

**ANNUAL GROUNDWATER
MONITORING REPORT
DULIN RUBBLE LANDFILL
23310 RICAUDS BRANCH ROAD
KENT COUNTY, MARYLAND
JANUARY TO DECEMBER 2024**

April 2025

Prepared For:

**KENT COUNTY DEPARTMENT OF PUBLIC WORKS
709 Morgnec Road, Suite 101
Chestertown, Maryland 21620**

Prepared By:



**131 Comet Drive
Centreville, Maryland 21617
www.earthdatainc.com**

W.O. 4697J

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1.0 SUMMARY

During the period covered in this report (January 1, 2024 through December 31, 2024), Earth Data Incorporated (Earth Data) performed on-site monitoring and related activities at the Dulin Rubble Landfill located on Ricauds Branch Road in Kent County, Maryland (Figure 1). Activities included collecting groundwater samples from five on-site monitoring wells for laboratory analysis on February 26 and August 26, 2024. Additionally, four gas monitoring wells, eight soil vapor points and three gas vents were sampled on a quarterly basis on February 26, May 20, August 26, and November 18, 2024. A site map showing the location of the monitoring wells and gas monitoring points are shown in Figures 2 and 3.

Results of the February and August 2024 groundwater sampling at the Dulin Rubble Landfill were compared against groundwater standards based on Environmental Protection Agency (EPA) Maximum Contaminant Level (MCL), EPA Secondary Drinking Water Regulation (SMCL), and/or Maryland Department of the Environment (MDE) Groundwater Standards for Type I/II Aquifers. The groundwater comparison numbers used in this report are from the EPA National Primary Drinking Water Regulations published in May 2009 and/or the MDE Cleanup Standards for Soil and Groundwater October 2025 Interim Final Guidance.

Prior to sampling, each groundwater monitoring well was gauged with an oil/water interface probe to determine the depth to the water-table and the possible presence of an immiscible substance on the surface of the groundwater. The groundwater samples were sent to an EPA-approved laboratory for Volatile Organic Compounds (VOCs), Total Metals, Indicator, and PFAS Parameter analysis. There were no VOC detects over the course of this monitoring period (Appendix C and E). Nitrate-nitrogen levels were detected above the MCL in monitoring well MW-1 in February and August 2024. Manganese levels were above the Secondary Maximum Concentration Level (SMCL) in monitoring wells MW-4 and MW-5 during February and August 2024. Iron levels were above the SMCL in monitoring well MW-3 during August 2024. All other concentrations of total metals and indicator parameters were reported to be below MDE established clean-up levels. PFAS concentrations were detected in trace amounts below the groundwater standard in MW-1, MW-4, and MW-5. Overall, the analytical results suggest that the Dulin Rubble Landfill has had minimal impact on the shallow water-table aquifer beneath the site. These results are consistent with the data collected prior to this 2024 monitoring period.

In August 2006, Earth Data installed four gas monitoring wells at the Dulin Rubble Landfill. In May 2010, fourteen soil vapor monitoring points were installed on the landfill and adjacent properties, and currently eight soil vapor monitoring points remain at the site. As a result of the findings from the soil vapor point monitoring in 2010, three landfill gas vents were installed in the southeast corner of the landfill property to reduce the off-site movement of landfill gas. The gas well monitoring in 2024 detected elevated levels of combustible gas in vents V-1 (100% LEL on February 26, 100% LEL on May 20, 100% LEL on August 26, and 100% LEL on November 18), V-2 (5% LEL on February 26), and V-3 (44% LEL on February 26, 100% LEL on August 26, and 100% LEL on November 18). Combustible gas was not detected in any other gas well or soil vapor monitoring point during this reporting period.

Results of semi-annual monitoring of groundwater at the Dulin Rubble Landfill since 1995 have shown that past operations at the site have had little or no impact on the area groundwater. No detectable VOCs or significant quantities of metals, other than a history of elevated levels of iron and manganese, have been found in the groundwater samples. Indicator parameter levels have returned to background levels since the close of the landfill in 1999. Earth Data recommends maintaining the frequency of groundwater monitoring on a biannual basis. Although significant reduction in off-site landfill gas concentrations have been realized since the installation of landfill vents in 2010, quarterly monitoring of the landfill gas wells and vapor points should continue.

2.0 BACKGROUND

The Dulin Rubble Landfill was operated by Kent County Department of Public Works (KCPW) from 1991 until 1999. Prior to its use as a rubble landfill, the 5-acre property was used as a sand and gravel borrow pit and an unpermitted rubble disposal area. The borrow pit was approximately 2.5 acres, with woodland occupying the remaining area of the property. After purchasing the property in 1990, Kent County erected a chain link fence around the entire perimeter of the property with a gated entrance on the south side. The existing rubble material present at the time of the purchase was pushed into one area and covered with clean fill material.

During the time that Kent County operated the site, waste material accepted at the Dulin Rubble Landfill included: earthen materials, vegetation, building materials, roofing materials, construction, and demolition debris, paving materials, appliances, paper materials, metal, glass, and carpet. The rubble was placed in the borrow pit at a depth no less than five feet above the seasonal high water-table. Four shallow groundwater monitoring wells (MW-1 through MW-4) were constructed around the rubble landfill in January 1992. An additional monitoring well (MW-5) was installed in October 1993. In 1999, the Dulin Rubble Landfill was closed and capped. From 1995 to 2005, the monitoring wells were sampled twice each year by the Kent County Department of Environmental Health for VOCs, Total Metals, and Indicator Parameters analysis. In 2005, Earth Data was contracted by KCPW to assume the routine sampling at the landfill. During the current reporting period, the groundwater monitoring wells were sampled on February 26 and August 26, 2024.

In response to the letter received by Kent County DPW from MDE dated May 19, 2006, requesting the development of a methane gas monitoring plan at the Dulin Rubble Landfill, Earth Data was contracted to install and sample gas monitoring wells at the site. In August 2006, Earth Data installed four gas monitoring wells at the Dulin Rubble Landfill in accordance with COMAR 26.04.07.03B(9) to monitor the generation and migration of methane gas. The gas monitoring wells have been sampled on a quarterly basis since their installation. In May 2010, fourteen soil gas vapor monitoring points were installed. However, only eight soil vapor monitoring points were left for long term monitoring. In June 2010, three landfill gas vents were installed to alleviate the off-site movement of landfill gas. These monitoring points and vents have been incorporated into the regular quarterly monitoring. During this reporting period, the

gas monitoring wells, soil vapor points and gas vents were sampled on February 26, May 20, August 26, and November 18, 2024.

3.0 SITE DESCRIPTION

3.1 SITE LOCATION AND TOPOGRAPHY

The Dulin Rubble Landfill is located on Ricauds Branch Road on the north side of the intersection with Hynson Rogers Road approximately six miles southeast of Chestertown in Kent County, Maryland. Chestertown is located in south central Kent County, Maryland. Land use in the vicinity of Dulin Rubble Landfill is primarily agricultural.

The closest surface water to the Dulin Rubble Landfill property is the West Fork of Langford Creek, which lies approximately one-half mile southwest of the property. The Langford Creek is a tidal tributary of the Chester River. The Dulin Rubble Landfill is located on the Eastern Shore of Maryland, approximately six miles north of the Chester River, a major tidal tributary of the Chesapeake Bay. The Eastern Shore of Maryland is part of the Delmarva Peninsula, which is in the Atlantic Coastal-plain physiographic province. The coastal plain is underlain by layers of unconsolidated sediments (clays, silts, and sands), which dip and thicken towards the southeast.

3.2 SITE GEOLOGY

The Pennsauken Formation, of Pleistocene or Pliocene age, comprises the surface sediments over much of the Delmarva Peninsula. At the Dulin Rubble Landfill, the Pennsauken Formation consists primarily of iron-stained sand and gravelly deposits. The total thickness of the Pennsauken Formation ranges from 20 to 40 feet in the vicinity of the landfill. The Paleocene-aged Aquia Formation, which underlies the Pennsauken Formation in much of Kent County, consists of layered sands approximately 60 feet thick (Drummond, 1998). The Aquia Formation is underlain by sands of the Hornerstown Formation (Paleocene) to a depth of approximately 170 feet. Beneath the Hornerstown sands lie the confining, clayey sands of the Severn Formation. In the vicinity of the landfill, the Severn Formation is 20 to 30 feet thick. Beneath the Severn Formation lies the sands, silts, and clays of the Mount Laurel Formation (Cretaceous aged) to a depth of approximately 240 feet below the ground surface. Cretaceous-age silts, sands and clays of the Matawan Formation underlie the Mount Laurel Formation to a depth of approximately 315 feet below the ground surface. Beneath the Matawan Formation lie sands and clays of the Magothy Formation to a depth of approximately 350 feet. The Cretaceous-aged Potomac Formation underlies the Magothy Formation. The Potomac Formation consists of

several confining clay units. Water-bearing sand layers occur between the clay layers to a depth of at least 1,500 feet below the ground surface, where the crystalline bedrock occurs.

Many water-supply wells, including the domestic wells near the landfill and some of the municipal wells for the Town of Chestertown, are screened in the unconfined water-table aquifer (Aquia Formation). Water-bearing sands may also be found in the confining Mount Laurel, Matawan, and Magothy Formations, depending on location. Aquifers in the Potomac Formation have also been used for municipal water supply in Kent County.

