ground level.
Note: The grain sizes presented in the Interpretation are intended to explain apparent contacts and are a relative comparison only.

Vertical Scale
1:150

Figure 13: Borehole No. 31C Meadowview SW Disposal Closure



Logged 14/09/93 Referenced to PVC, 0.30m above ground level.
 Note: The grain sizes presented in the Interpretation are intended to explain apparent contacts and are a relative comparison only.

Vertical Scale
1:150

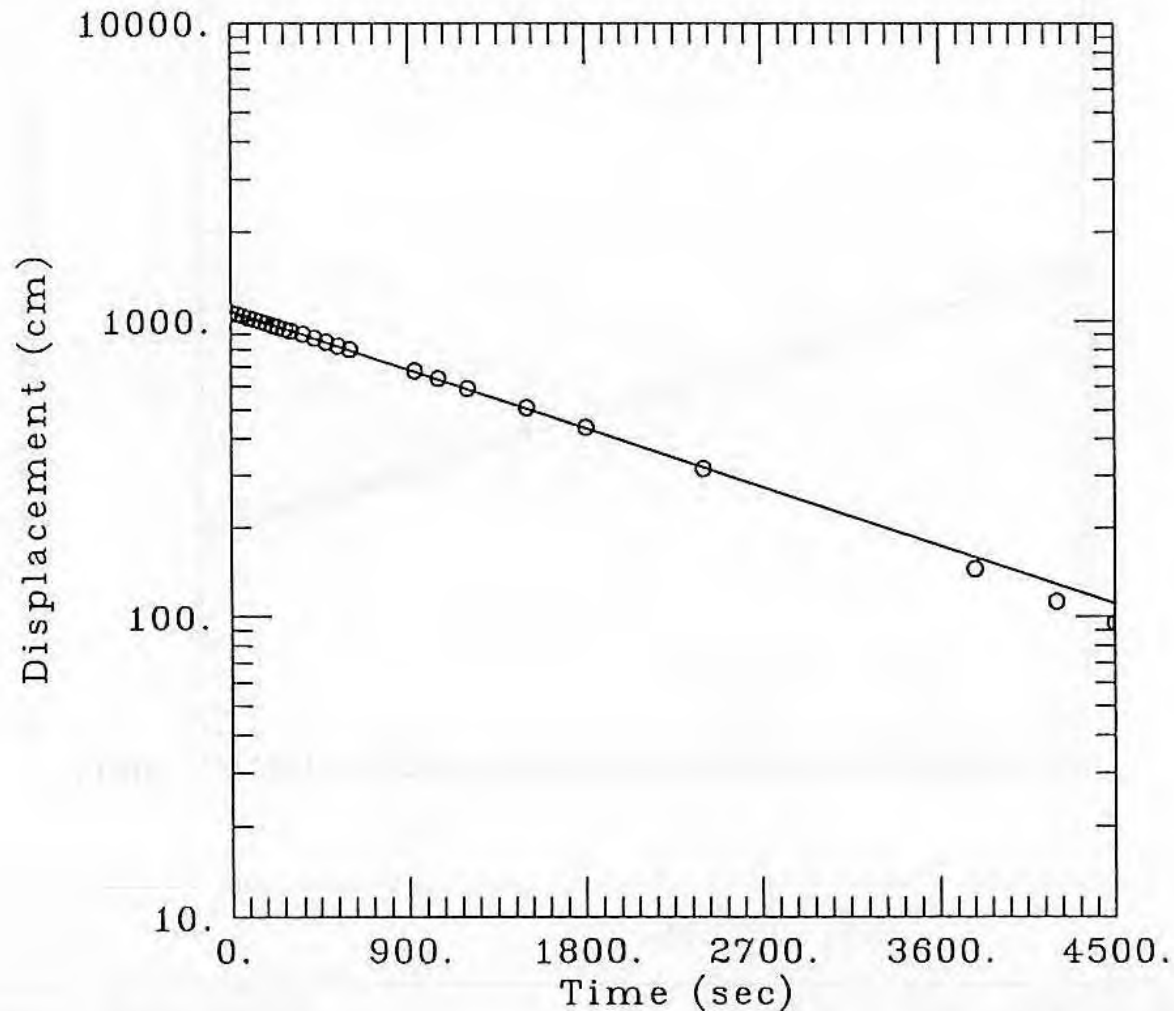
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 1B



DATA SET:

a: 1b.dat

01/20/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

14 OCTOBER, 1993

TEST WELL:

1B

ESTIMATED PARAMETERS:

$K = 3.157E-05$ cm/sec

$y_0 = 1070.4$ cm

TEST DATA:

$H_0 = 1062$ cm

$r_c = 1.59$ cm

$r_w = 5.08$ cm

$L = 20$ cm

$b = 4000$ cm

$H = 1180$ cm

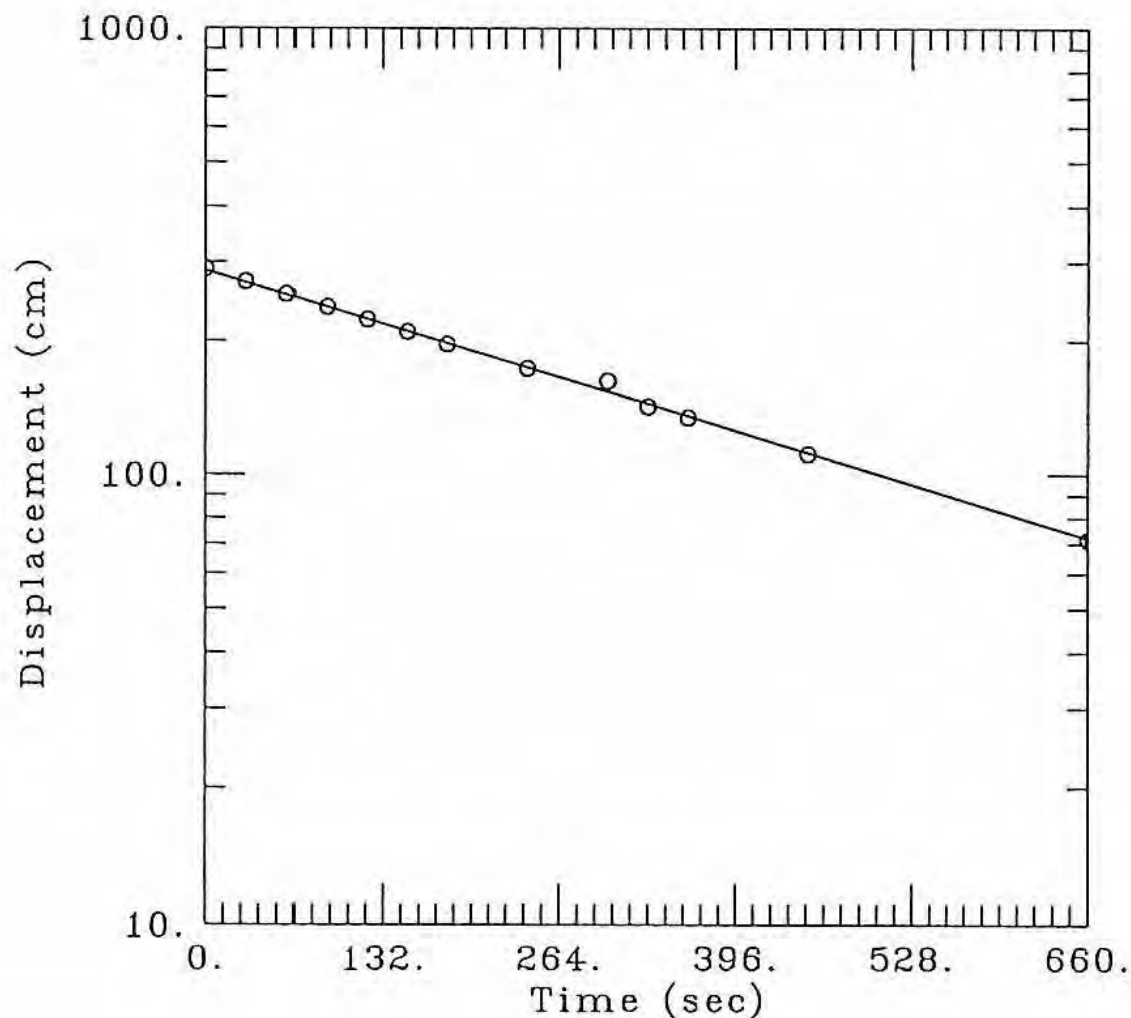
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 5B



DATA SET:

a: 5b.dat

01/20/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

15 OCTOBER, 1993

TEST WELL:

5B

ESTIMATED PARAMETERS:

$K = 9.1393E-05$ cm/sec

$y_0 = 287.3$ cm

TEST DATA:

$H_0 = 289.1$ cm

$r_c = 1.59$ cm

$r_w = 7.62$ cm

$L = 20.$ cm

$b = 5000.$ cm

$H = 775.6$ cm

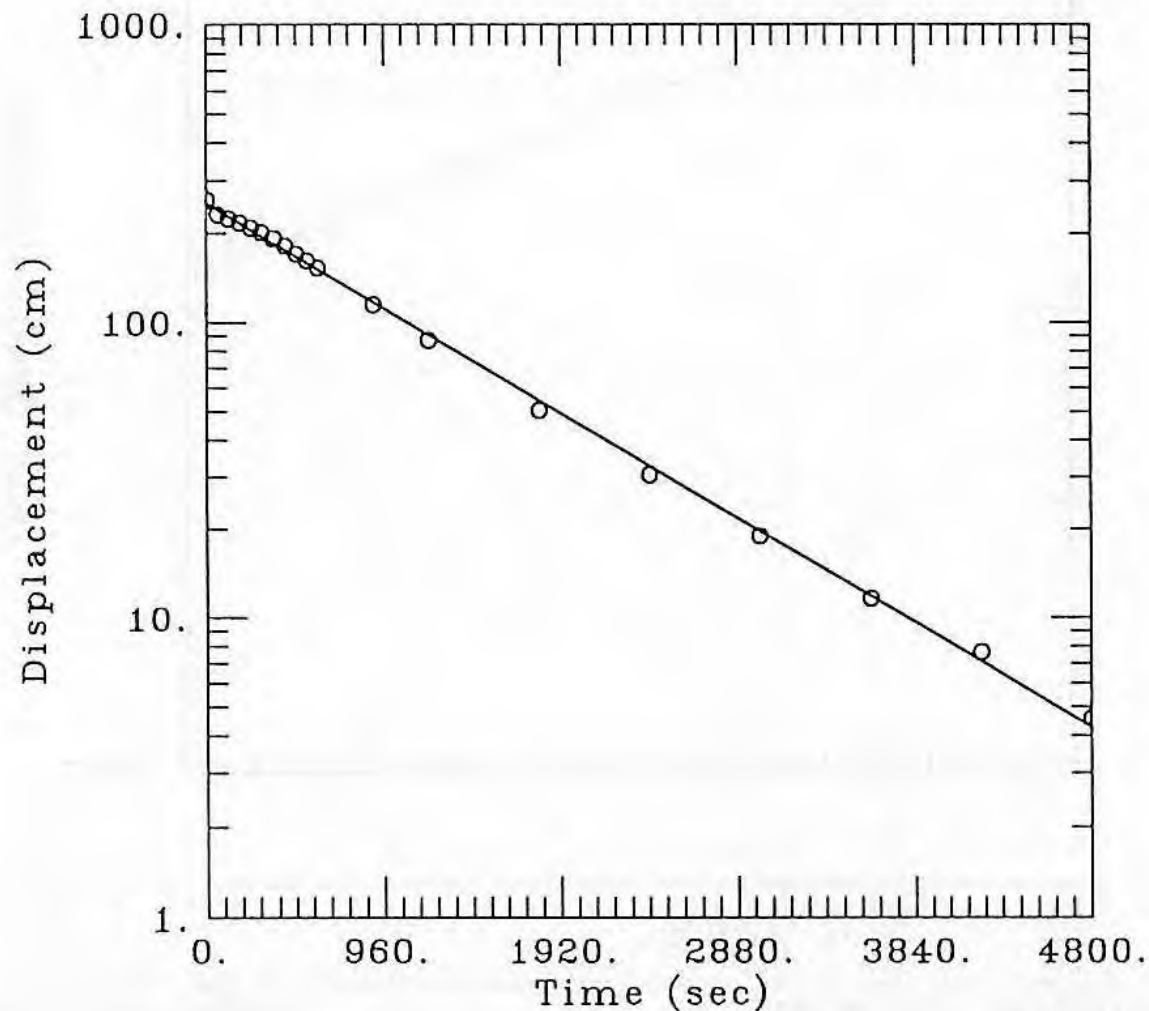
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 6B



DATA SET:

A: 6B.DAT

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

8 OCTOBER, 1993

TEST WELL:

6B

ESTIMATED PARAMETERS:

$K = 2.4944E-05$ cm/sec

$y_0 = 251.6$ cm

TEST DATA:

$H_0 = 257.9$ cm

$r_c = 1.588$ cm

$r_w = 7.62$ cm

$L = 60.04$ cm

$b = 1828.8$ cm

$H = 257.9$ cm

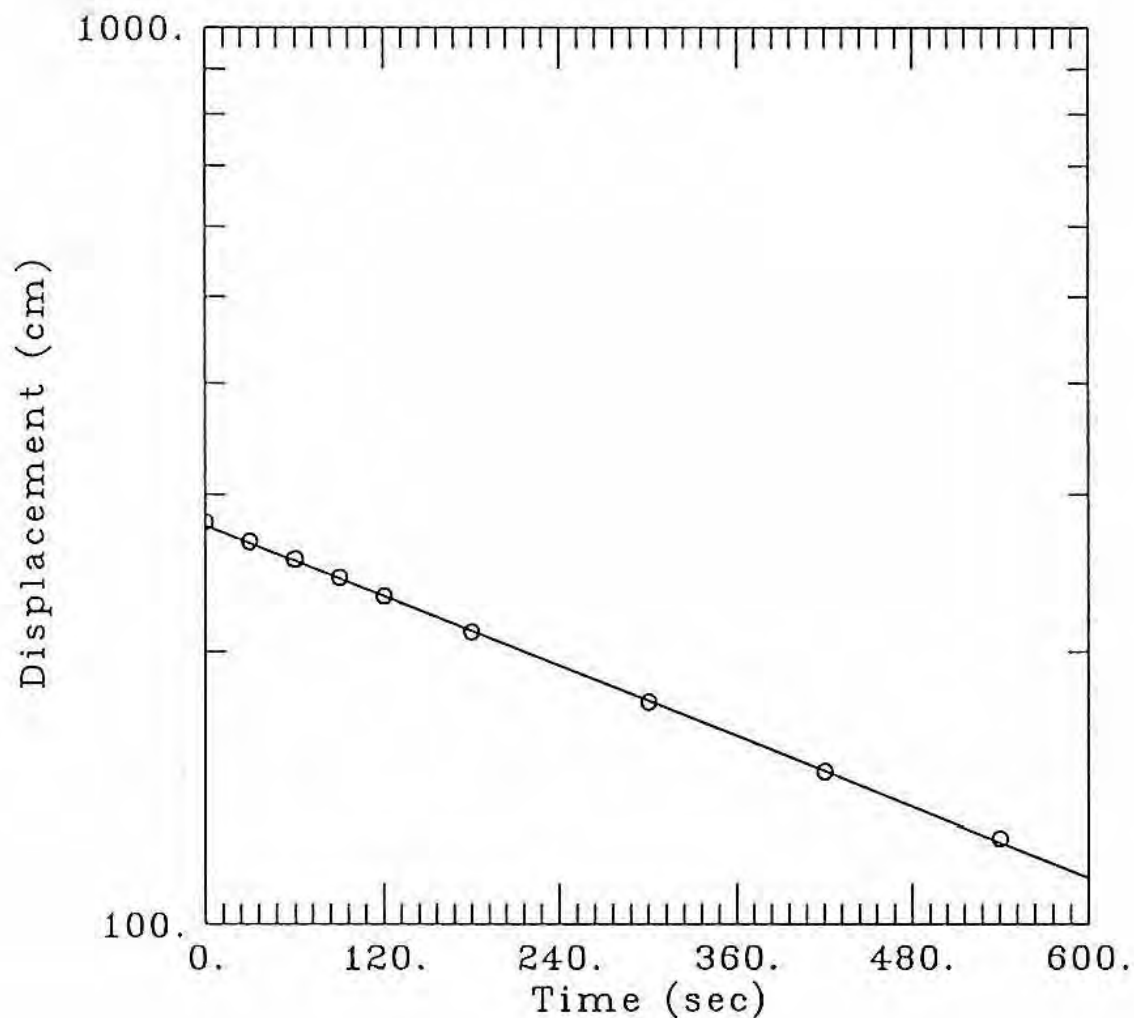
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 9



DATA SET:

a: 9.dat

01/20/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

19 OCTOBER, 1993

TEST WELL:

9

ESTIMATED PARAMETERS:

$K = 7.7263E-05$ cm/sec

$y_0 = 276.4$ cm

TEST DATA:

$H_0 = 278.9$ cm

$r_c = 1.588$ cm

$r_w = 7.62$ cm

$L = 10.$ cm

$b = 2743.2$ cm

$H = 367.9$ cm

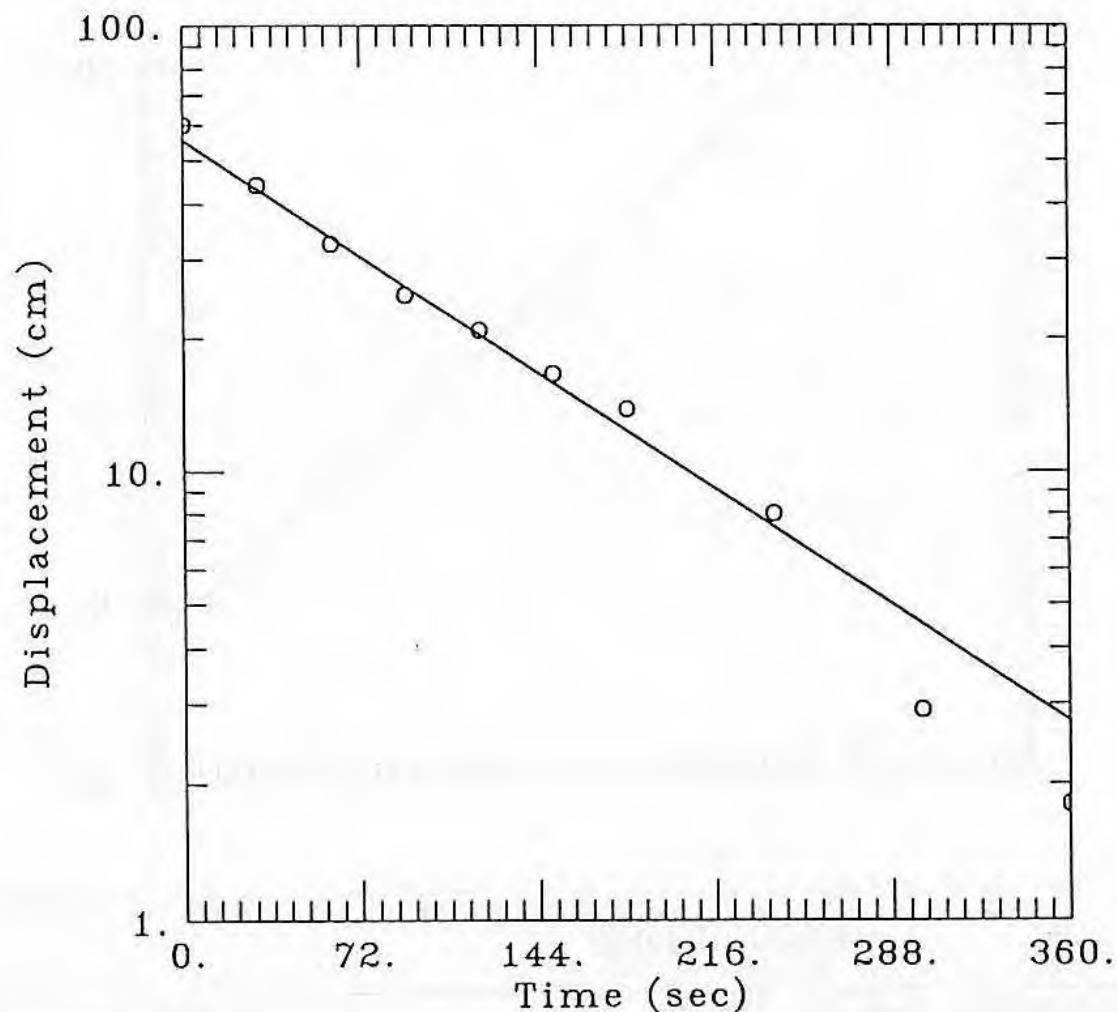
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 12A



DATA SET:

A: 12A.DAT

01/19/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

7 OCTOBER, 1993

TEST WELL:

12A

ESTIMATED PARAMETERS:

$K = 0.000165$ cm/sec

$y_0 = 55.5$ cm

TEST DATA:

$H_0 = 60.$ cm

$r_c = 2.54$ cm

$r_w = 11.43$ cm

$L = 300.$ cm

$b = 3000.$ cm

$H = 211.5$ cm

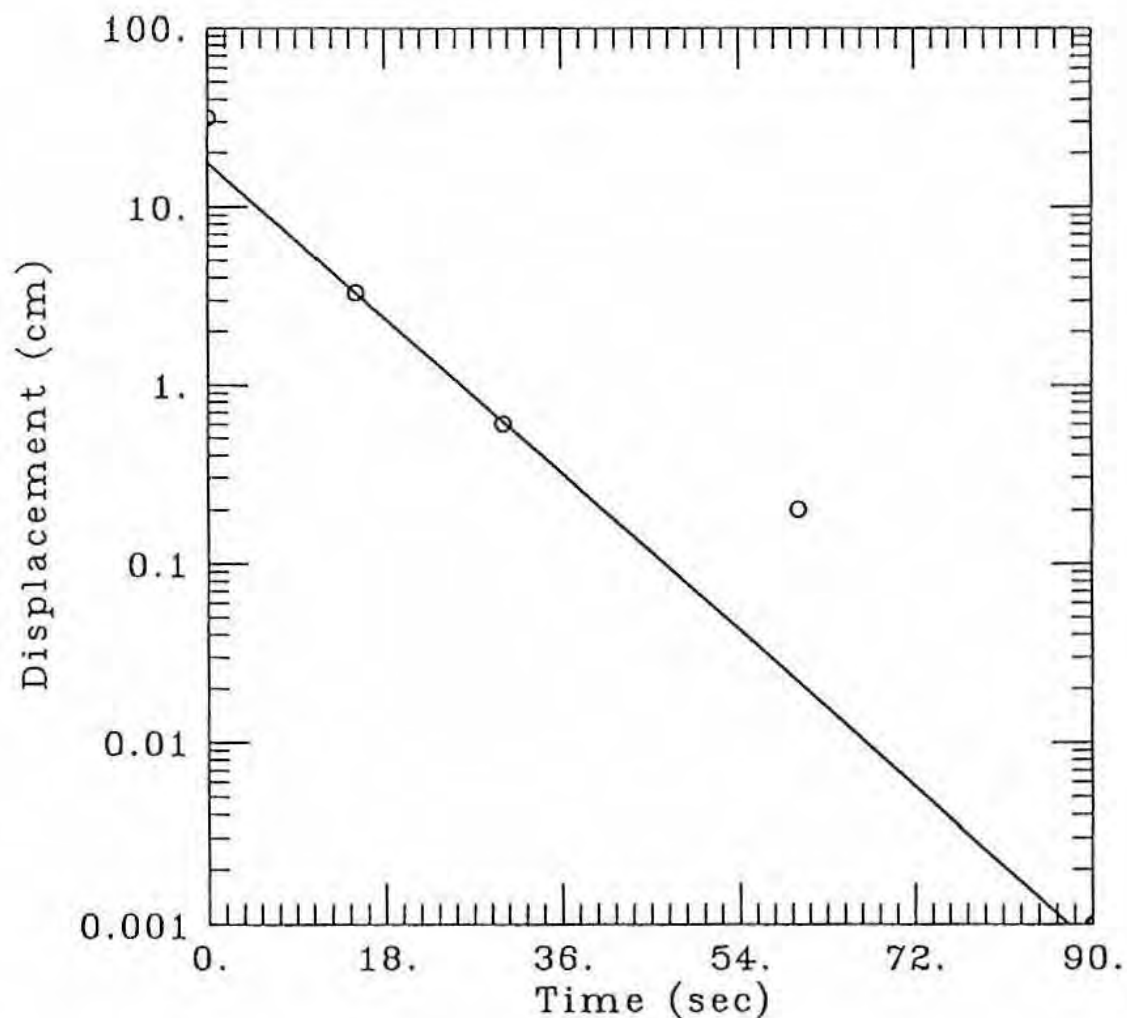
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 12B



DATA SET:

a: 12b.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

7 OCTOBER, 1993

TEST WELL:

12B

ESTIMATED PARAMETERS:

$K = 0.003484$ cm/sec

$y_0 = 17.58$ cm

TEST DATA:

$H_0 = 31.3$ cm

$r_c = 2.54$ cm

$r_w = 6.35$ cm

$L = 310.$ cm

$b = 3000.$ cm

$H = 1088.$ cm

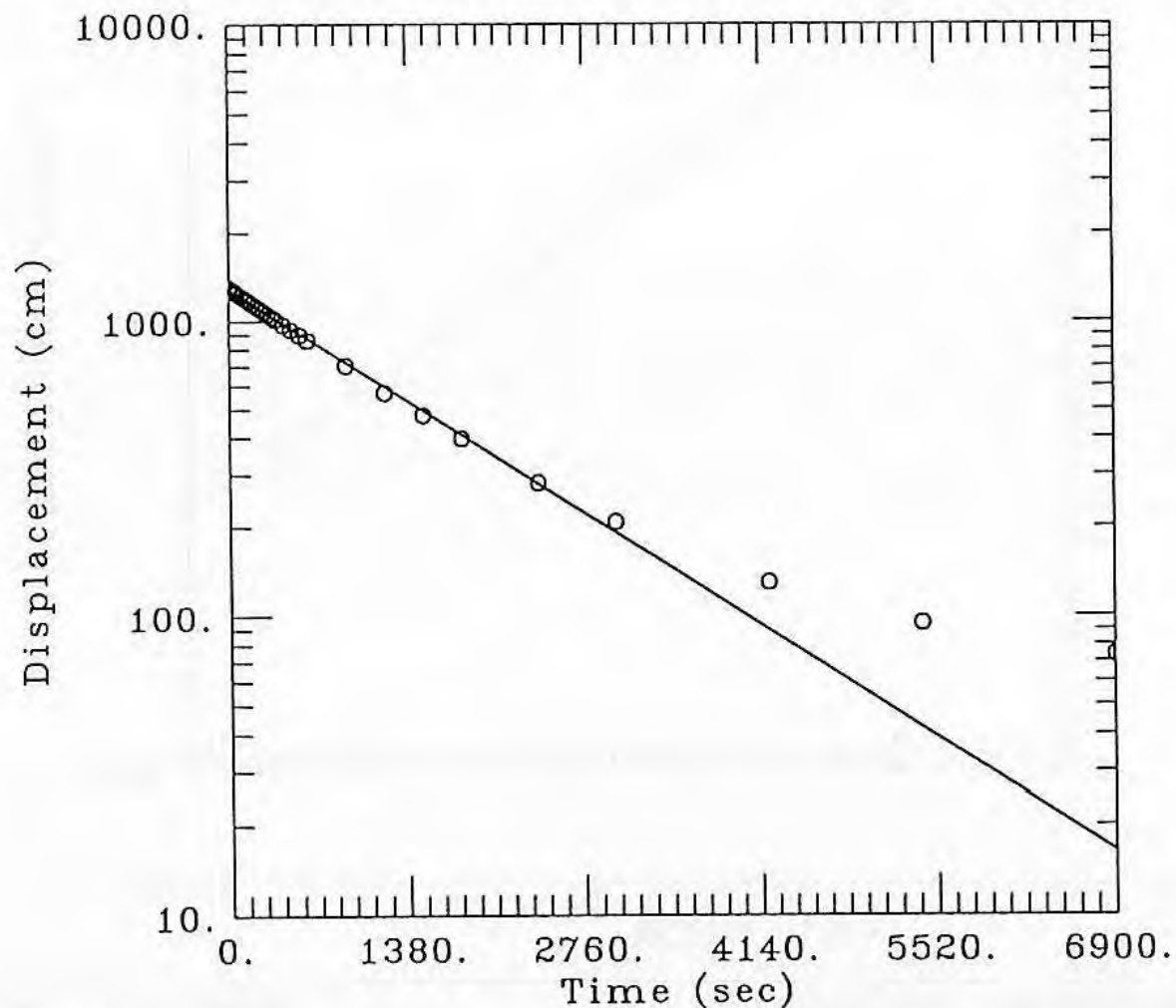
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 13C



DATA SET:

a: 13b.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

29 SEPTEMBER, 1993

TEST WELL:

13B

ESTIMATED PARAMETERS:

$K = 1.2939E-05$ cm/sec

$y_0 = 1278$ cm

TEST DATA:

$H_0 = 1298.8$ cm

$r_c = 2.54$ cm

$r_w = 4.8$ cm

$L = 610$ cm

$b = 5000$ cm

$H = 2198$ cm

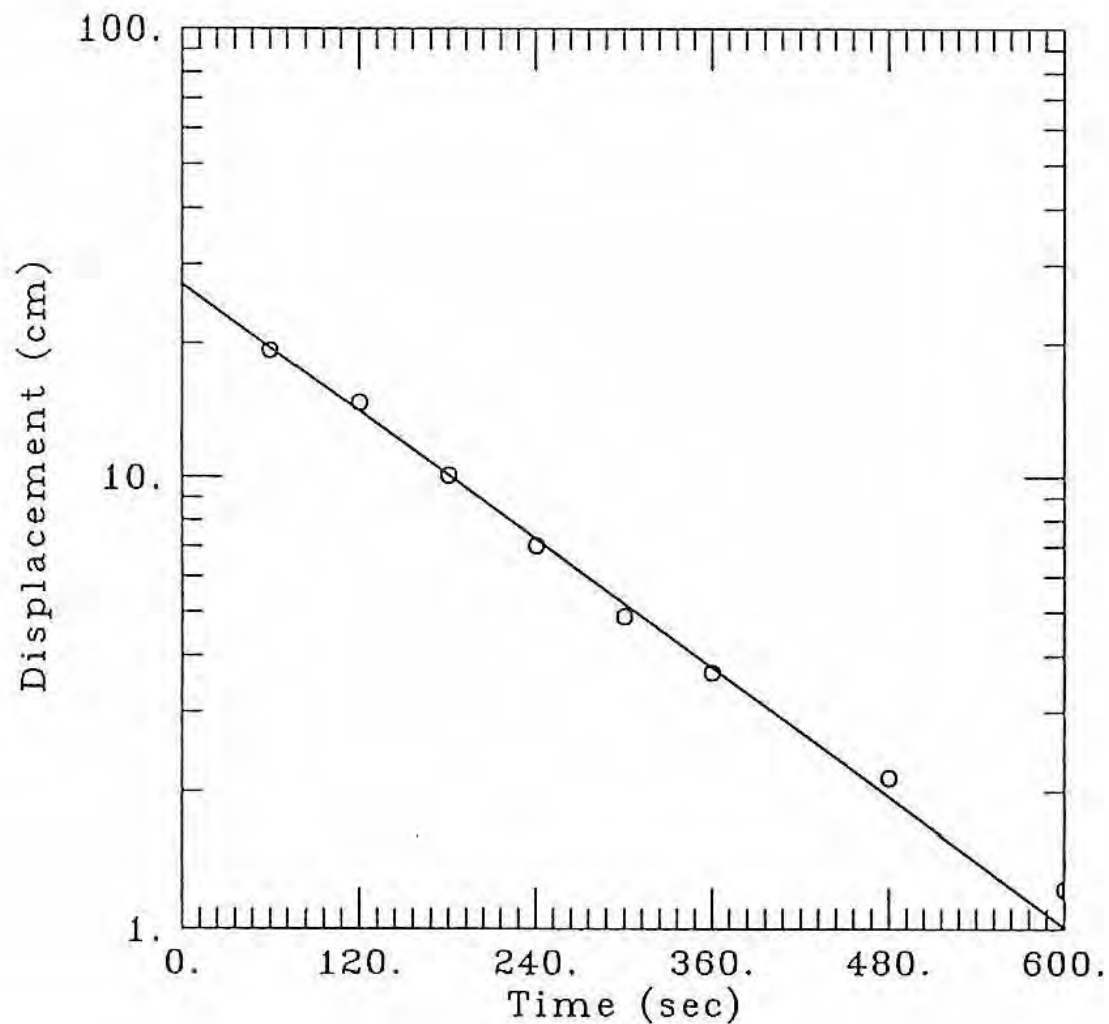
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 19A



DATA SET:

a: 19at.dat

01/20/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

6 OCTOBER, 1993

TEST WELL:

19A

ESTIMATED PARAMETERS:

$K = 0.0001457$ cm/sec

$y_0 = 27.06$ cm

TEST DATA:

$H_0 = 136.6$ cm

$r_c = 2.539$ cm

$r_w = 7.6$ cm

$L = 330.$ cm

$b = 457.2$ cm

$H = 393.2$ cm

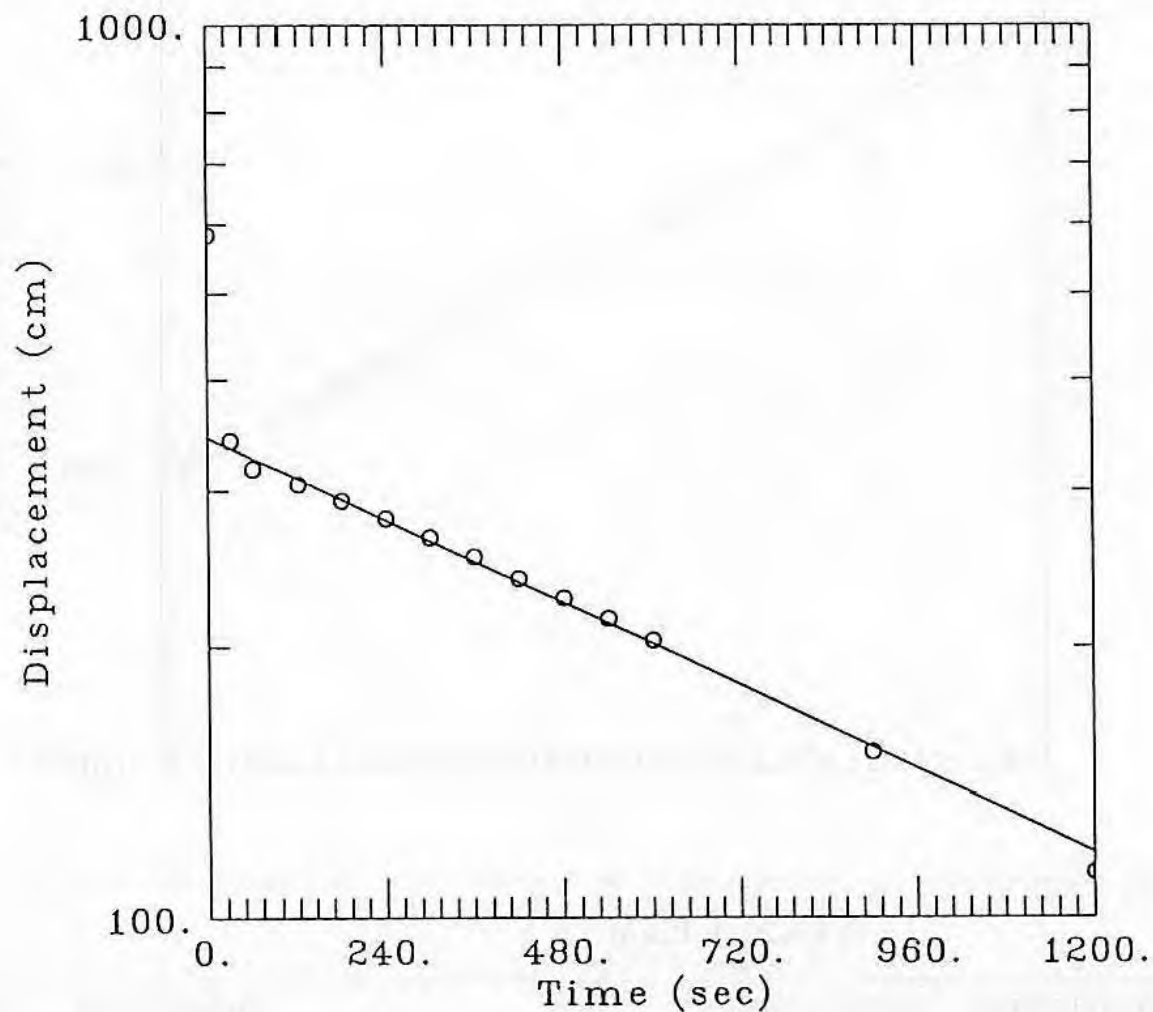
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 19B



DATA SET:

a: 19bt.dat

01/20/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

6 OCTOBER, 1993

TEST WELL:

19B

ESTIMATED PARAMETERS:

$K = 1.1421E-05$ cm/sec

$y_0 = 344.$ cm

TEST DATA:

$H_0 = 582.2$ cm

$r_c = 2.539$ cm

$r_w = 7.6$ cm

$L = 914.4$ cm

$b = 3352.8$ cm

$H = 1895.8$ cm

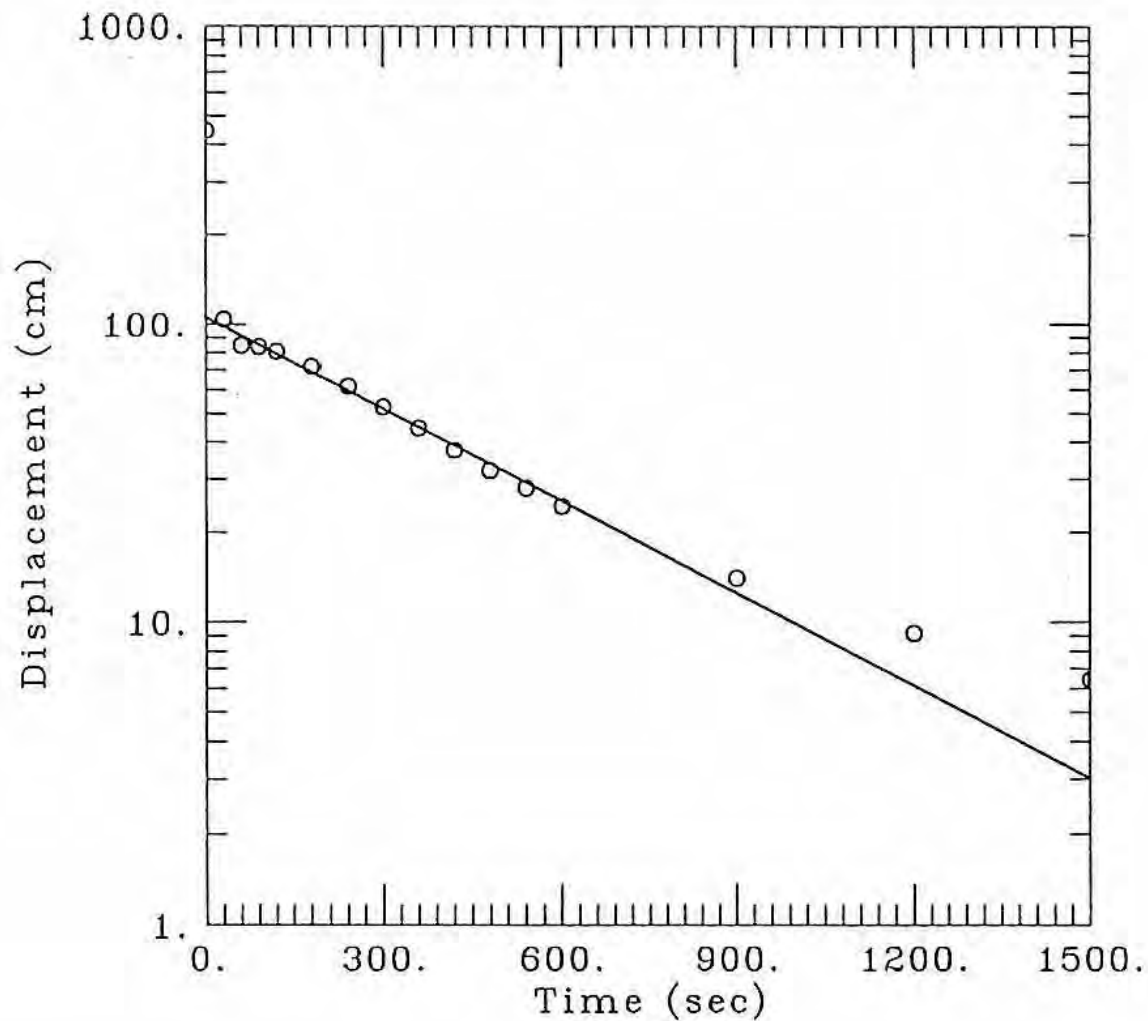
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 20A



DATA SET:

a: 20at.dat

01/20/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

6 OCTOBER, 1993

TEST WELL:

20A

ESTIMATED PARAMETERS:

$K = 7.6594E-05$ cm/sec

$y_0 = 105.6$ cm

TEST DATA:

$H_0 = 444.9$ cm

$r_c = 2.538$ cm

$r_w = 7.6$ cm

$L = 304.7$ cm

$b = 800.$ cm

$H = 757.2$ cm

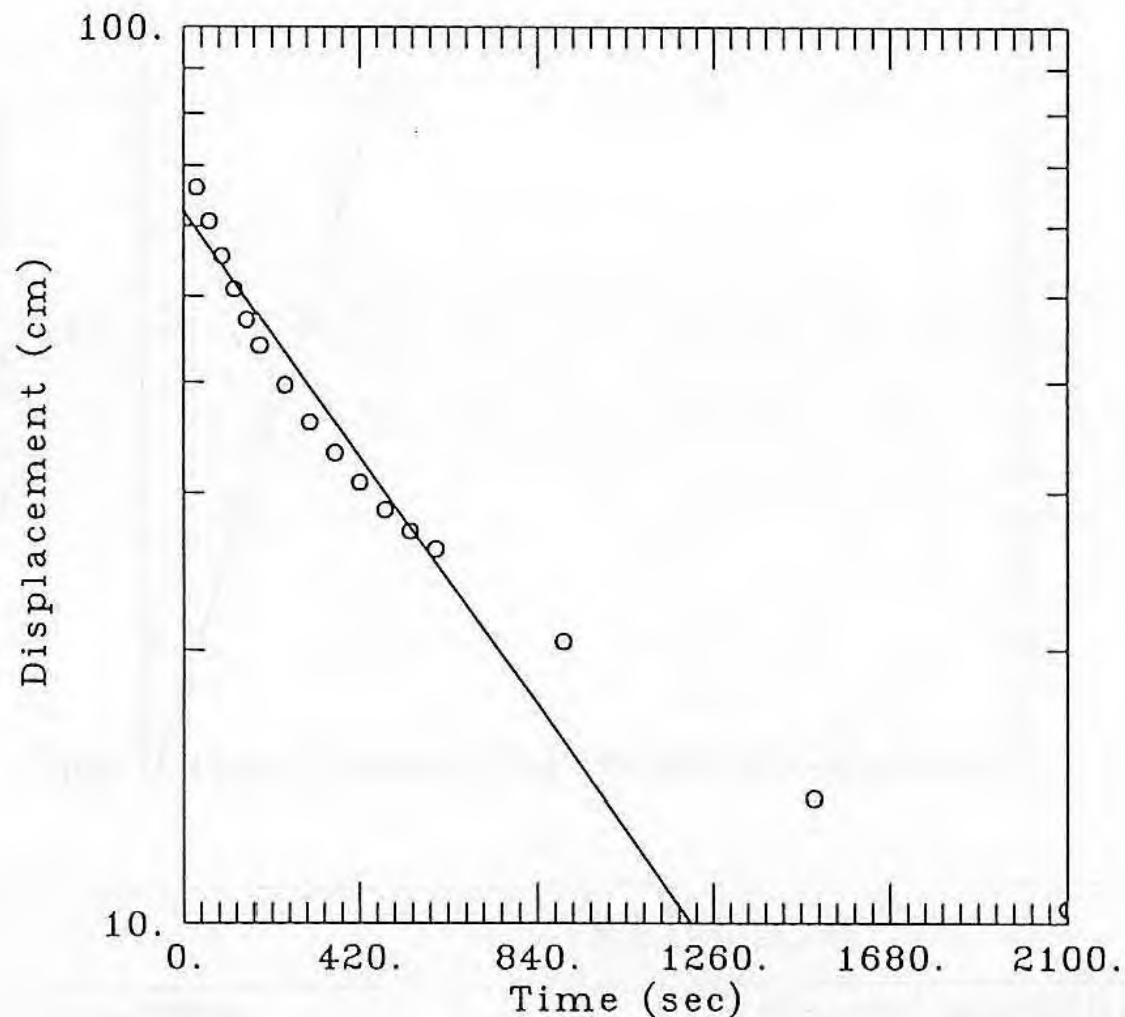
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 20B



DATA SET:

a: 20bt.dat

01/20/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

6 OCTOBER, 1993

TEST WELL:

20B

ESTIMATED PARAMETERS:

$K = 1.9239E-05$ cm/sec

$y_0 = 62.18$ cm

TEST DATA:

$H_0 = 232.3$ cm

$r_c = 2.539$ cm

$r_w = 7.6$ cm

$L = 914.4$ cm

$b = 3591.$ cm

$H = 1813.6$ cm

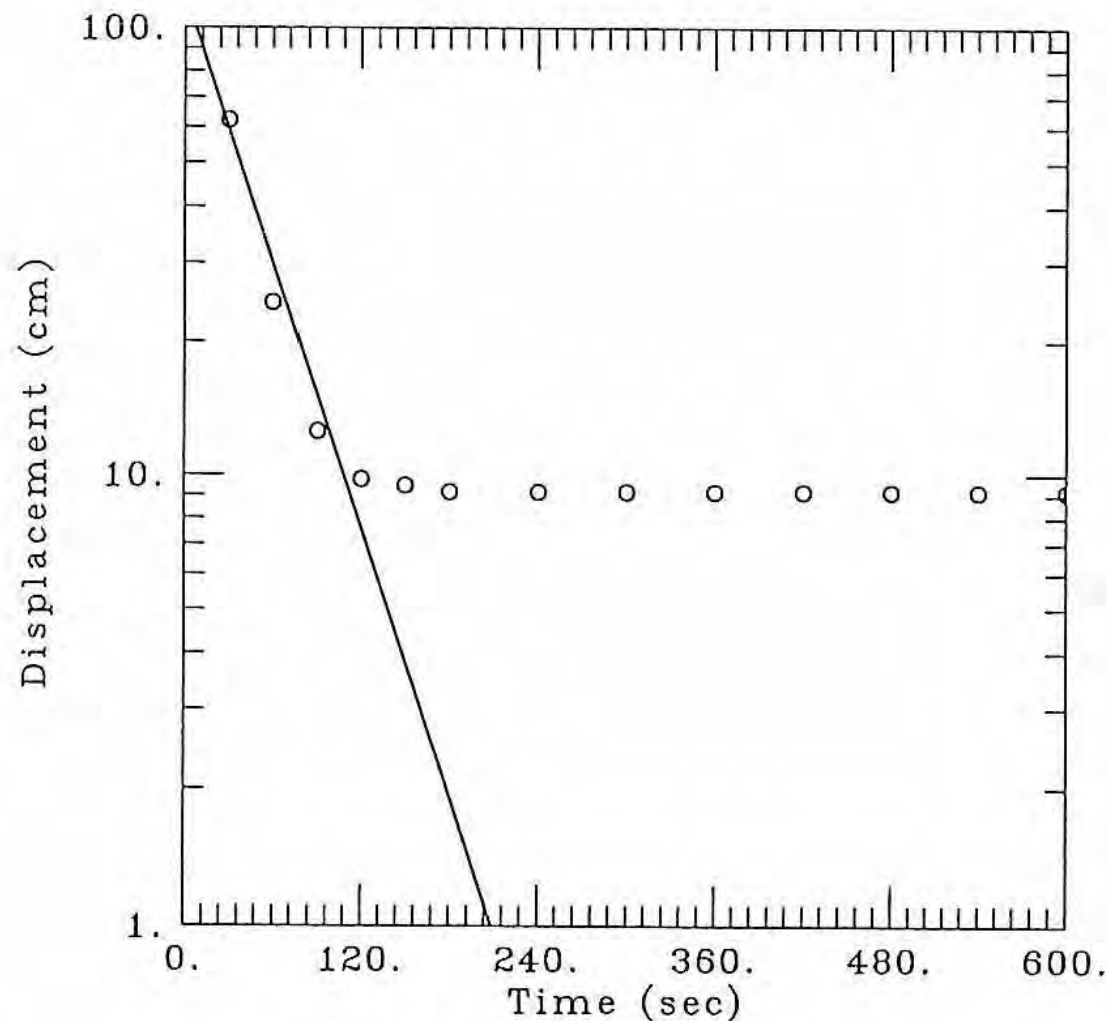
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 22A



DATA SET:

A: 22A.DAT

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

28 SEPTEMBER, 1993

TEST WELL:

22A

ESTIMATED PARAMETERS:

$K = 0.0005678$ cm/sec

$y_0 = 118.6$ cm

TEST DATA:

$H_0 = 224.9$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 304.8$ cm

$b = 1645.9$ cm

$H = 624.8$ cm

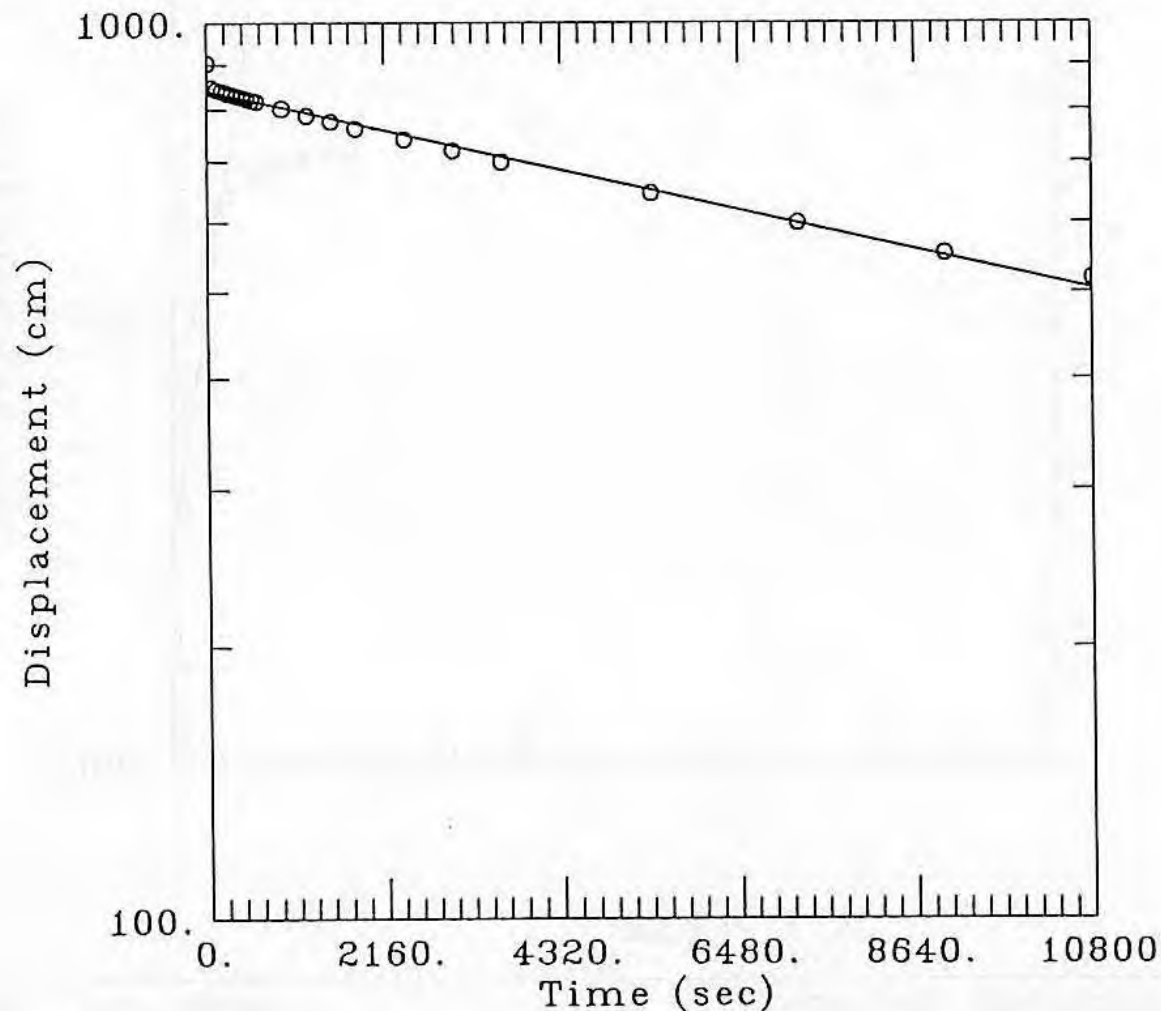
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 22B