4.0 LANDFILL MONITORING

4.1 GROUNDWATER MONITORING

Groundwater monitoring at the Dulin Rubble Landfill in Kent County, Maryland, has been performed in accordance with the specifications of the contract with the Kent County Department of Public Works (KCDPW PO Nos. 150841/151035) and the conditions of the State of Maryland Discharge Permit No. 2020-GWD-2978.

On February 26 and August 26, 2024, water samples were collected from the five monitoring wells (MW-1, MW-2, MW-3, MW-4, and MW-5) at the Dulin Rubble Landfill for laboratory analysis. Each well was gauged with an oil/water interface probe to determine the depth to water and the possible presence of immiscible product on the water-table. After gauging, each well was purged of three volumes of water to ensure that the sample collected was representative of the water in the surrounding formation. The samples were placed into pre-labeled, laboratory-supplied sample containers and set on ice in a laboratory-supplied cooler. The samples were sent to an EPA-approved laboratory using an overnight courier service to be analyzed for VOCs (EPA Method 8260, and EPA Method 8011), Total Metals (EPA Method 200.8), PFAS (EPA Method 537), and the following indicator parameters:

pH (SM4500-H+B-2011)	turbidity (EPA Method 180.1)
ammonia (SM4500-NH3-F-2011)	nitrate (EPA Method 300.0)
alkalinity (SM 2320B-11)	chloride (EPA Method 300.0)
sulfate (EPA Method 300.0)	COD (SM5220D-2011)
hardness (EPA Method 200.8)	specific conductance (SM2510B-2011)
total dissolved solids (SM2540C-2011)	

The Earth Data field reports and well gauging reports for February 26 and August 26, 2024, groundwater sampling were documented using a cloud based mobile application. Field reports may be found in Appendix A, and well gauging reports may be found in Appendix B. Laboratory analytical reports for February 26 and August 26, 2024, sampling event may be found in Appendix C. On April 5 and October 7, 2024, personnel from Kent County DPW conducted post-closure site inspections. Copies of the post-closure inspection reports are included in Appendix A.

4.2 LANDFILL GAS MONITORING

In August 2006, Earth Data installed four gas monitoring wells at the Dulin Rubble Landfill (Figure 2). In May 2010, fourteen soil vapor monitoring points were installed on the landfill and property adjacent to the southeast corner of the landfill, and eight soil vapor monitoring points remain at the site (Figure 3). As a result of the findings from the soil vapor point monitoring, in 2010 three landfill gas vents were installed in the southeast corner of the landfill property to reduce the off-site movement of landfill gas.

On a quarterly basis during the current reporting period (February 26, May 20, August 26, and November 18, 2024), the gas monitoring network was sampled for combustible gas (methane) and oxygen levels. The points sampled this reporting period included: four gas monitoring wells (GW-1, GW-2, GW-3, and GW-4), eight soil vapor monitoring points (SV-1, SV-2, SV-3, SV-4, SV-5, SV-12, SV-13, and SV-14), and three gas vents (V-1, V-2, and V-3).

The samples were analyzed in the field with a QRAE® Gas Surveyor portable gas analyzer. Prior to arriving on site, the portable gas analyzer was calibrated with a 50% lower explosive limit precision gas mixture. The sample hose was connected to the valve at the top of the well and the pump in the meter ran until the reading stabilized. The combustible gas and oxygen concentrations were then recorded in the field. Combustible gas was measured as the percent of the lower explosive limit (LEL), whereas oxygen was measured in total percent. After recording the data, the valve was closed, and the sample hose disconnected. Earth Data field reports for the gas monitoring may be found in Appendix D.

5.0 AQUIFER PROPERTIES

In the vicinity of the Dulin Rubble Landfill, the Pennsauken Formation, the Aquia Formation, and the Hornerstown Formation are hydrologically connected. The first confining layer (Severn Formation) occurs approximately 200 feet below land surface (bls). The groundwater monitoring wells installed at the landfill are all screened in the unconfined aquifer across the Pennsauken Formation and Aquia Formation contact. During the 2024 monitoring events, the depth to water from below the top of casing measured in the monitoring wells varied from approximately 9.30 (MW-1 on February 26, 2024) feet bls to 46.28 (MW-4 on August 26, 2024) feet bls, depending on well location. The top of the casing for most of the monitoring wells averaged approximately 3.0 feet above the land surface. Based on the gauging data collected at the landfill and the topographic elevation of the well locations, the approximate water-table elevation is between 27.39 feet and 31.78 feet above mean sea level (msl), depending on the well location. The water-table elevation has remained relatively consistent since Earth Data began monitoring the site in August 2005. The measured water level is above the screen interval for all monitoring wells, except for MW-5.

Using the monitoring well gauging data collected during the February 26 and August 26, 2024, monitoring events and the ground surface elevations at the monitoring well locations, it appears that the groundwater flows from northeast to southwest across the site, toward a tributary of Langford Creek (Figures 4 and 5). Gauging data collected during previous sampling events indicated a similar groundwater flow direction at the site.

6.0 RESULTS

6.1 HISTORICAL WATER QUALITY

The monitoring wells at the Dulin Rubble Landfill have been sampled semi-annually for laboratory analysis since 1995. Up-gradient well MW-3, however, was not sampled from June 2002 until the February 2006 sampling event, causing a data gap. During the 1995 to August 26, 2024, period, laboratory analytical results have shown no significant quantities of VOCs or metals (except for iron and manganese) in the groundwater samples collected at the site (Appendix E). Historical analysis of iron concentrations shows an exceedance of the cleanup standard (1.4 mg/L) on numerous occasions from 1995 through 2014. Since 2014, iron concentrations have been reported to be below the cleanup standard of 1.4 mg/L or not detected among all monitoring wells. Manganese concentrations in MW-4 and MW-5 have historically exceeded the cleanup standard of 0.043 mg/L since analysis began in 2013.

Analysis of the indicator parameters has shown elevated concentrations of nitrate-nitrogen (above 10 mg/L MCL) in each well during at least one sampling event in the past twenty years (Appendix E). In MW-4, the nitrate-nitrogen levels were consistently above the MCL from February 2004 to August 2012. Also, the nitrate-nitrogen concentrations for MW-1 were found below the MCL from 1995 to 2015 but show an increasing trend and have been above the MCL since 2015. The presence of nitrate-nitrogen in the water-table aquifer may be attributed to farming practices on the properties adjacent to the landfill and is probably not an artifact of the landfill. Nitrate-nitrogen is a commonly used agricultural fertilizer and elevated nitrate-nitrogen concentrations are found in the water-table aquifer throughout the Delmarva Peninsula.

The secondary maximum contaminant level for total dissolved solids (TDS) (500 mg/L) was exceeded in MW-5 during two sampling events (June 4, 1996 and October 6, 1997). Consequently, the concentrations of TDS in groundwater at the Dulin Rubble Landfill continue to be investigated further using statistical and graphical techniques to determine the potential influence of the rubble landfill on the area groundwater. The results of these analyses are discussed in Section 7.0.

The pH measured in samples collected from all the monitoring wells over the past 20 years has generally been slightly acidic (pH of 4.4 to 7.4). A pH in this range is typical for the water-table aquifer in this area.

6.2 FEBRUARY AND AUGUST 2024 WATER QUALITY

On February 26 and August 26, 2024, Earth Data representatives collected groundwater samples from monitoring wells MW-1, MW-2, MW-3, MW-4, and MW-5 at the Dulin Rubble Landfill. Samples were analyzed for VOCs, total metals, and indicator parameters. Analytical results have shown no significant quantities of VOCs in any of the groundwater samples collected at the site over the previous 20 years. The analytical results from the two recent sampling events in 2024 reported some metal and indicator parameters with a laboratory reporting limit (RL) that exceeds the MDE Table I and Table II PQL values. However, the laboratory reporting limits and the method detection limits (MDL) are significantly below the appropriate groundwater standard utilized for comparison of the results. The following table summarizes the PQL exceedances for this 2024 reporting period with the comparable groundwater standards:

VOC Parameters (Table I)	MDE PQL (ppb)	August 2024 Laboratory Reporting Limit (RL) (ug/L)	August 2024 Laboratory Limit of Detection (MDL) (ug/L)	Groundwater Standard
Iodomethane	1.0	20.0	0.83	N/A
m&p-Xylene	1.0	2.0	0.4	10,000 ug/L ^{1,3}

¹ Value from EPA Maximum Contaminant Level

² Value from EPA Secondary Drinking Water Standard

³ Value from MDE Cleanup Standard for Type I/II Aquifers

Metals and Indicator Parameters (Table II)	MDE PQL (ppm)	August 2024 Laboratory Reporting Limit (RL) (mg/L)	August 2024 Laboratory Limit of Detection (MDL) (mg/L)	Groundwater Standard
Antimony	0.002	0.005	0.0018	0.006 mg/L ^{1,3}
COD	10.0	20.0	6.8	N/A
Nitrate	0.06	0.1	0.044	10 mg/L ^{1,3}

¹ Value from EPA Maximum Contaminant Level

² Value from EPA Secondary Drinking Water Standard

³ Value from MDE Cleanup Standard for Type I/II Aquifers

Total Metals

Analytical results of the groundwater samples collected from the monitoring wells during the February 26 and August 26, 2024, sampling events showed no detections of antimony, beryllium, cadmium, copper, lead, mercury, selenium, silver, or thallium. Manganese was detected in amounts above the GW standard during both February and August (MW-4 and MW-5) sampling events. Iron was detected above the GW standard in MW-3 (2.22 mg/L) during the August sampling event. The remaining metals analyzed during this reporting period (barium, calcium, chromium, cobalt, magnesium, nickel, potassium, sodium, vanadium, and zinc) showed to be either not detected or had detectable concentrations below the respective groundwater standard across all sampled wells. Tables 1 and 2 show a summary of the total metal analysis for this reporting period.

Indicator Parameters

No significant changes were noted in any of the indicator parameters tested during this round of sampling. Nitrate-nitrogen has an MCL of 10 mg/L. On February 26 and August 26, the nitrate-nitrogen concentrations were above the MCL in MW-1 (16 mg/L in February and 20 mg/L in August) for both sampling events. As discussed previously, the elevated nitrate-nitrogen concentrations at the site are most likely associated with the use of fertilizers on the farmland adjacent to landfill property. The pH levels measured in the water samples were comparable to previous measurements and ranged from 5.1 to 6.3 this monitoring period. This is typical for the water-table aquifer in this area.

During the two 2024 sampling events, the total dissolved solid (TDS) concentrations found in the water samples collected from the five monitoring wells ranged from 40 mg/L (MW-5) to 180 mg/L (MW-1) and remain below the SMCL of 500 mg/L. Sulfate was detected below the laboratory RL of 5 mg/L in all sampled wells this reporting period. These concentrations remain well below the SMCL of 250 mg/L. TDS and sulfate concentrations were found to be within the range of background levels in all the downgradient (compliance) monitoring wells.

During this monitoring period, turbidity was found at levels below the EPA recommendation of 5 NTU for filtered drinking water in all wells except MW-3, depending on the sampling event. On February 26, the turbidity of sampled wells ranged from 0.95 NTU (MW-2) to 11 NTU (MW-3). On August 26, the turbidity ranged from 0.4 NTU (MW-2) to 2.2

NTU (MW-3) across the sampled wells. Chloride was detected below the SMCL of 250 mg/L in all sampled wells. On February 26, chloride ranged from 3.6 mg/L (MW-5) to 17 mg/L (MW-1). On August 26, chloride ranged from 6.5 (MW-5) mg/L to 18 mg/L (MW-1) across the sampled wells. Tables 3 and 4 summarize the indicator parameter concentrations in water samples collected during the February 26 and August 26, 2024, sampling events. Appendix E shows a summary over time of the VOCs, metals, and indicator parameter concentrations in each monitoring well.

PFAS Parameters

During this monitoring period, additional samples were analyzed for six (6) PFAS parameters in order to meet new monitoring and reporting requirements. Utilizing EPA Method 537 the PFAS parameters that were analyzed were as follows: Perfluorooctanoic acid (PFOA), Perfluorononanoic acid (PFNA), Perfluorooctanesulfonic acid (PFOS), Hexafluoropropylene Oxide Dimer Acid (HFPO-DA), Perfluorobutanesulfonic acid (PFBS), and Perfluorohexanesulfonic acid (PFHxS). Analytical results of the groundwater samples collected from the monitoring wells during the August 26, 2024, sampling event showed trace detections in three (MW-1, MW-4 and MW-5) of the five monitoring wells. All detections were below the groundwater standard, those results can be found in Table 5.

6.3 2024 LANDFILL GAS QUALITY

Four gas wells at the Dulin Rubble Landfill (GW-1, GW-2, GW-3, and GW-4) were sampled for combustible gas (methane) and oxygen on a quarterly basis on February 26, May 20, August 26, and November 18, 2024. Additionally, eight soil vapor monitoring points (SV-1, SV-2, SV-3, SV-4, SV-5, SV-12, SV-13, and SV-14), and three gas well vents (V-1, V-2, and V-3) were sampled during each of these sampling events.

Historically, combustible gas measurements from GW-3 have been high; however, since the installation of three gas vents near this well, combustible gas levels have decreased in GW-3 to 0% LEL. No detectable concentrations of combustible gases were found in any of the gas wells in 2024. Three landfill gas vents were installed in June 2010 and detectable concentrations of combustible gas have been reported since installation. During this 2024 monitoring period, combustible gas was found in: V-1 in February (100% LEL), May (100% LEL), August (100%

LEL), and November (100% LEL), V-2 in February (5% LEL), and V-3 in February (44% LEL), August (100% LEL), and November (100% LEL). The gas vent monitoring results are comparable to historical data. Table 6 shows a summary of the methane gas and oxygen concentrations for each sampling event since the instillation of the gas monitoring wells and gas vents.

During each sampling event, combustible gas measurements were also collected from seven soil vapor monitoring points in the southeast corner of the landfill near GW-3. No combustible gases were found in any of the soil vapor points. Table 7 shows a summary of the methane gas and oxygen concentrations for each soil vapor point since installation.

Oxygen concentrations in the gas wells ranged from 19.4 to 20.9 percent, depending on the well location and sampling date. Oxygen concentrations in the soil vapor points ranged from 17.6 to 20.9 percent, depending on the vapor point location and sampling date. Oxygen levels in the gas vents ranged from 18.9 to 20.9 percent, depending on the vent location and sampling date. Figures 6, 7, 8, and 9 show the combustible gas and oxygen levels measured in the gas monitoring wells, soil vapor monitoring points and gas vents during the February 26, May 20, August 26, and November 18, 2024, sampling events, respectively.

7.0 STATISTICAL ANALYSIS

Due to the absence of significant concentrations of VOCs, metals and most indicator parameters at the Dulin Rubble Landfill, a statistical analysis was performed on only one analyte: total dissolved solids (TDS). Using historical groundwater quality data for TDS, a statistical analysis was performed using ChemStat statistical software.

Before any data can be analyzed, the integrity and distribution of the data should be ascertained. Because the analytical data prior to 2005 were provided by the State of Maryland, laboratory and quality control data were unavailable. There was little information available to document data validity; however, for the purpose of this analysis, all data were accepted as is. Because up gradient well MW-3 was not sampled between June 2002 and August 2005, no data could be statistically evaluated to establish trends in compliance between up gradient and down-gradient water quality differences during this period. This is not to say that the data were not reviewed, and exceedances of quality standards duly noted where appropriate. The comparison of up gradient and downgradient water quality trends allows potential landfill impacts to be separated from regional trends. Three rounds of water samples were collected during May 1995. To avoid a time-weighted problem, if all three sample results were used independently, the results for May 1995 were averaged and considered as a single sample round.

Because the sample size for each parameter for each well was relatively small (approximately forty sampling events), non-parametric statistical tests were used to analyze the data. Non-parametric procedures are preferred for analysis of the Dulin Rubble Landfill data because they are:

1. free from normal distribution assumptions (which cannot be ascertained with certainty for small sample sets);
2. resistant to effects of outliers; and
3. usable when censored (i.e., less than detection values) data are present.

The EPA addendum describes the Kruskal-Wallis test when three or more well groups are being compared. However, the Wilcoxon Rank-Sum procedure (also known as the Mann-Whitney U Test) is recommended for two-group comparisons, such as the comparison of an individual compliance well to background well data.

The Mann-Kendall trend analysis test (Gilbert 1987) is another non-parametric test for determining trends in data over time. The test supports multiple observations per time period. Using this test, a downward or upward trend in the concentration of a particular parameter for the entire history of sampling can be identified.

Total Dissolved Solids, TDS

Based on the application of the Wilcoxon Rank-Sum test, there was a significant difference between background well MW-3 and compliance well MW-5 for TDS between 1995 and 2025 (Figure 10). The highest dissolved solids concentration in MW-5 was approximately 892 mg/L during the June 1996 sampling event. Since that time, the concentration of TDS in well MW-5 has decreased and remained below the background levels in MW-3. For the entire monitoring period (1995 to 2025), a statistically significant difference between background well MW-3 and compliance well MW-4 was noted for TDS. Historical dissolved solid concentrations at MW-4 has showed indication of statistical significance. The concentration of TDS in MW-4 during the past few sampling events has also decreased to levels comparable to background concentrations at MW-3. These values suggest that the rubble landfill, or activities around the landfill such as washing out concrete trucks or road salting, may have had an impact on groundwater quality at compliance wells MW-4 and MW-5 in the past. When the Wilcoxon Rank-Sum test was used to compare the background well MW-3 with the compliance wells MW-1, MW-2, and MW-5 for TDS, there was no statistical significance at the 1% level.

The results of the Mann-Kendall trend analysis test indicate a downward trend in background well MW-3. An upward trend is indicated in MW-1, and a downward trend is indicated in MW-4 and MW-5. No evidence of a trend up or down is indicated for MW-2. The statistical analysis report may be found in Appendix F.

8.0 CONCLUSIONS

Results of the groundwater monitoring at the Dulin Rubble Landfill in Kent County, Maryland, indicate that the landfill, which was closed in 1999, has not significantly degraded the groundwater quality at the site. Groundwater at the rubble landfill has been routinely monitored since 1995. Historical and current analysis of the groundwater at the site has shown no significant quantities of VOCs, metals, and most indicator parameters. TDS concentrations above background levels in monitoring wells MW-4 and MW-5 during the period between 1995 and 2006 can be attributed to landfill activities. Statistical analysis of historic TDS data collected at the site from compliance wells MW-4 and MW-5 supports this conclusion. The concentrations of TDS found in the compliance wells during this recent monitoring period and over the past 5 years have not only been well below the MDE cleanup level but are nearly equivalent to background levels found in MW-3. In addition, it should be noted that the decreasing trend in the concentration of TDS in the compliance wells MW-4 and MW-5 has occurred since the landfill was closed, as would be anticipated. Concentrations of nitrate-nitrogen above the EPA MCL in groundwater monitoring well MW-1 during this monitoring period may be attributed to the use of agricultural fertilizers on the properties adjacent to the landfill.