DATA SET:

a: 22b.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

28 SEPTEMBER, 1993

TEST WELL:

22B

ESTIMATED PARAMETERS:

$K = 2.1361E-06$ cm/sec

$y_0 = 839.9$ cm

TEST DATA:

$H_0 = 901.6$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 152.4$ cm

$b = 1615.4$ cm

$H = 1138.1$ cm

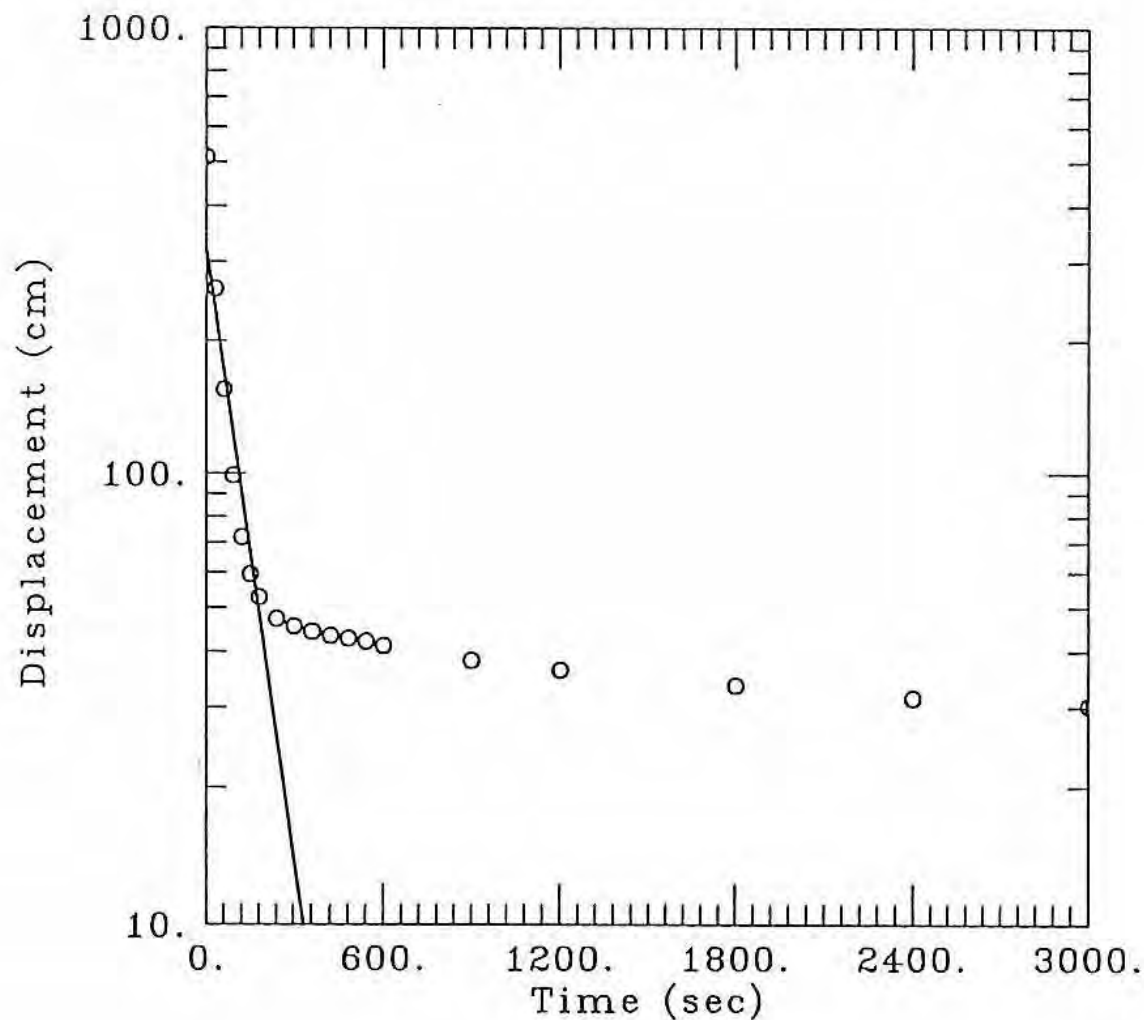
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 22C



DATA SET:

A: 22C.DAT

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

29 SEPTEMBER, 1993

TEST WELL:

22C

ESTIMATED PARAMETERS:

$K = 0.0002128$ cm/sec

$y_0 = 317.8$ cm

TEST DATA:

$H_0 = 513.$ cm

$r_c = 2.539$ cm

$r_w = 4.8$ cm

$L = 609.6$ cm

$b = 3657.6$ cm

$H = 2097.9$ cm

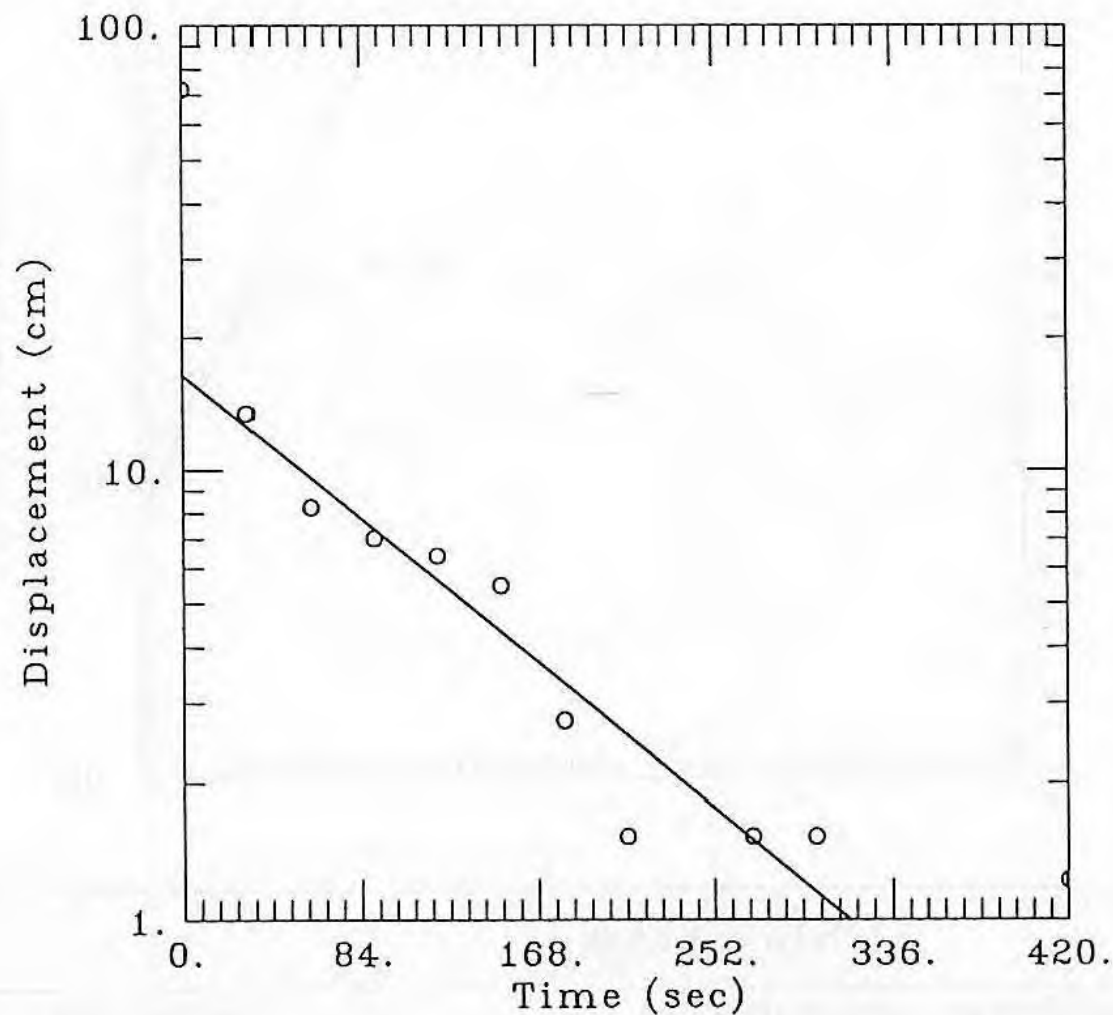
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 23A



DATA SET:

A: 23A.DAT

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

28 SEPTEMBER, 1993

TEST WELL:

23A

ESTIMATED PARAMETERS:

$K = 0.0002921$ cm/sec

$y_0 = 16.39$ cm

TEST DATA:

$H_0 = 71.93$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 152.4$ cm

$b = 2133.6$ cm

$H = 204.2$ cm

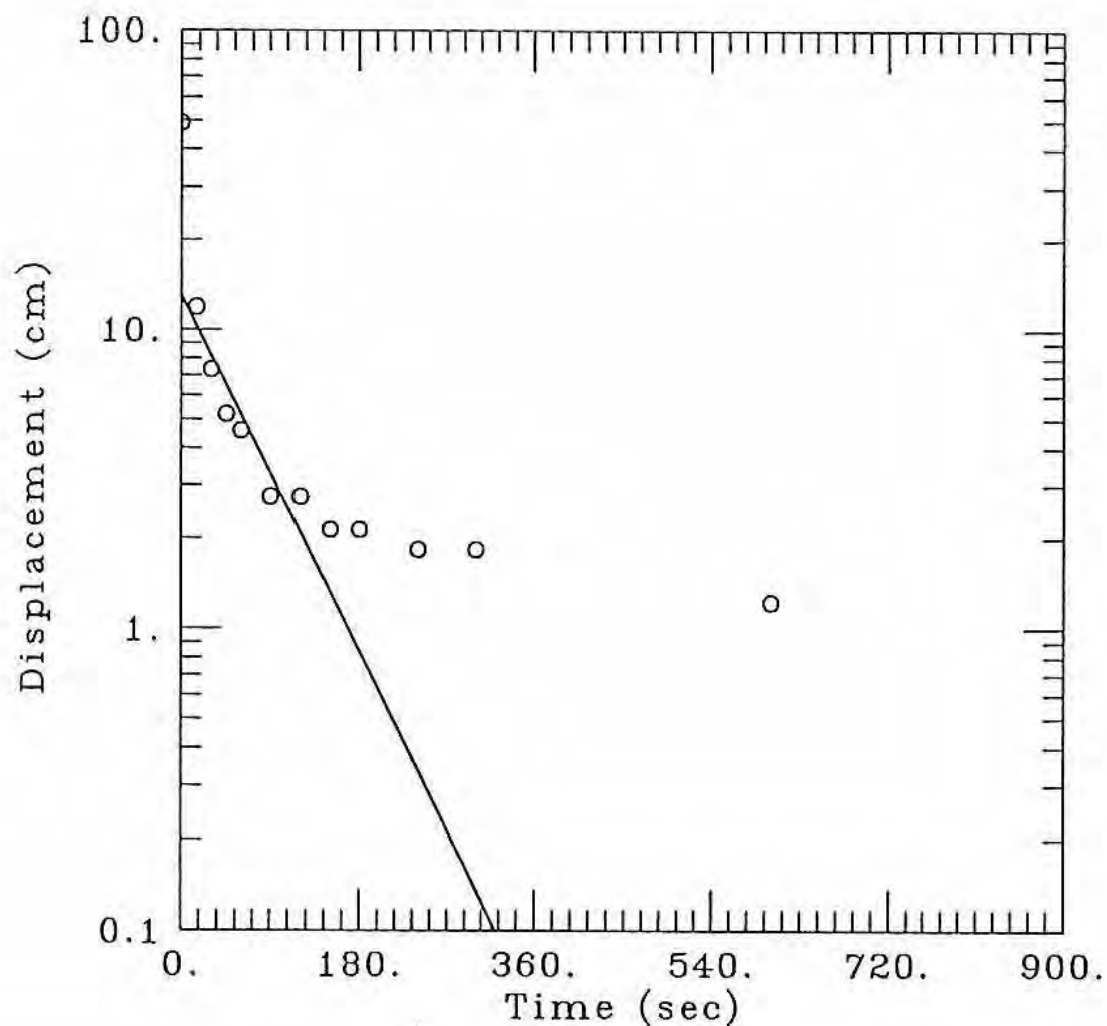
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 23B



DATA SET:

A: 23B.DAT

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

28 SEPTEMBER, 1993

TEST WELL:

23B

ESTIMATED PARAMETERS:

$K = 0.0003924$ cm/sec

$y_0 = 12.91$ cm

TEST DATA:

$H_0 = 49.07$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 304.8$ cm

$b = 2133.6$ cm

$H = 859.2$ cm

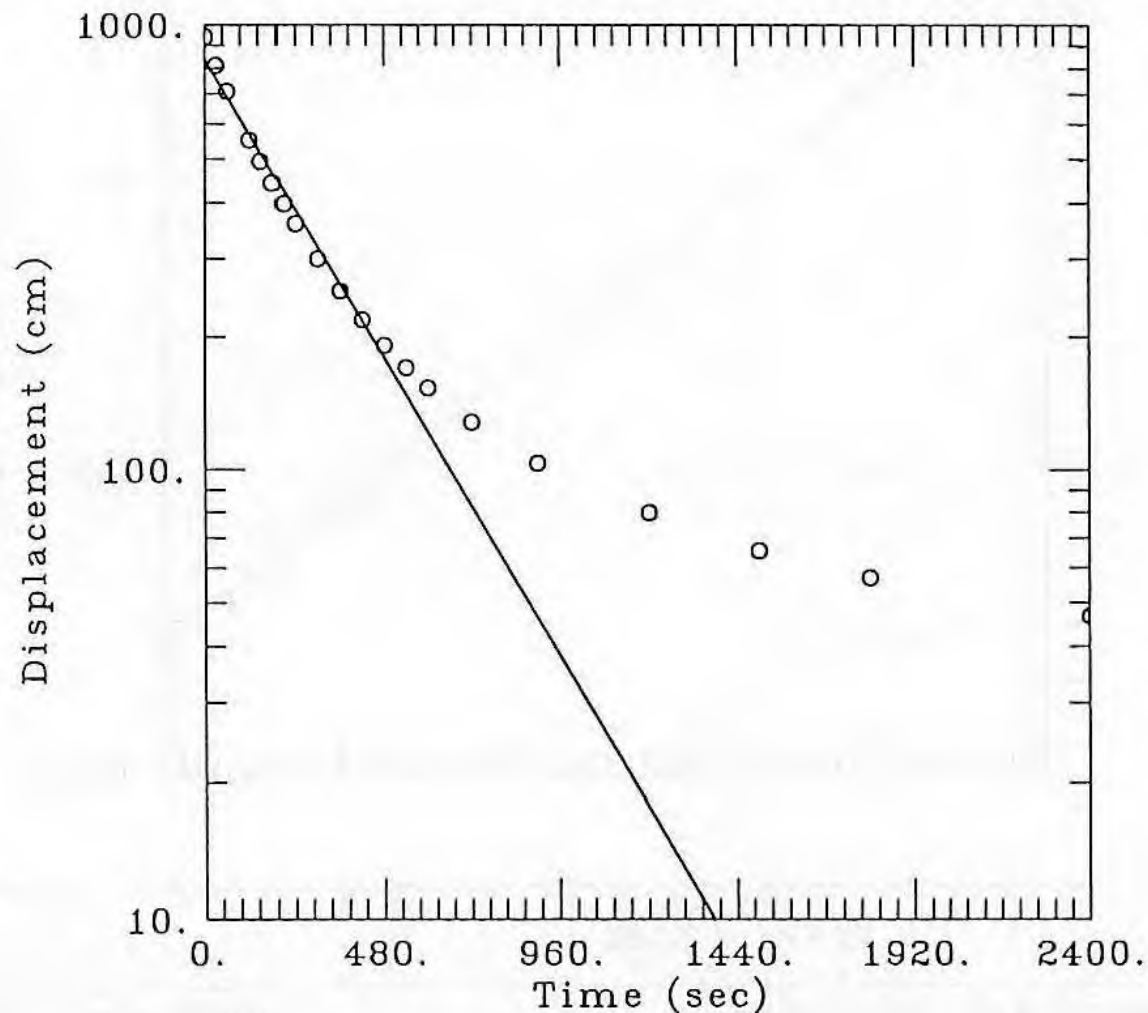
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 23C



DATA SET:

a: 23c.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

28 SEPTEMBER, 1993

TEST WELL:

23C

ESTIMATED PARAMETERS:

$K = 5.2445E-05$ cm/sec

$y_0 = 836.9$ cm

TEST DATA:

$H_0 = 938.5$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 609.6$ cm

$b = 4572.$ cm

$H = 2002.5$ cm

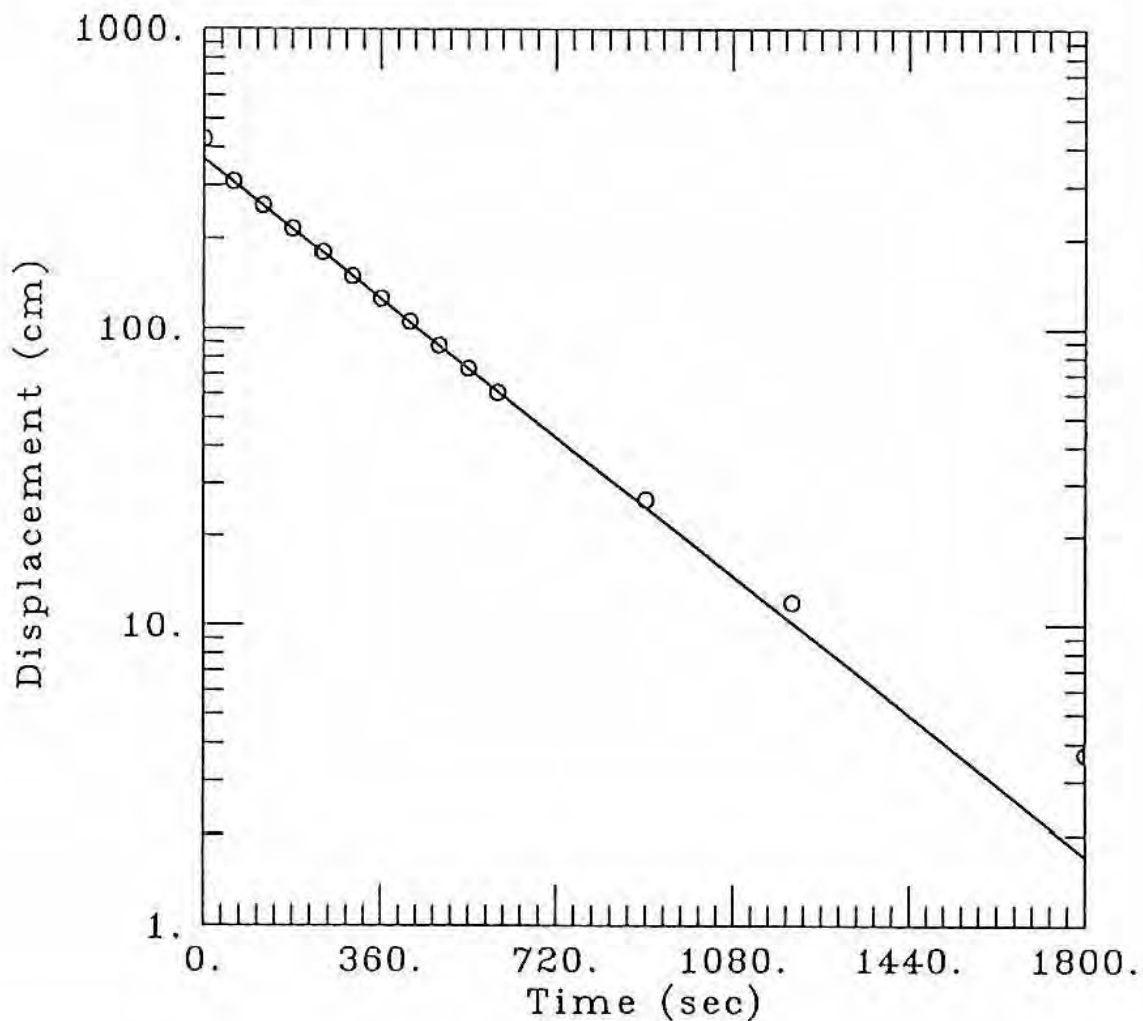
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 24B



DATA SET:

A: 24B.DAT

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

29 SEPTEMBER, 1993

TEST WELL:

24B

ESTIMATED PARAMETERS:

$K = 7.7397E-05$ cm/sec

$y_0 = 367.5$ cm

TEST DATA:

$H_0 = 427.3$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 304.8$ cm

$b = 1828.8$ cm

$H = 829.1$ cm

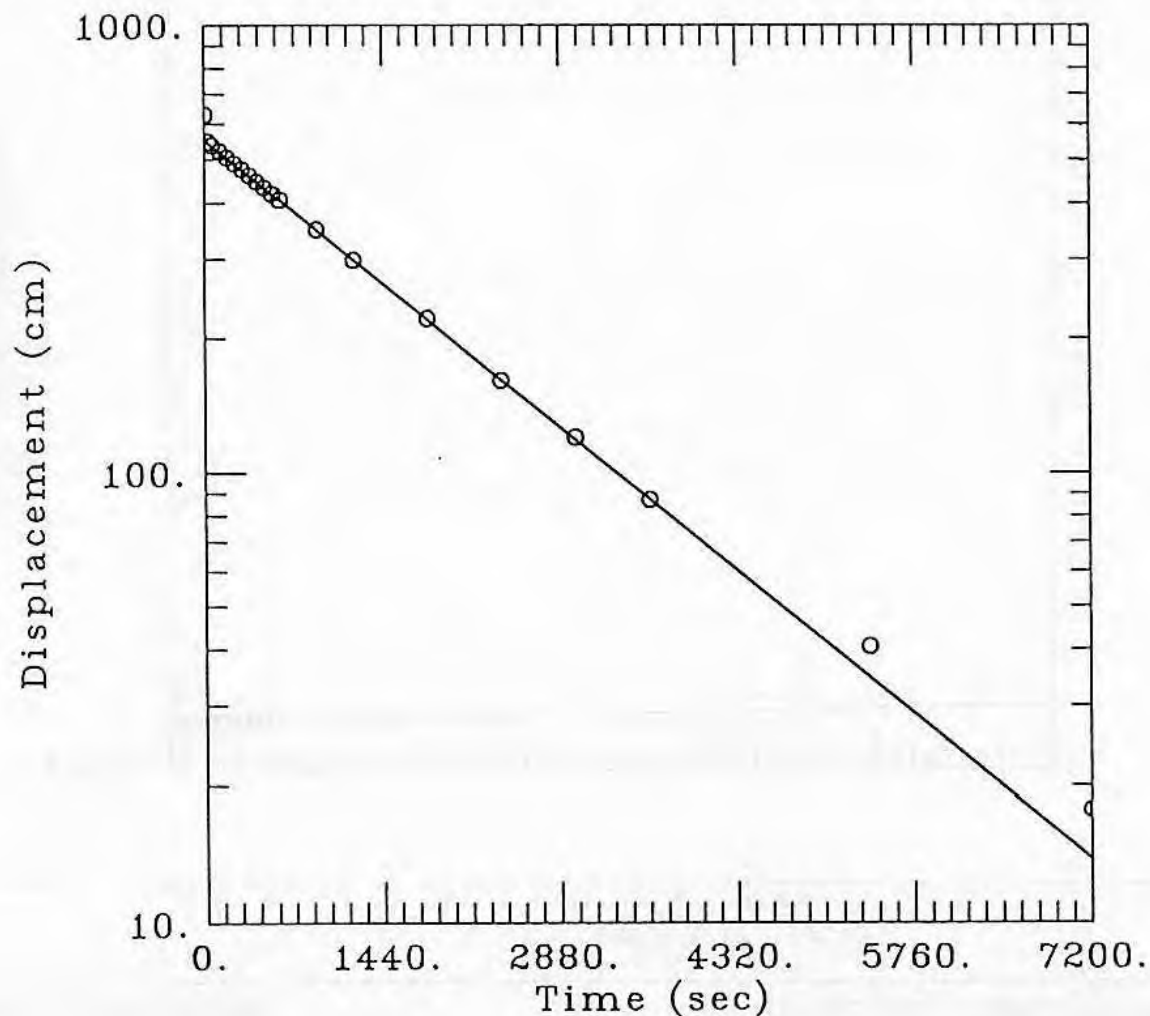
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 25B



DATA SET:

A: 25B.DAT

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

30 SEPTEMBER, 1993

TEST WELL:

25B

ESTIMATED PARAMETERS:

$K = 1.3532E-05$ cm/sec

$y_0 = 554.3$ cm

TEST DATA:

$H_0 = 628.8$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 304.8$ cm

$b = 1828.8$ cm

$H = 914.4$ cm

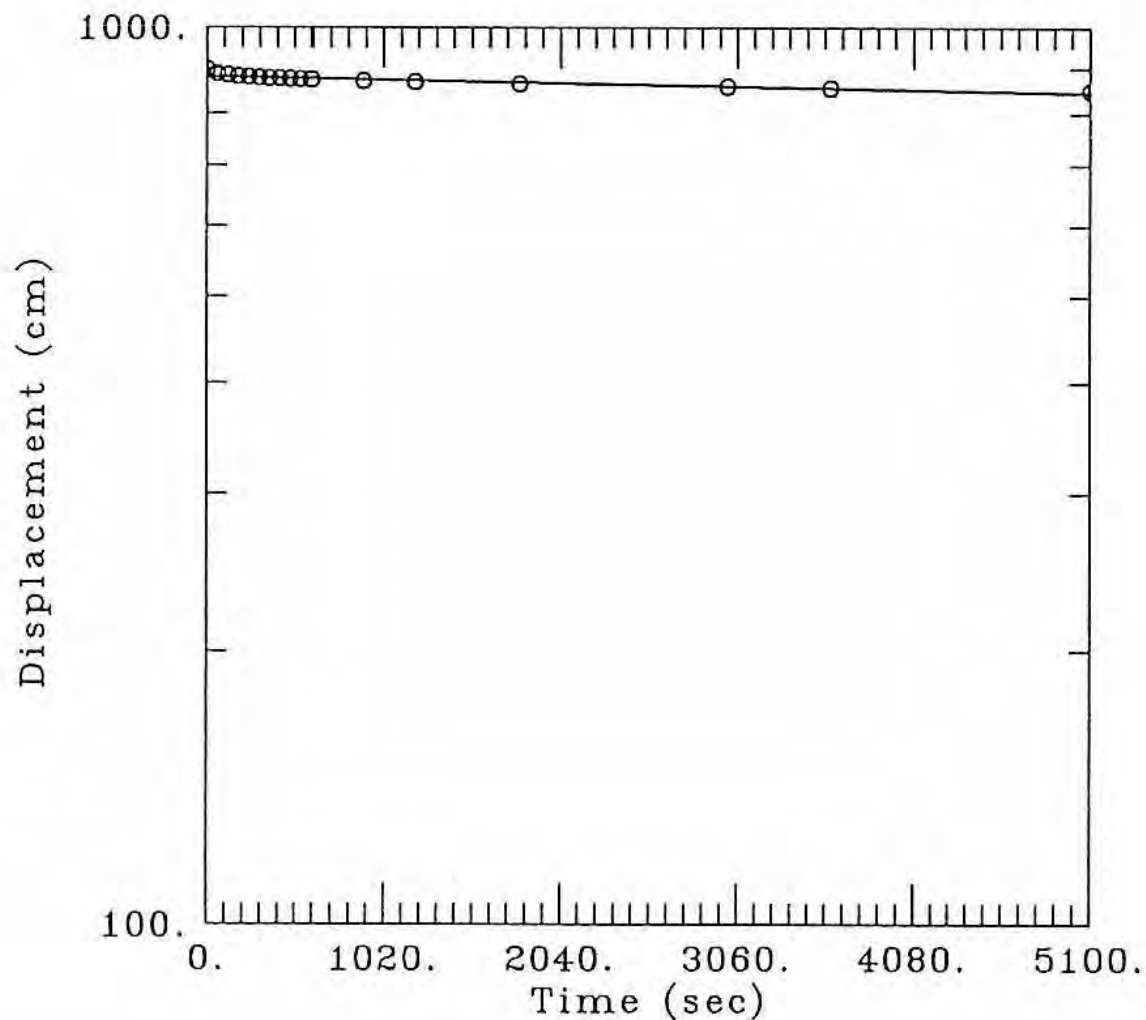
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 26B



DATA SET:

a: 26B.dat

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

30 SEPTEMBER, 1993

TEST WELL:

26B

ESTIMATED PARAMETERS:

$K = 2.6977E-07$ cm/sec

$y_0 = 879.6$ cm

TEST DATA:

$H_0 = 896.1$ cm

$r_c = 2.539$ cm

$r_w = 4.804$ cm

$L = 304.8$ cm

$b = 2743.2$ cm

$H = 990.6$ cm

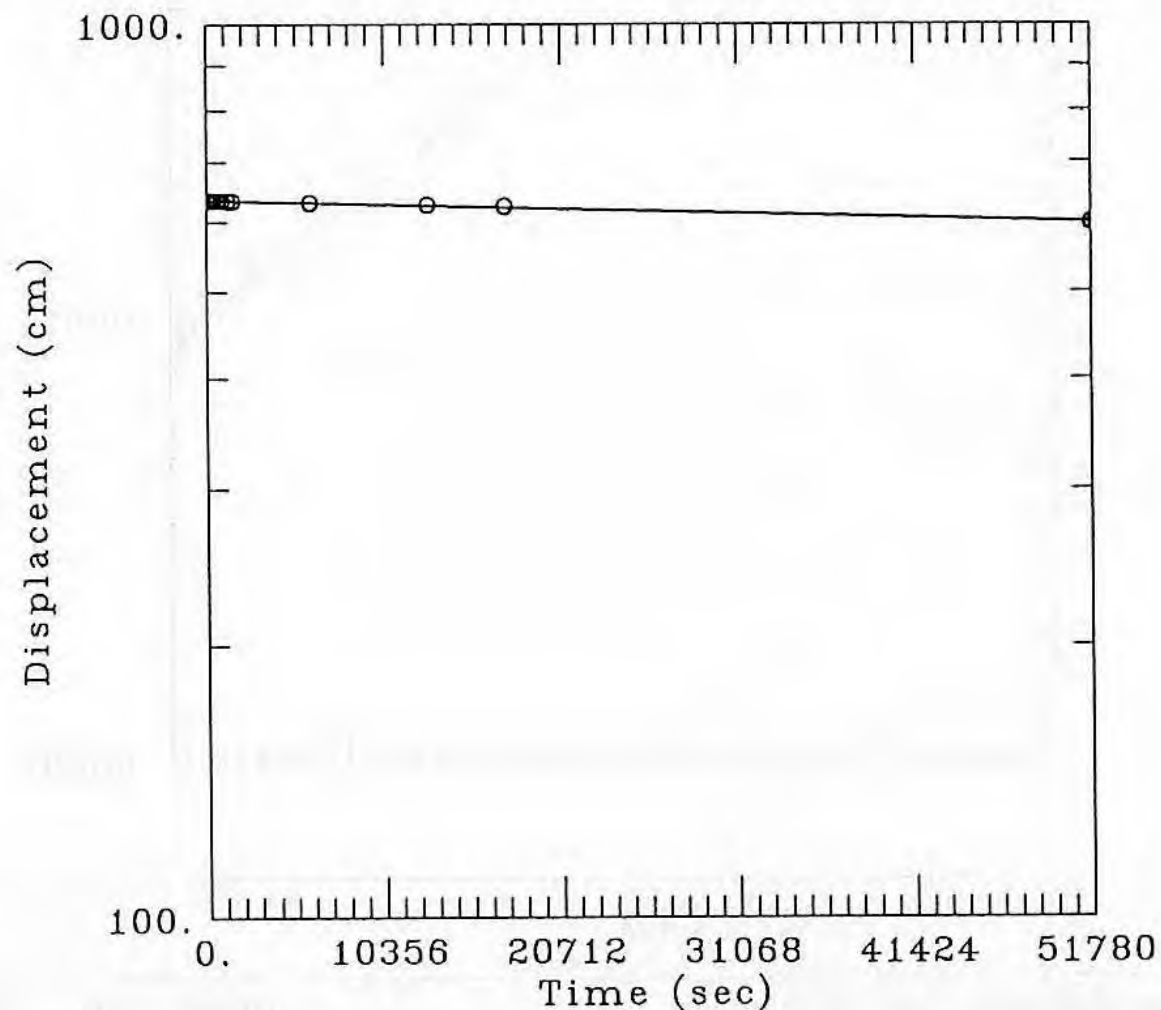
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 27B



DATA SET:

a: 27B.dat

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

14 OCTOBER, 1993

TEST WELL:

27B

ESTIMATED PARAMETERS:

$K = 3.6943E-08$ cm/sec

$y_0 = 633.4$ cm

TEST DATA:

$H_0 = 633.4$ cm

$r_c = 2.54$ cm

$r_w = 4.8$ cm

$L = 300.$ cm

$b = 3000.$ cm

$H = 1000.$ cm

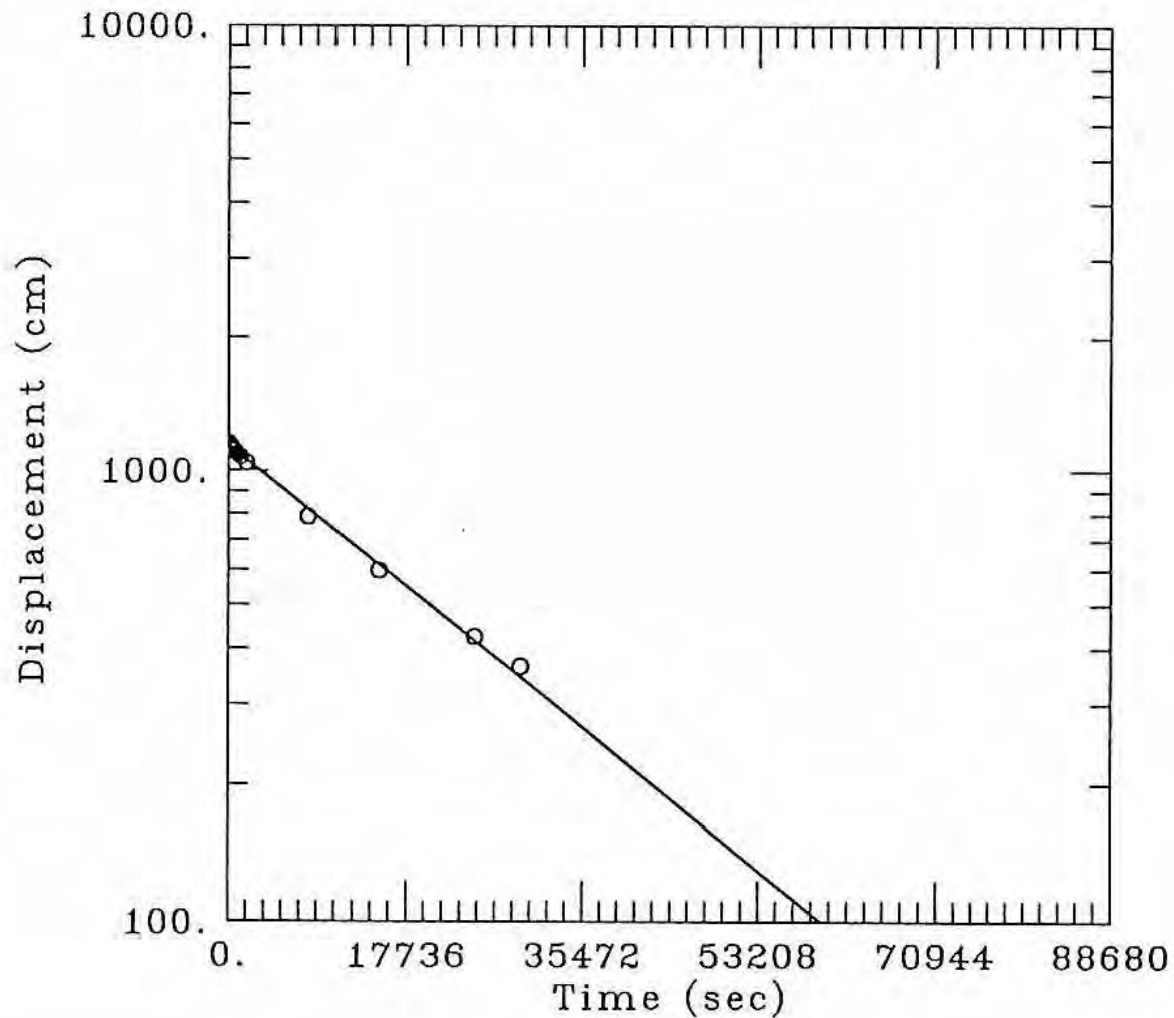
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 27C



DATA SET:

a: 27C.dat

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

6 OCTOBER, 1993

TEST WELL:

27C

ESTIMATED PARAMETERS:

$K = 8.2496E-07$ cm/sec

$y_0 = 1137.3$ cm

TEST DATA:

$H_0 = 1150.3$ cm

$r_c = 2.54$ cm

$r_w = 4.8$ cm

$L = 610.$ cm

$b = 4000.$ cm

$H = 1960.$ cm

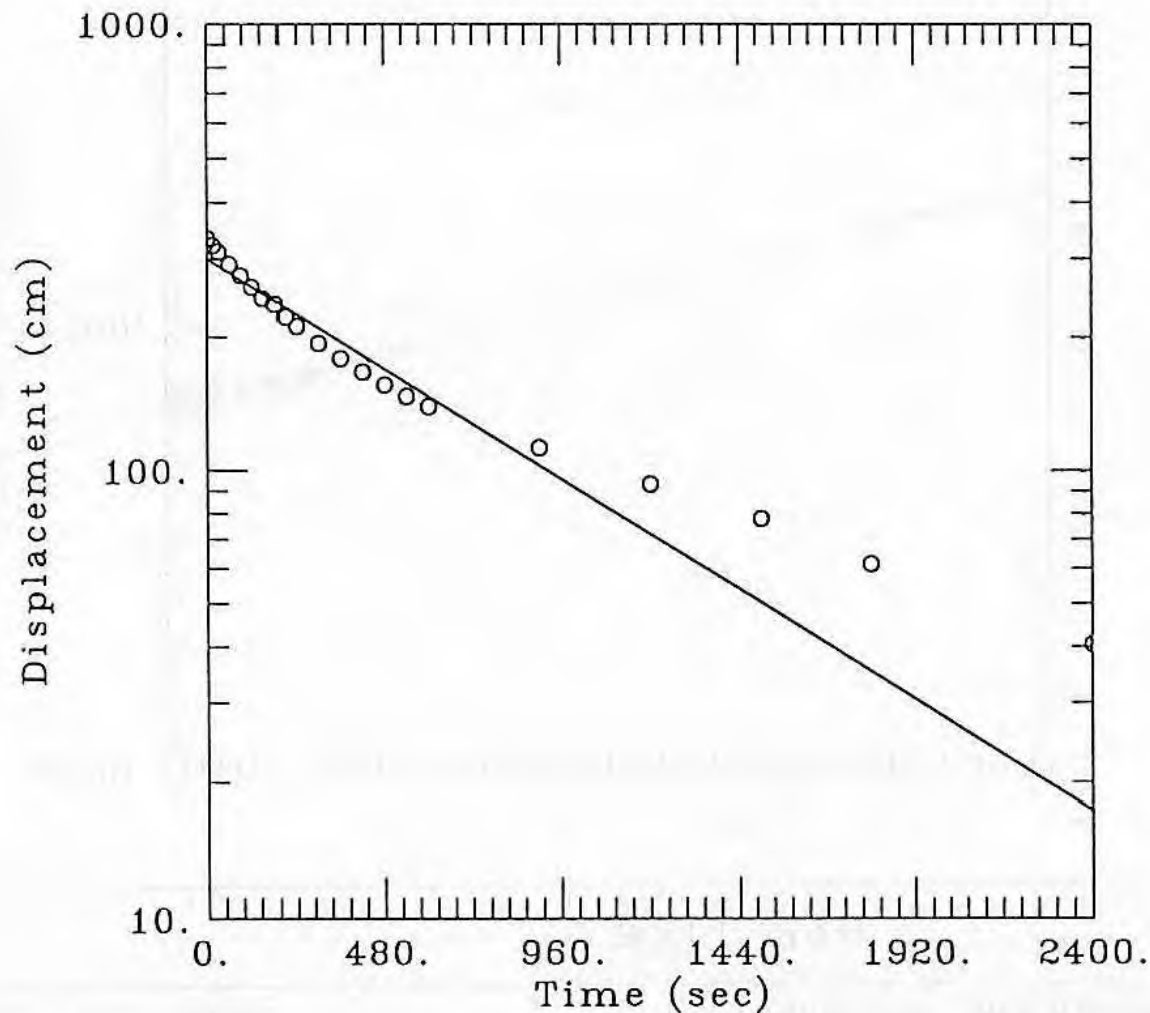
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 28B



DATA SET:

a: 28b.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

1 OCTOBER, 1993

TEST WELL:

28B

ESTIMATED PARAMETERS:

$K = 3.3723E-05$ cm/sec

$y_0 = 298.9$ cm

TEST DATA:

$H_0 = 331.7$ cm

$r_c = 2.54$ cm

$r_w = 7.6$ cm

$L = 310.$ cm

$b = 3000.$ cm

$H = 810.$ cm

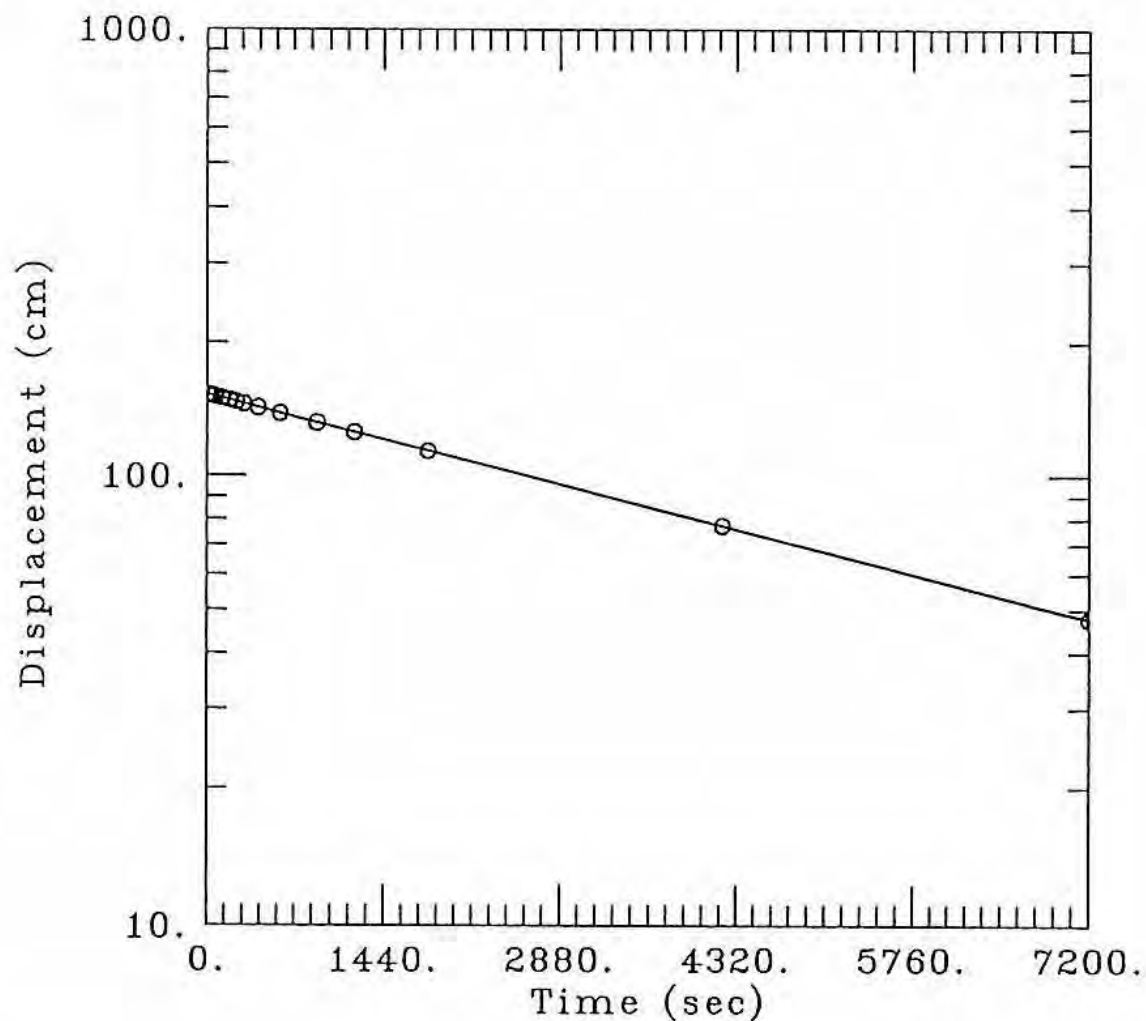
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 29B



DATA SET:

a: 29b.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

6 OCTOBER, 1993

TEST WELL:

29B

ESTIMATED PARAMETERS:

$K = 5.8466E-06$ cm/sec

$y_0 = 152.1$ cm

TEST DATA:

$H_0 = 152.2$ cm

$r_c = 2.54$ cm

$r_w = 4.8$ cm

$L = 300$ cm

$b = 600$ cm

$H = 580$ cm

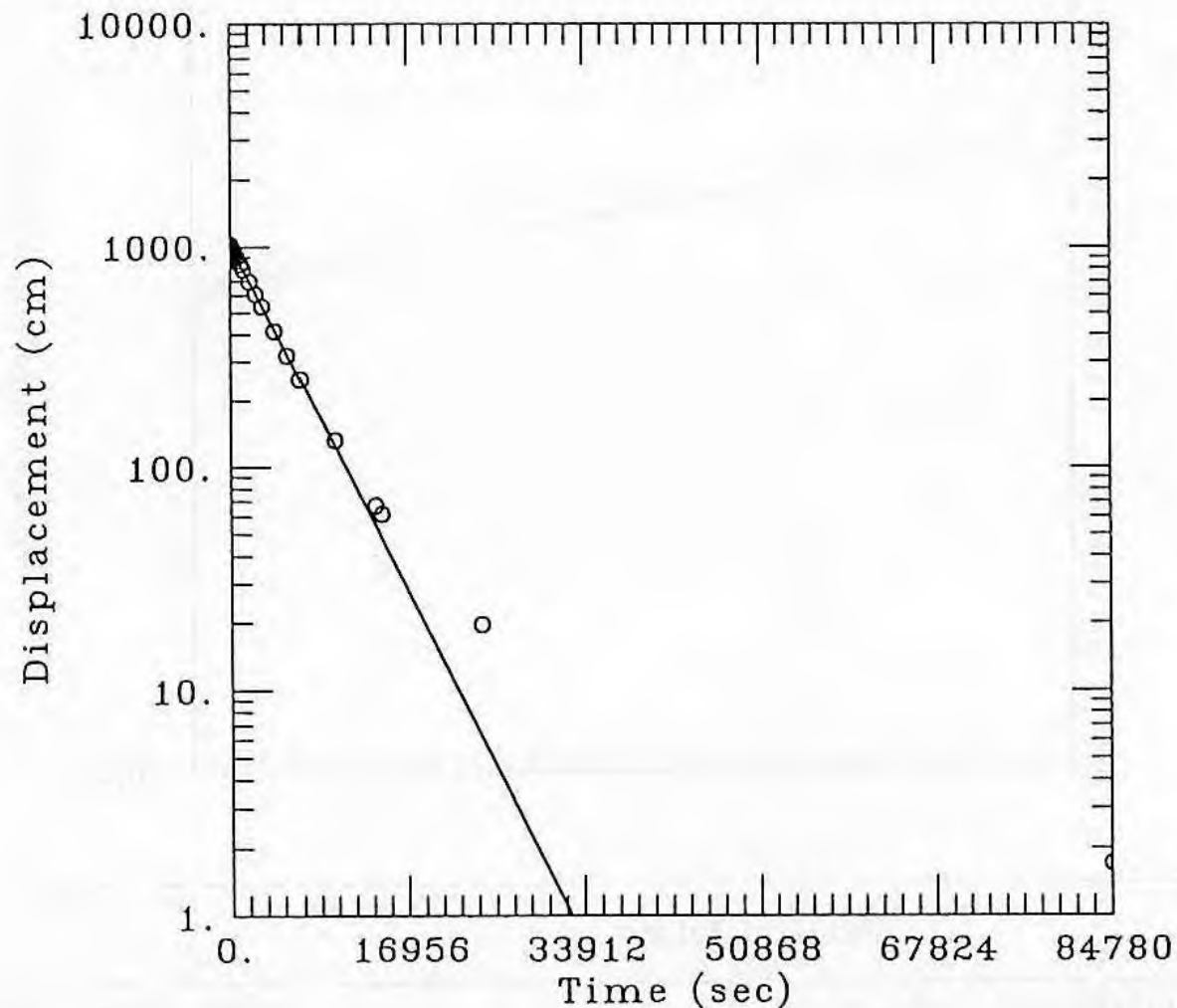
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 29C



DATA SET:

a: 29C.dat

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

6 OCTOBER, 1993

TEST WELL:

29C

ESTIMATED PARAMETERS:

$K = 4.2359E-06$ cm/sec

$y_0 = 1014.9$ cm

TEST DATA:

$H_0 = 1016.$ cm

$r_c = 2.54$ cm

$r_w = 4.803$ cm

$L = 610.$ cm

$b = 4000.$ cm

$H = 1780.$ cm

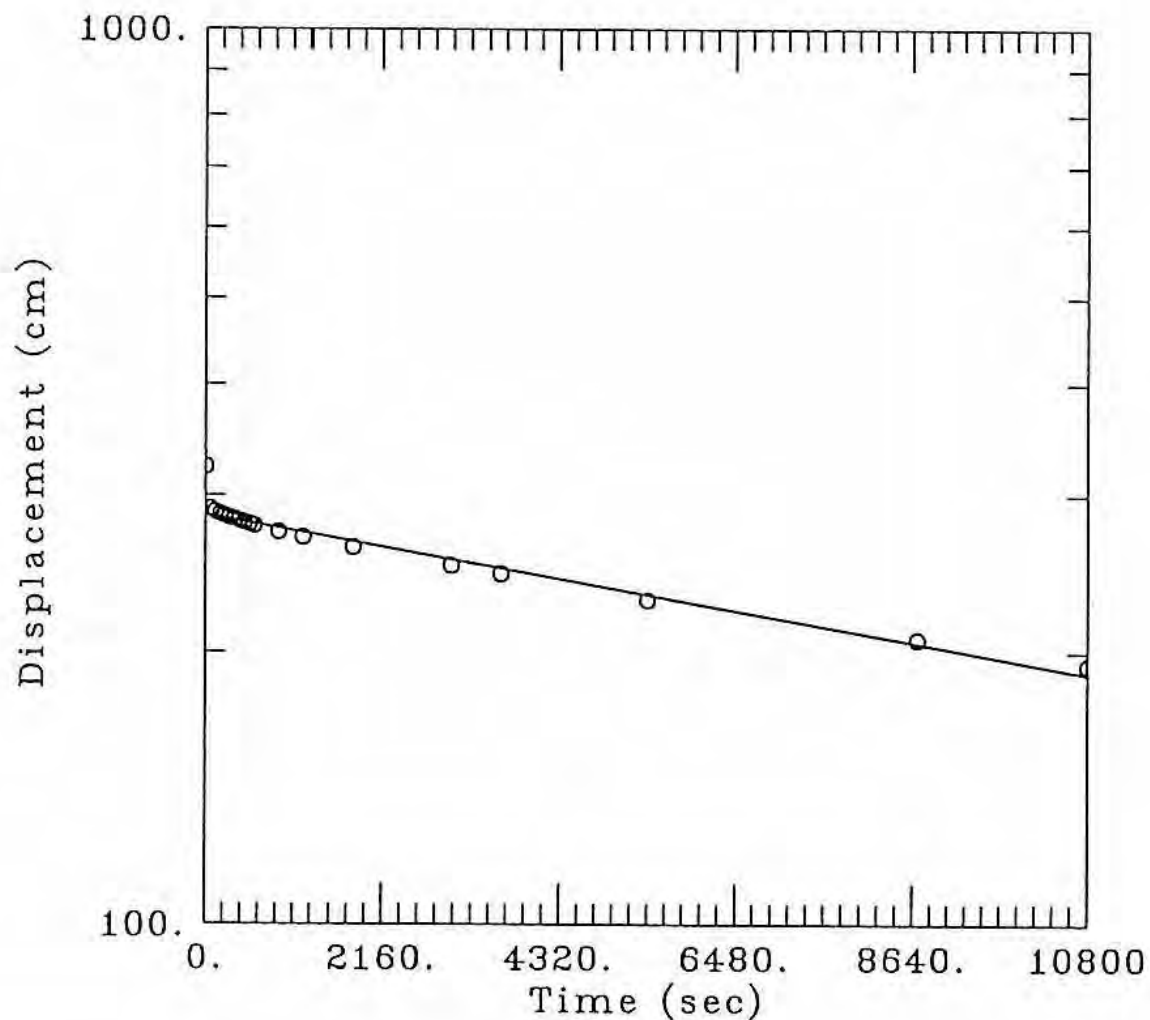
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 30A