Based on the most recent results and despite the absence of significant concentrations of VOCs, metals, and most indicator parameters in the groundwater samples collected at the Dulin Rubble Landfill over the past 25 years, and the established decreasing trend in the concentration of total dissolved solids to background levels, Earth Data recommends maintaining the frequency of the groundwater sampling and analysis portion of the monitoring program of semi-annual sample collection.

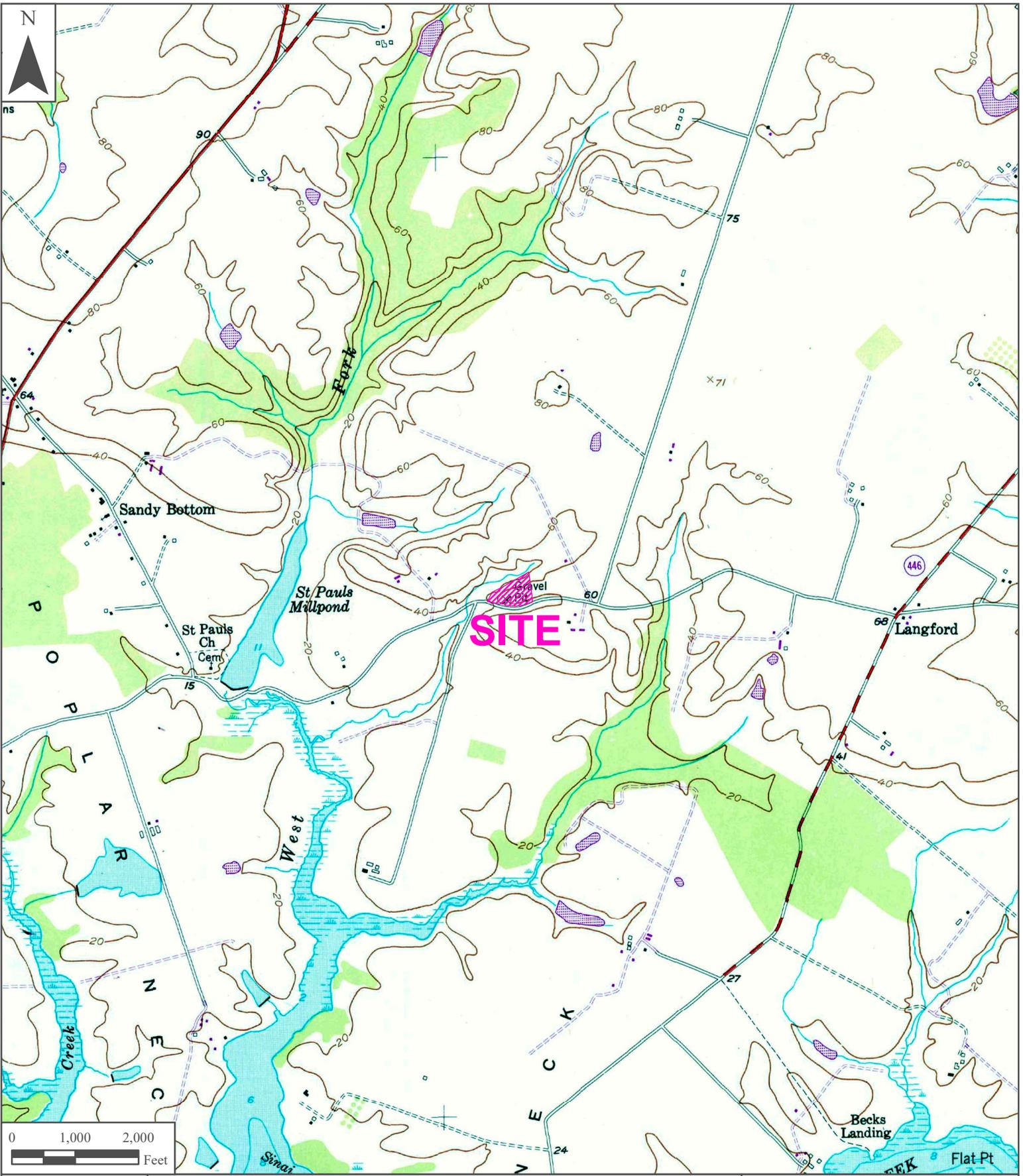
Upon initial installation of landfill gas monitoring wells in August 2006, one gas monitoring well, GW-3, consistently showed combustible gas (methane) levels at 100% LEL through May 2010. However, since the installation of the gas vents adjacent to GW-3 in June 2010, the gas well monitoring has shown a reduction in combustible gas concentrations in GW-3 to 0% LEL, indicating that the vents continue to be effective in reducing the off-site migration of landfill gas. Continued quarterly monitoring of the landfill gas wells will provide additional data to determine the efficiency of the landfill vents in reducing or preventing further offsite movement of the landfill gases.

9.0 LIMITATIONS

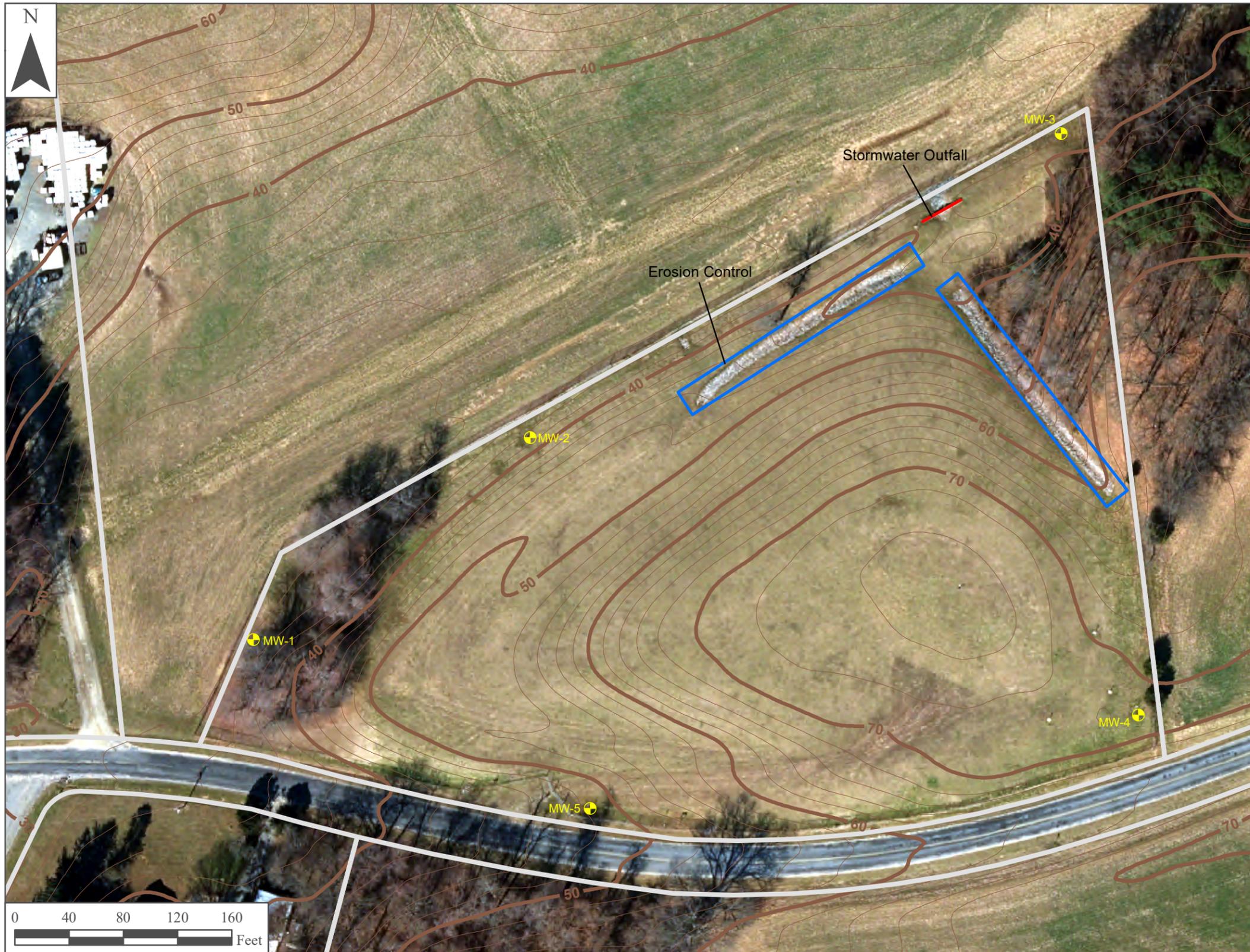
The findings and conclusions presented in this report are the result of both fieldwork and data analysis performed by Earth Data Incorporated and the analysis and interpretation of data collected by others as of this date. Earth Data makes no warranties or guarantees as to the accuracy or completeness of information obtained from or compiled by others. As additional data may become available, or the regulatory frameworks may change, the conclusions presented herein may change. Earth Data collected groundwater samples from only five monitoring wells on the property. Consequently, there may be soil or groundwater conditions on the property that were not disclosed by our investigation.

This report has been prepared in accordance with generally accepted practices and the level of care ordinarily exercised by members of our profession for the exclusive use of the Kent County Maryland Department of Public Works and their representatives. No other warranty, expressed or implied, is made.

FIGURES



<p>Figure</p> <h1 style="font-size: 2em;">1</h1>	<p>Location of Dulin Rubble Landfill Kent County, Maryland</p>			<p>EarthData INCORPORATED</p>		
	Date:	Project Number:	Drawn By:	Rev #	Date	Description
	03/12/2025	4697J	Jackson Forrest		03/12/2025	
	Scale:	Original Print Size:	Source:			
As Shown	8.5"X11"	USGS Rock Hall				



Explanation	
 MW-10D	Groundwater Monitoring Well
 18	Ground Elevation (Feet)
	Parcel Boundaries

Figure

2

Location of Groundwater Monitoring Wells
Kent County, Maryland

Date: 03/12/2025

Project Number: 4697J

Drawn By: Jackson Forrest

Scale: As Shown

Original Print Size: 11"X17"

Source: EDI, iMAP 2016

EarthData
INCORPORATED

Rev#	Date	Description
	03/12/2025	



Explanation	
● SV-1	Soil Vapor Point
● A	Landfill Gas Vent
⊕ GW-1	Gas Monitoring Wells
—18—	Ground Elevation (Feet)
—	Parcel Boundaries

Figure

3

Location of Gas Wells, Gas Vents, and Soil Vapor Points at Dulin Rubble Landfill
Kent County, Maryland

EarthData
INCORPORATED

Rev#	Date	Description
	03/12/2025	

Date: 03/12/2025	Project Number: 4697J	Drawn By: Jackson Forrest
Scale: As Shown	Original Print Size: 11"X17"	Source: EDI, iMAP 2016

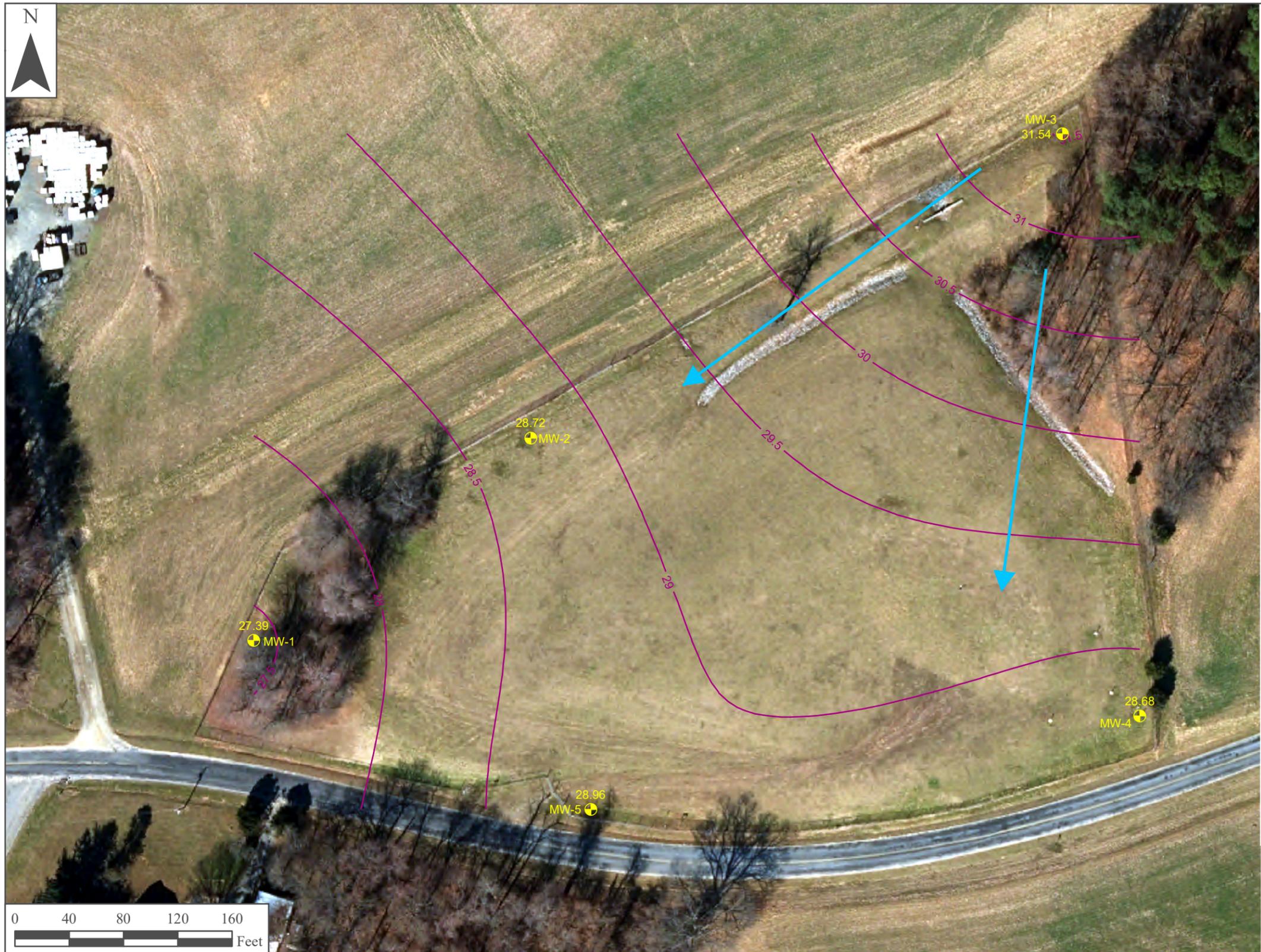


Explanation	
	Groundwater Monitoring Well Depth to Water (FT. MSL)
	Water Contour Measured 02/26/2024 (FT. MSL)
	Direction of Groundwater Flow

Figure 4
Water Table Contours for February 26, 2024 at Dulin Rubble Landfill
 Kent County, Maryland

Date: 03/12/2025	Project Number: 4697J	Drawn By: Jackson Forrest
Scale: As Shown	Original Print Size: 11"X17"	Source: EDI 2015, iMAP 2016

EarthData INCORPORATED		
Rev#	Date	Description
	03/12/2025	



Explanation	
 MW-10D 32.42	Groundwater Monitoring Well Depth to Water (FT. MSL)
 24	Water Contour Measured 08/26/2024 (FT. MSL)
	Direction of Groundwater Flow

Figure 5	Water Table Contours for August 26, 2024 at Dulin Rubble Landfill Kent County, Maryland		
	Date: 03/12/2025	Project Number: 4697J	Drawn By: Jackson Forrest
	Scale: As Shown	Original Print Size: 11"X17"	Source: EDI 2015, iMAP 2016

EarthData INCORPORATED		
Rev#	Date	Description
	03/12/2025	



● SV-1 Soil Vapor

POINT ID	LEL(%)	O ₂ (%)
SV-1	0	20.9
SV-2	0	19.6
SV-3	0	20.3
SV-4	0	20.2
SV-5	0	20.2
SV-12	0	19.4
SV-13	0	18.9
SV-14	0	19.9
February 26, 2024		

⊕ GW-1 Gas Monitoring Well

WELL ID	LEL(%)	O ₂ (%)
GW-1	0	20.9
GW-2	0	20.1
GW-3	0	19.7
GW-4	0	20.9
February 26, 2024		

● A Gas Vent

VENT ID	LEL(%)	O ₂ (%)
V-1	100	19.1
V-2	5	19.3
V-3	44	17.6
February 26, 2024		

NS = Not Sampled
LEL = Lower Explosive Limit



Figure 6
Combustible Gas and Oxygen Levels in Gas Monitoring Wells for February 26, 2024 at Dulin Rubble Landfill
 Kent County, Maryland

Date: 03/12/2024	Project Number: 4697J	Drawn By: Jackson Forrest
Scale: As Shown	Original Print Size: 11"X17"	Source: EDI 2015, iMAP 2016

Rev#	Date	Description
	03/12/2024	



● SV-1 Soil Vapor

POINT ID	LEL(%)	O ₂ (%)
SV-1	0	20.9
SV-2	0	19.9
SV-3	0	20.2
SV-4	0	20.1
SV-5	0	20.2
SV-12	0	20.1
SV-13	0	18.9
SV-14	0	20.0
May 20, 2024		

⊕ GW-1 Gas Monitoring Well

WELL ID	LEL(%)	O ₂ (%)
GW-1	0	20.3
GW-2	0	20.9
GW-3	0	20.2
GW-4	0	20.0
May 20, 2024		

● A Gas Vent

VENT ID	LEL(%)	O ₂ (%)
V-1	100	19.2
V-2	0	20.9
V-3	0	20.2
May 20, 2024		

NS = Not Sampled
LEL = Lower Explosive Limit



Figure

7

Combustible Gas and Oxygen Levels in Gas Monitoring Wells for May 20, 2024 at Dulin Rubble Landfill
Kent County, Maryland

Date: 03/12/2025	Project Number: 4697J	Drawn By: Jackson Forrest
Scale: As Shown	Original Print Size: 11"X17"	Source: EDI 2015, iMAP 2016