DATA SET:

a: 30a.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

7 OCTOBER, 1993

TEST WELL:

30A

ESTIMATED PARAMETERS:

$K = 6.8384E-07$ cm/sec

$y_0 = 284.8$ cm

TEST DATA:

$H_0 = 322.5$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 457.2$ cm

$b = 1066.8$ cm

$H = 573.$ cm

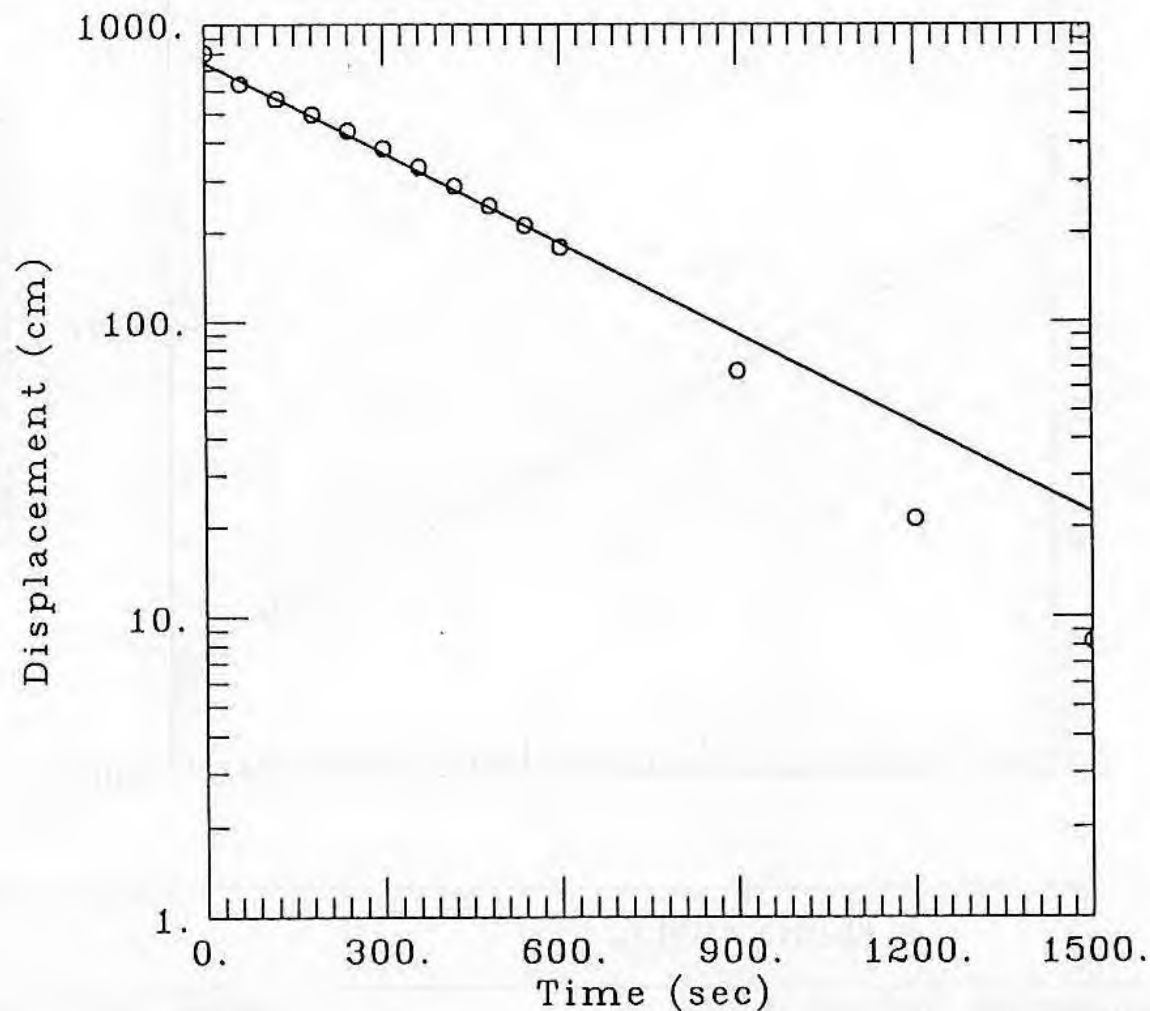
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 30C



DATA SET:

a: 30C.dat

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

7 OCTOBER, 1993

TEST WELL:

30C

ESTIMATED PARAMETERS:

$K = 4.451E-05$ cm/sec

$y_0 = 745.5$ cm

TEST DATA:

$H_0 = 799.8$ cm

$r_c = 2.539$ cm

$r_w = 4.8$ cm

$L = 609.6$ cm

$b = 3048.$ cm

$H = 1214.3$ cm

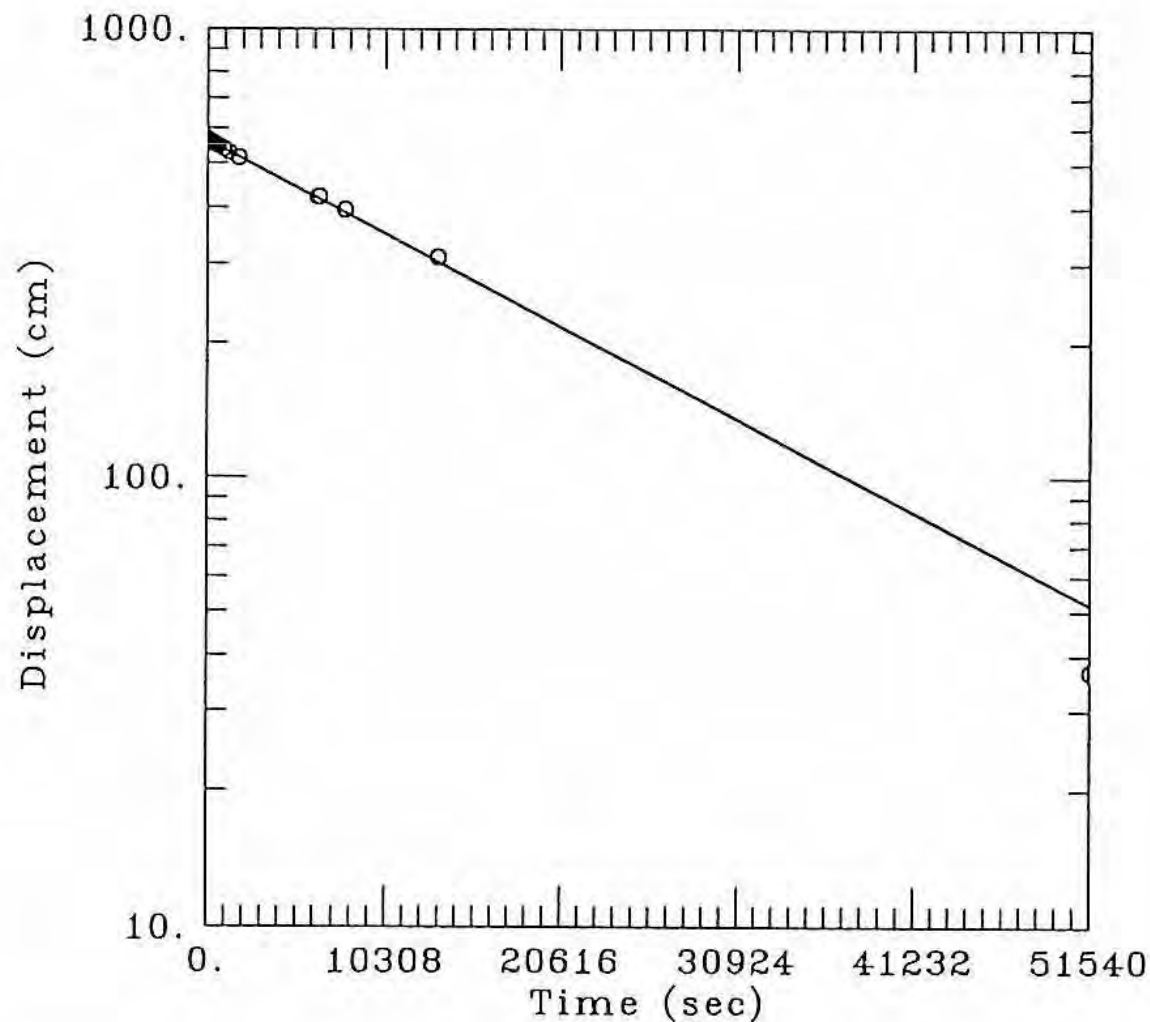
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 31B



DATA SET:

A: 31B.DAT

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

14 OCTOBER, 1993

TEST WELL:

31B

ESTIMATED PARAMETERS:

$K = 1.5597E-06$ cm/sec

$y_0 = 563.3$ cm

TEST DATA:

$H_0 = 564.7$ cm

$r_c = 2.54$ cm

$r_w = 4.8$ cm

$L = 304.8$ cm

$b = 3000.$ cm

$H = 981.6$ cm

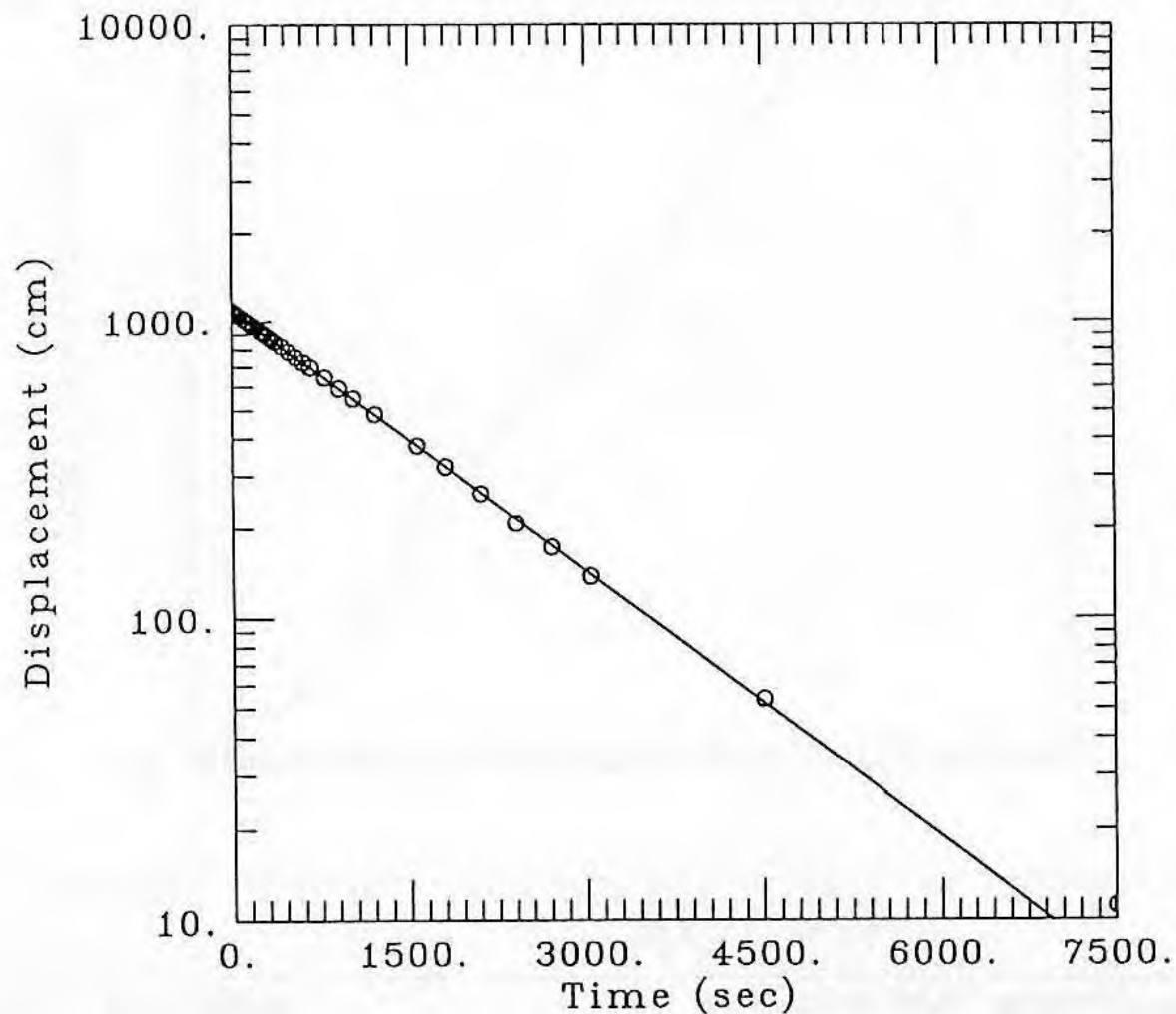
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 31C



DATA SET:

a: 31c.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

7 OCTOBER, 1993

TEST WELL:

31C

ESTIMATED PARAMETERS:

$K = 2.3507E-05$ cm/sec

$y_0 = 1082.6$ cm

TEST DATA:

$H_0 = 1079.$ cm

$r_c = 2.54$ cm

$r_w = 4.8$ cm

$L = 310.$ cm

$b = 4000.$ cm

$H = 1480.$ cm

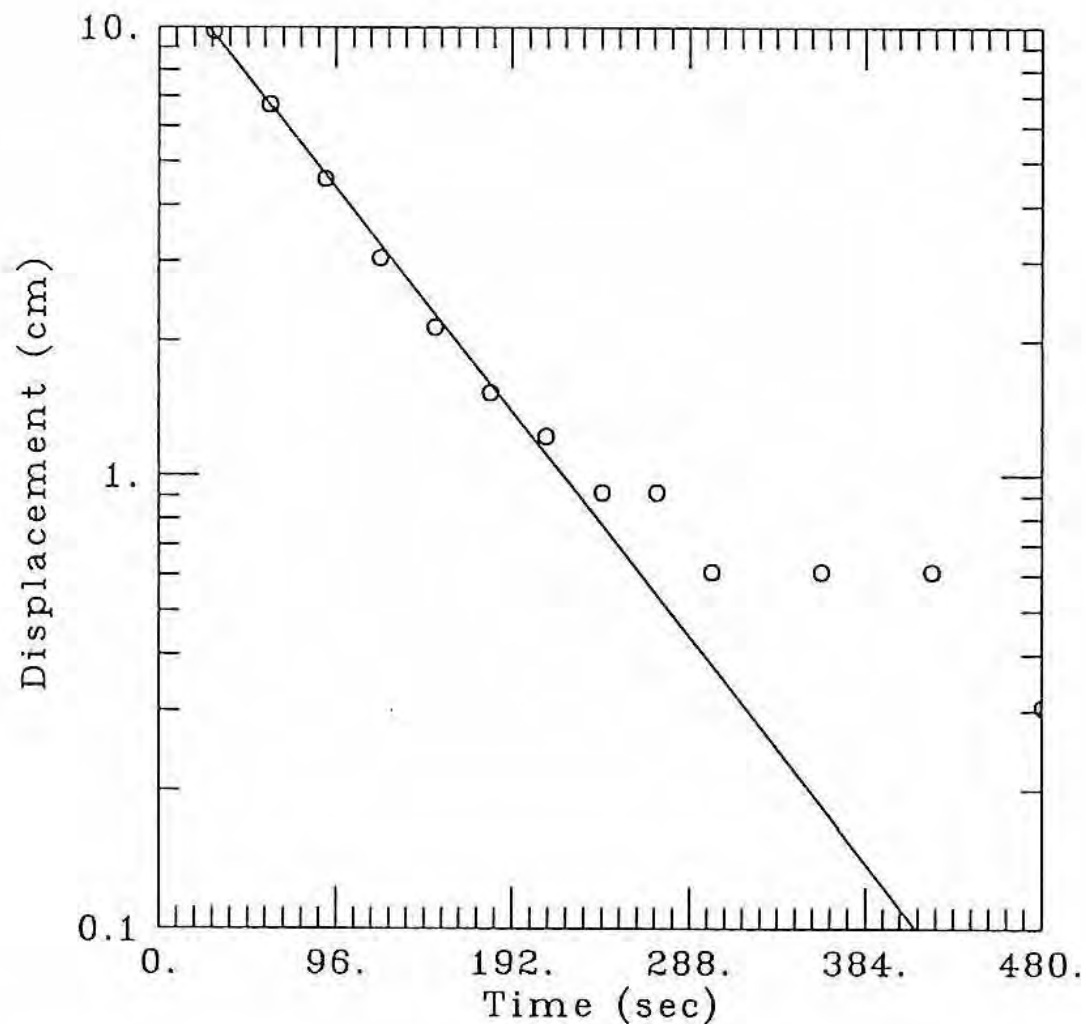
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 33A