Rev#	Date	Description
	03/12/2025	



● SV-1 Soil Vapor

POINT ID	LEL(%)	O ₂ (%)
SV-1	0	20.9
SV-2	0	20.1
SV-3	0	20.1
SV-4	0	20.1
SV-5	0	20.0
SV-12	0	20.9
SV-13	0	19.9
SV-14	0	19.9
August 26, 2024		

⊕ GW-1 Gas Monitoring Well

WELL ID	LEL(%)	O ₂ (%)
GW-1	0	19.4
GW-2	0	19.9
GW-3	0	20.9
GW-4	0	19.7
August 26, 2024		

● A Gas Vent

VENT ID	LEL(%)	O ₂ (%)
V-1	100	17.7
V-2	0	19.8
V-3	100	20.9
August 26, 2024		

NS = Not Sampled
LEL = Lower Explosive Limit

Figure

8

Combustible Gas and Oxygen Levels in Gas Monitoring Wells for August 26, 2024 at Dulin Rubble Landfill
Kent County, Maryland

Date: 03/12/2025

Project Number: 4697J

Drawn By: Jackson Forrest

Scale: As Shown

Original Print Size: 11"X17"

Source: EDI 2015, iMAP 2016

EarthData
INCORPORATED

Rev#	Date	Description
	03/12/2025	



● SV-1 Soil Vapor

POINT ID	LEL(%)	O ₂ (%)
SV-1	0	20.9
SV-2	0	20.9
SV-3	0	20.5
SV-4	0	20.5
SV-5	0	20.5
SV-12	0	20.9
SV-13	0	19.3
SV-14	0	20.9
November 18, 2024		

⊕ GW-1 Gas Monitoring Well

WELL ID	LEL(%)	O ₂ (%)
GW-1	0	20.9
GW-2	0	20.9
GW-3	0	20.9
GW-4	0	20.9
November 18, 2024		

● A Gas Vent

VENT ID	LEL(%)	O ₂ (%)
V-1	100	20.9
V-2	0	20.9
V-3	100	20.9
November 18, 2024		

NS = Not Sampled
LEL = Lower Explosive Limit

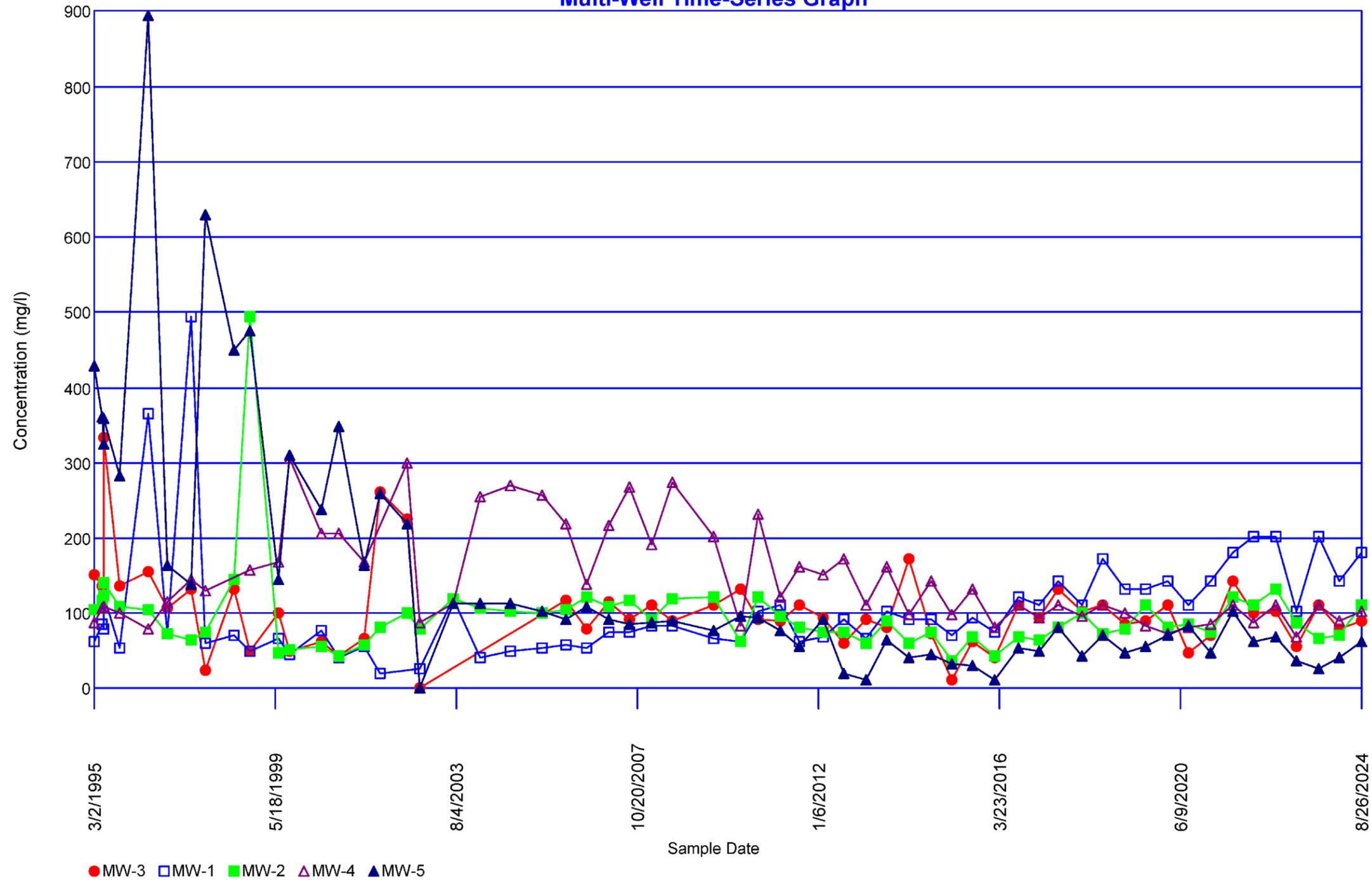


Figure 9
Combustible Gas and Oxygen Levels in Gas Monitoring Wells for November 18, 2024 at Dulin Rubble Landfill
 Kent County, Maryland

Date: 03/12/2025	Project Number: 4697J	Drawn By: Jackson Forrest
Scale: As Shown	Original Print Size: 11"X17"	Source: EDI 2015, iMAP 2016

Rev#	Date	Description
	03/12/2025	

Dissolved Solids Multi-Well Time-Series Graph



Figure

10

Concentration of Dissolved Solids in Water Samples at Nicholson Landfill
Kent County, Maryland



Date: 03/12/2025

Project Number: 4697J

Drawn By: Jackson Forrest

Scale: As Shown

Original Print Size: 11"X17"

Source: Chemstat - Starpoint Software, Inc.

Rev#	Date	Description
	03/12/2025	

TABLES

METALS - AUGUST 2024

Parameter	GW Standard *	Well ID				
		MW-1	MW-2	MW-3	MW-4	MW-5
Antimony (mg/L)	0.006	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/L)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/L)	2	0.0885	0.0294	0.0477	0.0326	0.0163
Beryllium (mg/L)	0.004	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium (mg/L)	0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/L)	----	17.3	11.2	7.46	10.4	6.11
Chromium (mg/L)	0.1	0.0024	0.0011	0.0022	0.0018	0.0029
Cobalt (mg/L)	0.073	0.0011	J0.0009	J0.00081	J0.00089	0.0011
Copper (mg/L)	1.3	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (mg/L)	1.4	<0.1	<0.1	J0.0824	J0.0817	<0.1
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (mg/L)	----	6.33	4.04	4.65	2.96	2.94
Manganese (mg/L)	0.043	0.0235	0.0118	0.0215	0.0739	0.0557
Mercury (mg/L)	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/L)	0.039	0.0068	0.0024	0.0028	0.0021	0.0022
Potassium (mg/L)	----	3.73	2.42	1.86	2.27	2.51
Selenium (mg/L)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/L)	0.0094	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/L)	---	15.1	4.12	3.48	3.79	3.16
Thallium (mg/L)	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium (mg/L)	0.0086	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (mg/L)	0.6	0.0416	0.0305	0.0339	0.028	0.0329

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers

ND = Not Detected

J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

Concentrations denoted in red are at or above the Groundwater Standard

EARTH DATA INCORPORATED

Table 1 - Summary of RCRA Metals detected in water samples collected from monitoring wells in February 27, 2023 at Dulin Rubble Landfill, Kent County, Maryland.

METALS - AUGUST 2024

Parameter	GW Standard *	Well ID				
		MW-1	MW-2	MW-3	MW-4	MW-5
Antimony (mg/L)	0.006	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/L)	0.01	<0.001	<0.001	J0.00087	<0.001	<0.001
Barium (mg/L)	2	0.0846	0.0251	0.0578	0.0284	0.0126
Beryllium (mg/L)	0.004	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium (mg/L)	0.005	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/L)	----	16.4	9.44	7.36	9.81	5.14
Chromium (mg/L)	0.1	0.0015	0.0011	0.0109	<0.001	0.0033
Cobalt (mg/L)	0.073	J0.00095	J0.00068	0.0013	J0.00067	0.0011
Copper (mg/L)	1.3	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (mg/L)	1.4	<0.1	<0.1	2.22	<0.1	J0.0839
Lead (mg/L)	0.015	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (mg/L)	----	5.89	3.29	5.82	2.7	2.28
Manganese (mg/L)	0.043	0.0202	0.0088	0.0364	0.0441	0.0541
Mercury (mg/L)	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/L)	0.039	0.0061	0.0021	0.005	0.0017	0.0017
Potassium (mg/L)	----	3.57	2.17	2.01	2.18	2.33
Selenium (mg/L)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/L)	0.0094	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/L)	---	13.6	4.15	3.85	3.88	3.07
Thallium (mg/L)	0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium (mg/L)	0.0086	<0.001	<0.001	0.0069	<0.001	<0.001
Zinc (mg/L)	0.6	0.0359	0.0226	0.033	0.0229	0.0243

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers

ND = Not Detected

J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

Concentrations denoted in red are at or above the Groundwater Standard

EARTH DATA INCORPORATED

Table 2 - Summary of RCRA Metals detected in water samples collected from monitoring wells in August 29, 2022 at Dulin Rubble Landfill, Kent County, Maryland.

INDICATOR PARAMETERS - AUGUST 2024

Parameter	GW Standard *	Well ID				
		MW-1	MW-2	MW-3	MW-4	MW-5
Alkalinity (mg/L)	----	<1	<1	3.2	<1	7.4
Ammonia (mg/L)	----	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/L)	----	<20	<20	<20	<20	<20
Chloride (mg/L)	250	17	11	6.6	9.6	3.6
Dissolved Solids (mg/L)	500	140	68	78	87	40
Hardness (mg/L)	----	61	36	37	42	19
Nitrate (mg/L)	10	16	7.9	5.2	9.4	2.9
pH (units)	6.5 - 8.5	6.3	5.3	5.3	5.2	5.8
Specific Conductance (units/cm)	----	240	120	110	130	67
Sulfate (mg/L)	250	1	0.34	14	1	1.3
Turbidity (NTU)	5	2	0.95	11	3.6	1.5

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers

ND = Not Detected

J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

Concentrations denoted in red are above the EPA Maximum Contaminant Levels (MCLs) for drinking water
 Concentrations denoted in orange are above the EPA Secondary Maximum Contaminant Levels (SMCLs) for drinking water except pH levels are below the SMCL range

EARTH DATA INCORPORATED

Table 3 - Summary of Indicator Parameters detected in water samples collected from monitoring wells in February 27, 2023 at Dulin Rubble Landfill, Kent County, Maryland.

INDICATOR PARAMETERS - AUGUST 2024

Parameter	GW Standard *	Well ID				
		MW-1	MW-2	MW-3	MW-4	MW-5
Alkalinity (mg/L)	----	<1	<1	J1	2.4	6
Ammonia (mg/L)	----	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/L)	----	<20	J11	J8.6	<20	J9.8
Chloride (mg/L)	250	18	14	8.5	11	6.5
Dissolved Solids (mg/L)	500	180	110	87	100	61
Hardness (mg/L)	----	69	45	38	38	27
Nitrate (mg/L)	10	20	9.2	4.4	7.6	4.6
pH (units)	6.5 - 8.5	5.8	5.2	5.4	5.1	5.4
Specific Conductance (units/cm)	----	240	140	110	110	86
Sulfate (mg/L)	250	<1	<1	13	<1	J0.85
Turbidity (NTU)	5	0.7	J0.4	2.2	1.2	1.3

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers

ND = Not Detected

J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

Concentrations denoted in red are above the EPA Maximum Contaminant Levels (MCLs) for drinking water
 Concentrations denoted in orange are above the EPA Secondary Maximum Contaminant Levels (SMCLs) for drinking water except pH levels are below the SMCL range

EARTH DATA INCORPORATED

Table 4 - Summary of Indicator Parameters detected in water samples collected from monitoring wells in August 29, 2022 at Dulin Rubble Landfill, Kent County, Maryland.

PFAS PARAMETERS - AUGUST 2024

Parameter	GW	Well ID				
	Standard *	MW-1	MW-2	MW-3	MW-4	MW-5
Perfluorooctanoic acid (PFOA) (ng/L)	4.0	<1.7	<1.7	<1.7	J0.78	J0.39
Perfluorononanoic acid (PFNA) (ng/L)	10.0	<1.7	<1.7	<1.7	<1.7	<1.7
Perfluorooctanesulfonic acid (PFOS) (ng/L)	4.0	<1.7	<1.7	<1.7	<1.7	<1.7
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA) (ng/L)	10.0	J0.56	<1.7	<1.7	<1.7	<1.7
Perfluorobutanesulfonic acid (PFBS) (ng/L)	2000	<1.7	<1.7	<1.7	<1.7	<1.7
Perfluorohexanesulfonic acid (PFHxS) (ng/L)	10.0	<1.7	<1.7	<1.7	J0.19	<1.7

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers

ND = Not Detected

J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

Concentrations denoted in red are above the EPA Maximum Contaminant Levels (MCLs) for drinking water
 Concentrations denoted in orange are above the EPA Secondary Maximum Contaminant Levels (SMCLs) for drinking water except pH levels are below the SMCL range

EARTH DATA INCORPORATED

Table 5 - Summary of PFAS Parameters detected in water samples collected from monitoring wells in August 26, 2024 at Dulin Rubble Landfill, Kent County, Maryland.