DATA SET:

A: 33A.DAT

01/19/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

12 OCTOBER, 1993

TEST WELL:

33A

ESTIMATED PARAMETERS:

$K = 7.7367E-05$ cm/sec

$y_0 = 13.79$ cm

TEST DATA:

$H_0 = 15.85$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 310.$ cm

$b = 1828.8$ cm

$H = 24.38$ cm

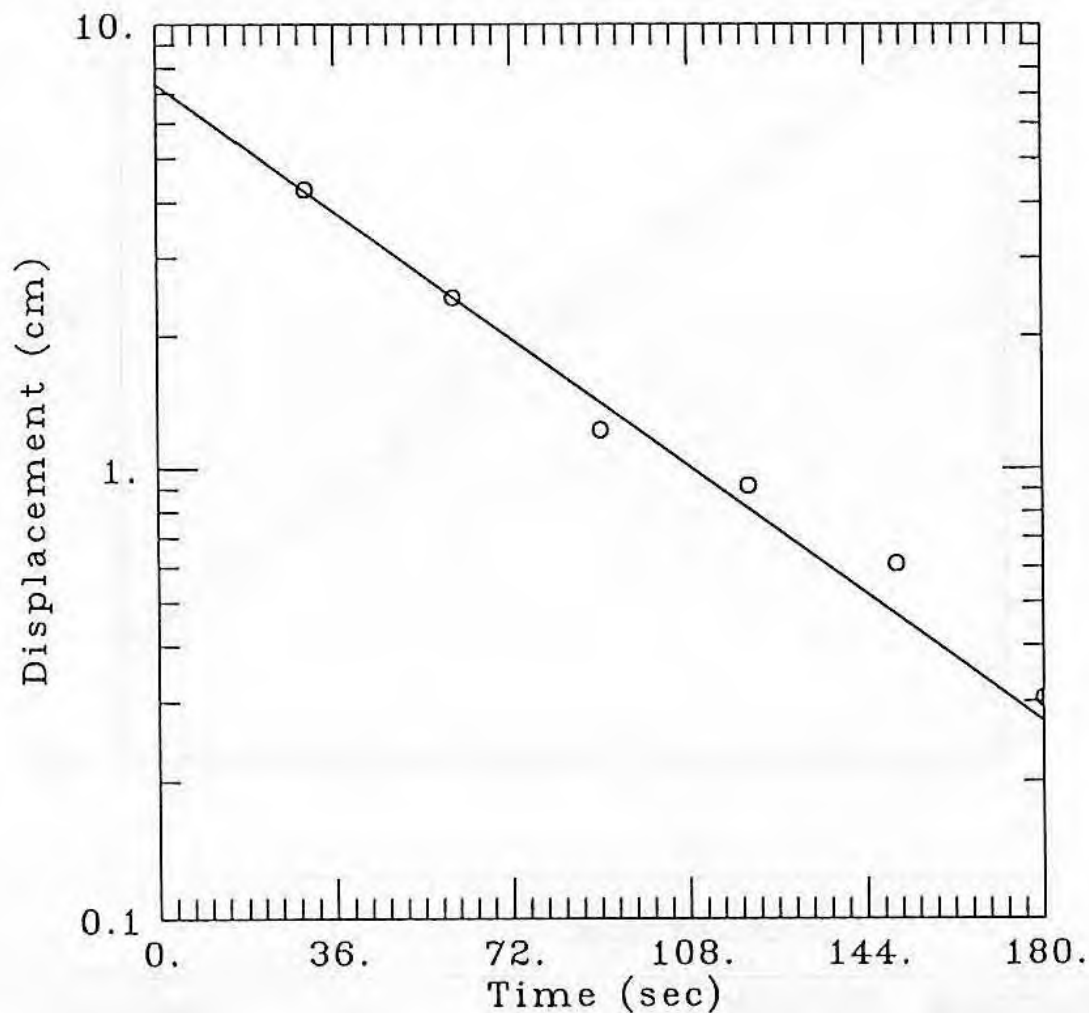
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 34A



DATA SET:

A: 34A.DAT

01/19/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

12 OCTOBER, 1993

TEST WELL:

34A

ESTIMATED PARAMETERS:

$K = 0.0004472$ cm/sec

$y_0 = 7.344$ cm

TEST DATA:

$H_0 = 35.05$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 220.$ cm

$b = 1828.8$ cm

$H = 173.7$ cm

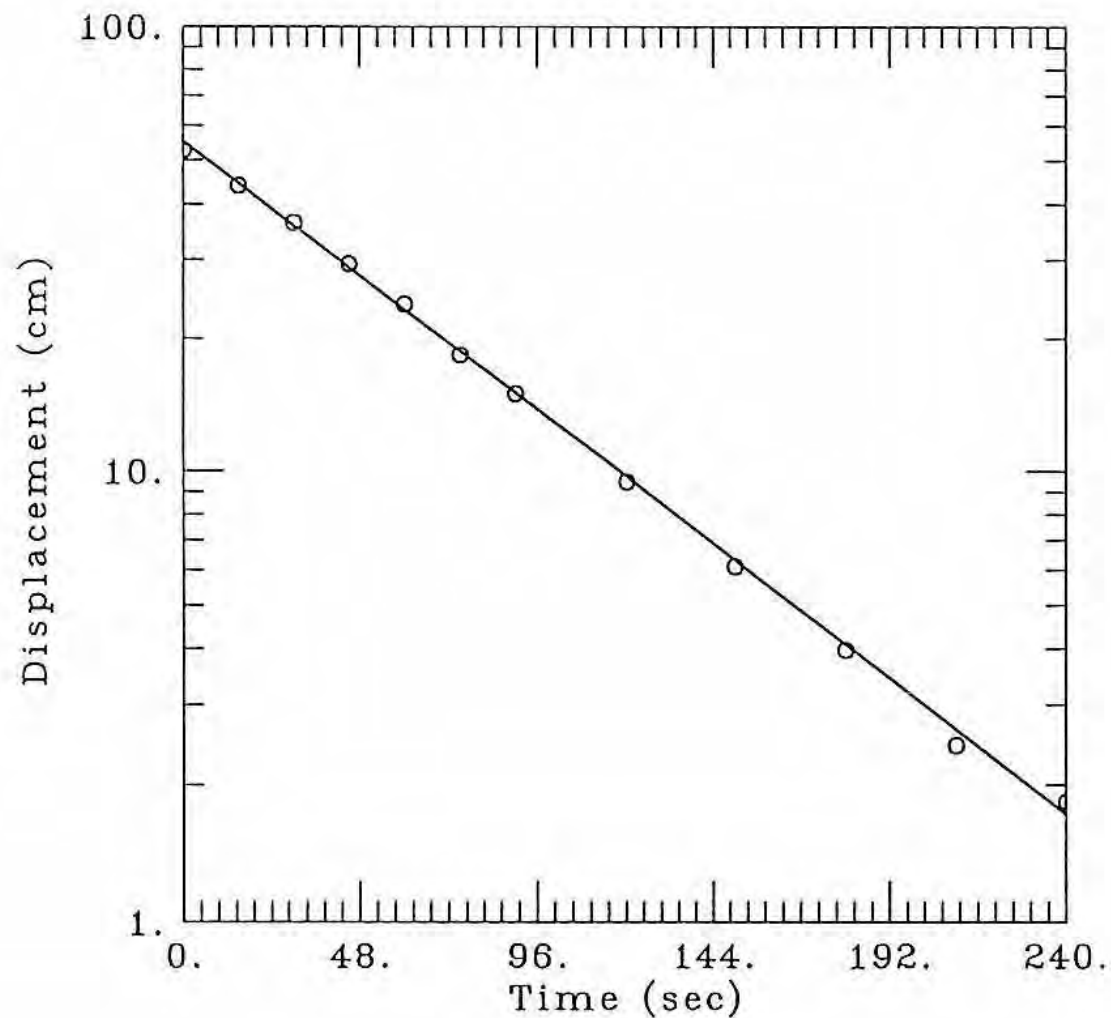
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL 35A



DATA SET:

a: 35a.dat

01/18/94

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

18 OCTOBER, 1993

TEST WELL:

35A

ESTIMATED PARAMETERS:

$K = 0.0002219$ cm/sec

$y_0 = 55.29$ cm

TEST DATA:

$H_0 = 52.73$ cm

$r_c = 2.539$ cm

$r_w = 11.43$ cm

$L = 300$ cm

$b = 1828.8$ cm

$H = 87.78$ cm

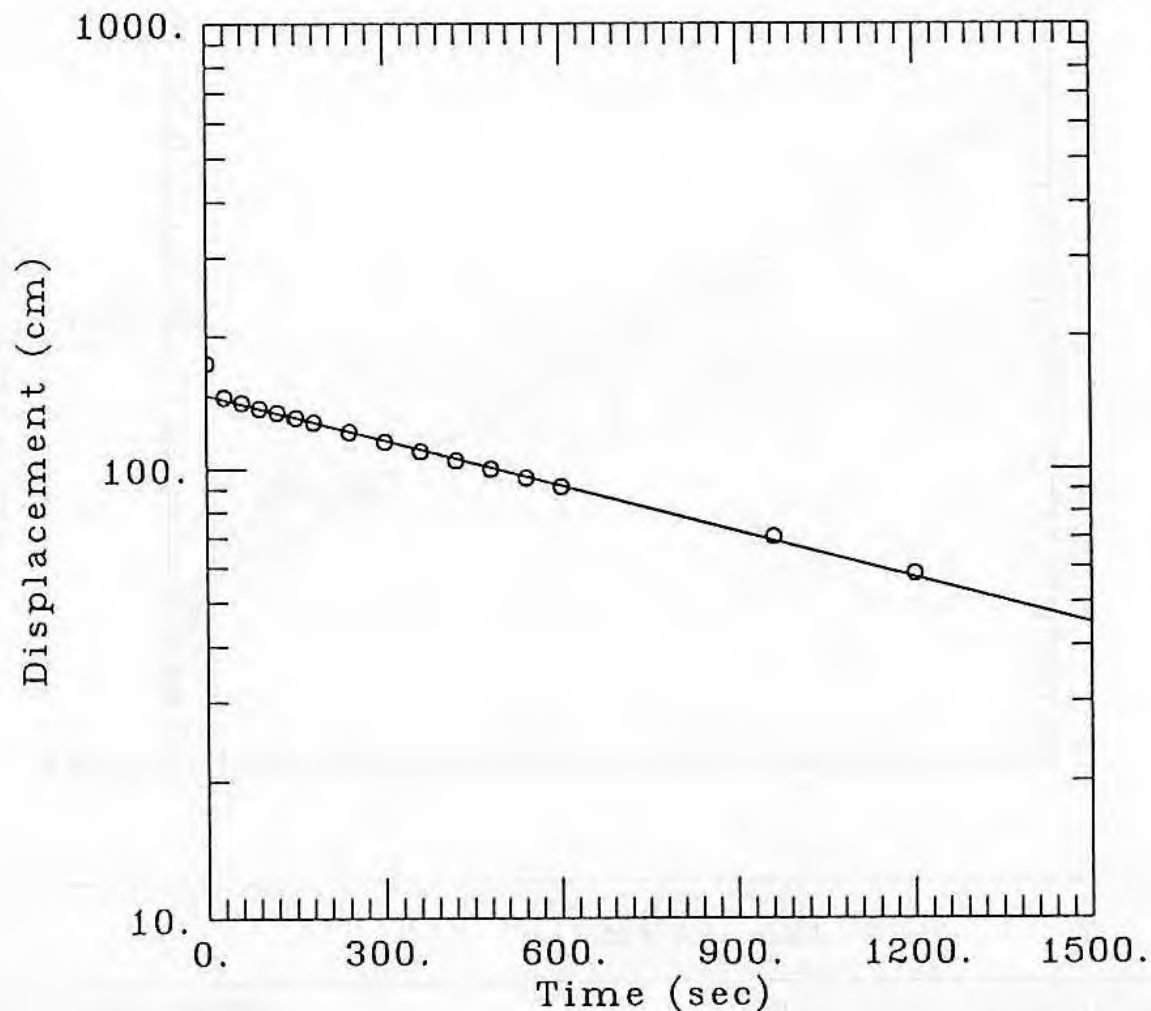
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL TH 1



DATA SET:

A: TH1.DAT

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

5 OCTOBER, 1993

TEST WELL:

TH 1

ESTIMATED PARAMETERS:

$K = 2.2057E-05$ cm/sec

$y_0 = 146.7$ cm

TEST DATA:

$H_0 = 172.8$ cm

$r_c = 2.539$ cm

$r_w = 6.349$ cm

$L = 304.8$ cm

$b = 762.$ cm

$H = 356.3$ cm

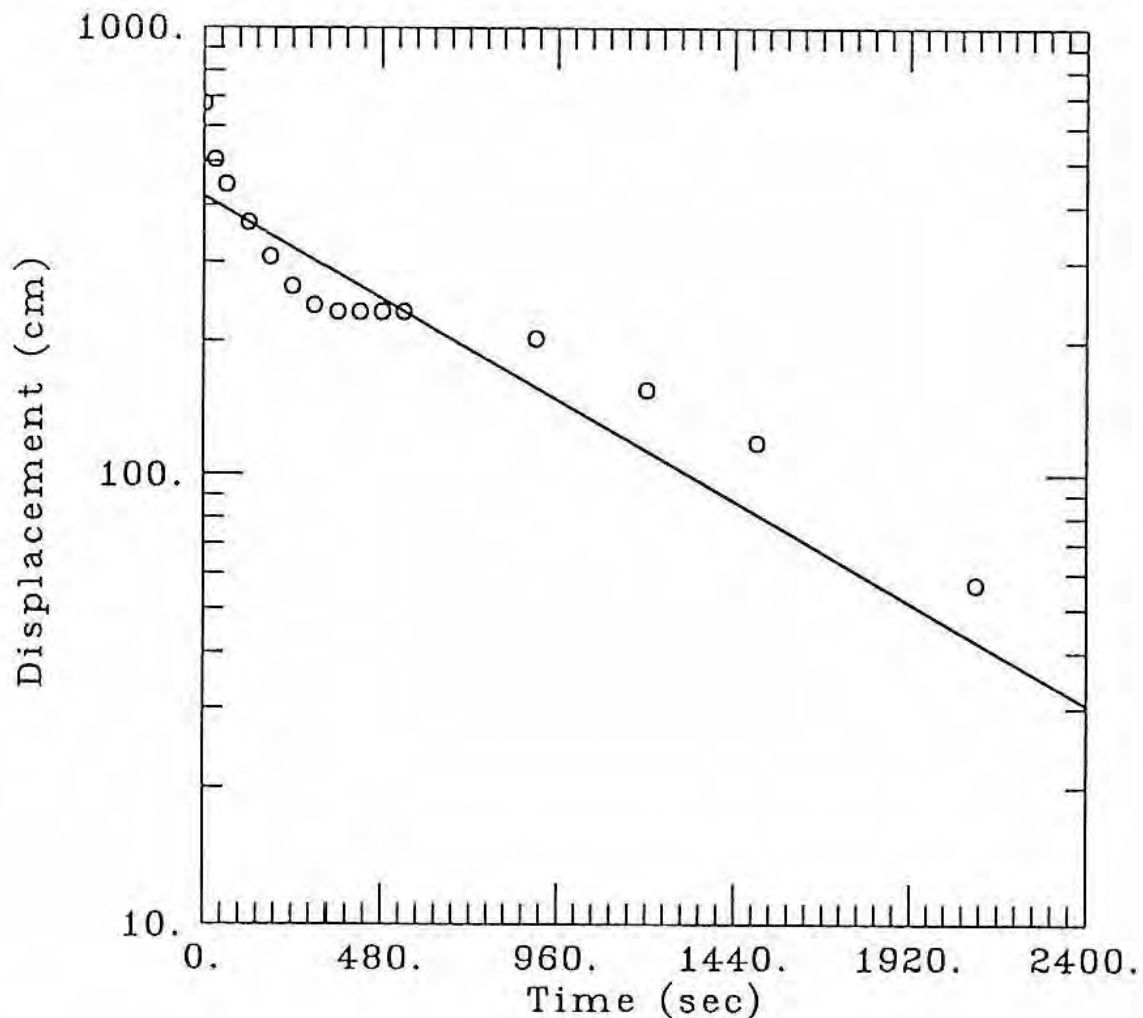
PORTER DILLON LTD.

Client: KINGS COUNTY

Project No.: 92-3896

Location: MEADOWVIEW LANDFILL

WELL TH 2



DATA SET:

A: TH2.DAT

12/11/93

AQUIFER TYPE:

Unconfined

SOLUTION METHOD:

Bouwer-Rice

TEST DATE:

5 OCTOBER, 1993

TEST WELL:

TH 2

ESTIMATED PARAMETERS:

$K = 3.5669E-05$ cm/sec

$y_0 = 418.9$ cm

TEST DATA:

$H_0 = 675.4$ cm

$r_c = 2.539$ cm

$r_w = 6.349$ cm

$L = 304.8$ cm

$b = 2133.6$ cm

$H = 1185.7$ cm



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