Date	Gas Well ID								Vent ID					
	GW-1		GW-2		GW-3		GW-4		V-1		V-2		V-3	
	% LEL	O ₂	% LEL	O ₂	% LEL	O ₂	% LEL	O ₂	% LEL	O ₂	% LEL	O ₂	% LEL	O ₂
22-Aug-06	100	0.0	20	13.9	100	---	22	4.8						
30-Nov-06	45	5.3	0	20.9	100	7.2	21	7.2						
21-Feb-07	0	21.3	2	21.6	100	9.4	0	21.1						
29-May-07	17	MF	11	MF	100	MF	7	MF						
22-Aug-07	88	MF	0	MF	100	MF	1	MF						
3-Dec-07	92	5.1	2	12.8	13	20.2	4	5.0						
26-Feb-08	68	7.2	2	20.7	100	10.7	2	17.6						
28-May-08	35	3.8	3	17.0	100	9.8	3	8.2						
20-Aug-08	2	0.0	2	13.9	100	0.1	2	2.0						
19-Nov-08	3	7.8	0	18.1	100	17.6	1	4.9						
26-Feb-09	0	14.6	0	18.4	100	17.0	0	12.2						
22-May-09	22	4.5	0	19.2	100	12.6	0	9.0						
24-Jun-09	55	12.0	0	17.1	91	6.5	0	8.9						
31-Jul-09	74	3.9	0	15.1	100	15.9	0	2.7						
28-Aug-09	59	5.1	0	19.1	100	15.0	0	5.1						
2-Oct-09	44	0.6	0	18.0	100	13.3	3	0.7						
30-Oct-09	36	1.1	1	19.8	34	2.1	1	2.2						
30-Nov-09	100	18.2	0	12.8	100	21.0	0	20.4						
30-Dec-09	8	5.3	0	20.0	0	20.0	0	9.4						
29-Jan-10	1	3.5	0	20.4	100	19.8	0	20.1						
9-Mar-10	26	3.8	0	20.7	100	20.0	0	15.2						
7-May-10	32	MF	0	MF	2	MF	1	MF						
14-May-10	12	0.4	0	13.7	100	4.5	0	4.5						
21-May-10	12	1.3	0	19.1	100	5.1	0	10.3						
28-May-10	3	20.9	0	17.5	0	20.9	7	10.5						
29-Jun-10	3	15.7	0	18.2	0	20.9	0	20.9	100	20.3	0	20.9	0	20.9
6-Jul-10	0	12.3	0	15.6	49	9.0	0	12.9	100	12.3	100	17.0	100	17.5
13-Jul-10	0	19.5	0	15.8	14	0.6	0	17.1	100	17.0	29	20.0	100	12.3
20-Jul-10	0	5.6	0	18.6	0	20.6	0	20.9	0	20.9	0	20.0	0	20.7
17-Aug-10	0	10.1	0	17.4	0	20.9	0	19.7	0	20.9	0	20.9	28	16.8
29-Nov-10	0	20.9	3	10.3	0	13.0	0	20.9	89	1.0	10	16.8	100	16.2
22-Feb-11	0	19.4	0	18.8	3	12.1	0	18.7	0	20.9	0	20.9	14	12.0
20-May-11	0	12.0	0	20.5	0	10.7	0	20.4	47	3.4	0	15.0	100	13.0
10-Aug-11	13	7.5	0	20.4	0	17.3	0	14.6	40	12.8	0	20.9	62	13.7
18-Nov-11	0	19.1	0	18.7	0	19.0	0	20.9	0	20.9	0	20.2	30	4.3
1-Mar-12	0	16.2	0	20.9	0	13.3	0	13.3	100	4.2	0	20.5	63	3.8
23-May-12	0	15.5	0	17.9	0	14.8	0	14.2	48	3.5	0	20.9	57	2.1
16-Aug-12	0	14.5	0	17.3	0	16.7	0	11.7	0	20.9	0	20.9	0	20.2
8-Nov-12	0	14.1	0	8.1	0	14.3	0	15.3	100	2.3	0	13.9	53	2.6
15-Feb-13	0	19.8	0	19.3	0	13.4	0	12.6	60	1.5	0	14.1	59	1.9
16-May-13	0	17.4	0	16.7	0	18.7	0	19.5	100	16.6	0	20.9	0	20.5
15-Aug-13	26	7.6	35	9.5	35	11.8	35	8.6	100	17.7	23	19.0	100	3.9
11-Nov-13	0	20.2	42	16.6	0	20.4	0	20.6	100	20.5	23	20.5	100	20.5
28-Feb-14	3.5	17.4	0	19.8	0	20.0	50	16.8	100	12.4	0	19.5	0	19.9
24-Sep-14	0	20.4	0	12.8	0	20.5	0	20.6	0	20.4	0	19.7	37	2.4
1-Dec-14	0	17.8	0	11.2	0	13.5	0	20.5	100	0.9	0	12.2	100	1.5
23-Feb-15	0	20.1	0	13.2	0	17.8	0	20.1	100	1.5	0	19.3	0	20.0
19-May-15	0	20.3	0	12.4	0	18.5	0	20.4	10	7.7	0	20.4	100	2.7
19-Aug-15	0	20.3	0	15.2	0	20.3	0	20.3	0	20.3	0	20.3	0	20.3
16-Nov-15	0	15.2	0	13.7	0	18.2	0	12.8	100	0.5	0	14.8	66	0.9
22-Feb-16	0	18.3	0	18.0	0	20.3	0	20.5	0	20.4	0	20.4	0	20.4
12-May-16	0	17.4	0	16.3	0	10.8	0	13.2	44	0.9	0	13.4	69	0.9
6-Sep-16	0	20.9	0	8.3	0	12.1	0	20.9	50	1.0	0	11.0	50	1.7
15-Nov-16	0	15.6	0	14.8	0	19.2	0	12.9	100	13.1	44	9.2	100	10.9
6-Mar-17	0	18.3	0	20.9	0	17.5	5	15.9	100	0.4	0	9.1	100	0.3
18-May-17	0	15.2	0	14.5	0	15.3	0	14.2	17	11.9	0	20.9	17	6.7
8-Aug-17	0	7.1	2	16.2	0	14.5	0	10.2	0	22.9	0	22.9	23	7.4
14-Nov-17	0	10.1	0	10.1	0	14.3	0	4.5	100	4.4	36	0.8	100	16.9
26-Feb-18	0	17.1	0	17.3	0	20.9	0	20.9	0	20.9	0	20.9	0	20.9
8-May-18	0	14.3	0	18.8	0	12.0	0	14.1	27	0.0	0	18.6	28	4.1
24-Aug-18	7	9.5	0	17.8	0	13.0	4	11.3	0	20.9	0	20.9	0	20.9
26-Nov-18	0	11.4	0	10.4	0	11.1	0	10.7	100	1.3	10	6.8	100	1.9
25-Feb-19	0	18.7	0	16.2	0	18.6	0	13.1	0	18.2	0	20.9	0	20.9
20-May-19	0	12.8	0	14.2	0	19.5	0	13.1	90	6.5	0	14.5	50	1.2
26-Aug-19	0	6.7	0	6.6	0	16.3	0	9.3	0	20.0	0	11.9	63	0.0
18-Nov-19	0	18.7	0	12.9	0	17.4	0	14.7	100	8.8	81	5.2	100	7.1
24-Feb-20	0	18.7	0	17.5	0	11.2	0	13.9	100	0.3	18	1.6	100	0.0
11-May-20	0	18.7	0	17.7	0	19.0	0	19.3	4	20.9	0	19.5	0	20.9
26-Aug-20	13	0.0	0	12.0	0	9.1	0	11.4	0	20.9	0	20.9	0	20.9
16-Nov-20	0	15.7	0	12.6	0	14.7	0	11.0	63	0.2	0	18.8	0	20.7
23-Feb-21	0	14.9	0	15.0	0	10.3	0	11.5	100	1.1	12	3.1	100	0.9
24-May-21	0	17.2	0	19.1	0	17.9	0	15.7	0	20.4	0	20.9	0	20.9
31-Aug-21	0	1.3	0	12.3	0	14.6	0	8.6	0	20.9	0	20.9	0	20.9
30-Nov-21	0	18.6	0	15.4	0	16.6	0	11.8	100	0.0	85	4.8	100	0.0
28-Feb-22	0	18.9	0	20.9	0	20.9	0	20.9	3	19.6	0	20.9	0	20.9
23-May-22	0	13.0	0	13.9	0	20.9	0	15.2	3	20.9	0	20.9	0	20.9
29-Aug-22	0	9.3	0	13.6	0	16.4	0	12.4	16	9.2	0	20.9	21	3.8
14-Nov-22	0	10.9	0	7.9	0	18.0	0	10.6	0	19.9	0	20.9	0	20.9
27-Feb-23	0	19.1	0	17.2	0	10.4	0	14.9	69	0.0	0	20.9	11	7.9
22-May-23	0	17.9	0	14.3	0	14.2	0	12.9	13	12.2	0	20.9	0	17.3
28-Aug-23	0	4.1	0	11.1	0	15.1	0	10.7	0	0.0	0	20.9	0	7.9
13-Nov-23	0	20.9	0	10.4	0	16.6	0	14.5	100	7.1	32	8.3	56	1.3
26-Feb-24	0	20.9	0	20.1	0	19.7	0	20.9	100	19.1	5	19.3	44	17.6
20-May-24	0	20.3	0	20.9	0	20.2	0	20.0	100	19.2	0	20.9	0	20.2
26-Aug-24	0	19.4	0	19.9	0	20.9	0	19.7	100	17.7	0	19.8	100	20.9
18-Nov-24	0	20.9	0	20.9	0	20.9	0	20.9	100	20.9	0	20.9	100	20.9

--- Installation of vents

MF = Instrument Malfunction

EARTH DATA INCORPORATED

Table 6 - Summary of combustible gas and oxygen levels in gas monitoring wells and vents at Dulin Rubble Landfill, Kent County, Maryland

Soil Vapor Monitoring Point ID

Date	SV-1		SV-2		SV-3		SV-4		SV-5		SV-12		SV-13		SV-14	
	% LEL	O ₂														
7-May-10	67	MF	100	MF	95	MF	100	MF								
14-May-10	100	17.6	100	1.6	100	2.6	100	19.5	100	18.5	100	18.0	100	16.8	100	12.6
21-May-10	100	16.8	100	2.3	100	1.8	100	18.7	100	18.6	100	19.1	100	13.3	100	10.2
28-May-10	17	19.7	0	20.9	0	20.9	0	20.9	0	20.9	100	17.5	43	17.4	0	20.9
29-Jun-10	0	20.9	100	15.8	0	20.9	0	20.9	0	20.9	100	17.6	100	20.2	6	20.9
6-Jul-10	40	13.8	63	12.3	0	19.9	50	0.0	100	4.1	100	14.4	100	16.0	100	12.3
13-Jul-10	24	9.6	0	9.9	0	17.2	27	4.7	48	9.8	100	9.5	100	14.7	100	11.3
20-Jul-10	0	20.5	0	19.8	0	20.9	0	20.9	0	20.7	0	20.6	24	17.4	0	20.6
17-Aug-10	0	15.5	3	17.3	0	20.4	0	17.7	0	15.8	41	8.9	100	13.9	33	6.1
29-Nov-10	0	13.7	3	9.2	NS	NS	NS	NS	NS	NS	79	5.9	16	8.1	0	20.9
22-Feb-11	0	17.2	0	10.2	0	20.4	0	15.0	0	14.2	12	15.6	3	19.3	3	15.7
20-May-11	0	12.6	0	10.5	0	17.5	0	12.2	0	10.5	0	16.6	7	13.0	0	20.1
10-Aug-11	0	16.5	0	14.3	0	18.3	0	13.5	0	12.2	0	14.3	6	11.6	0	20.1
18-Nov-11	0	14.2	0	16.9	0	20.9	0	14.2	0	14.0	0	17.7	4	18.1	2	11.6
1-Mar-12	0	19.1	0	20.5	0	14.3	0	14.1	0	12.8	0	14.3	4	13.9	0	15.4
23-May-12	2	16.3	0	14.7	0	17.9	0	15.6	0	16.2	2	15.3	2	14.3	2	13.7
16-Aug-12	0	17.1	0	16.6	0	18.8	0	16.2	0	17.5	0	16.4	0	15.9	0	15.4
8-Nov-12	lost		0	14.8	0	16.5	0	15.2	0	15.4	0	13.9	0	0.0	0	15.4
15-Feb-13	-----		0	13.4	0	15.3	0	16.2	0	15.0	0	14.3	0	15.1	0	17.0
16-May-13	-----		0	18.8	0	20.0	0	20.9	0	18.9	0	17.1	0	20.2	0	17.2
15-Aug-13	-----		29	13.7	26	18.5	32	14.8	32	15.5	29	15.5	17	16.8	32	11.1
11-Nov-13	-----		26	18.0	32	16.8	38	15.1	38	16.0	29	14.6	100	15.7	0	20.5
28-Feb-14	-----		0	20.0	0	20.0	55	17.0	58	15.6	0	20.0	0	19.8	0	19.8
24-Sep-14	-----		0	20.5	0	20.6	0	18.6	0	19.4	0	20.5	0	20.4	0	20.5
1-Dec-14	-----		0	12.9	0	15.2	0	15.9	0	17.4	0	7.5	0	20.5	0	15.8
23-Feb-15	-----		0	20.1	0	20.0	0	19.1	0	18.9	0	20.0	0	20.0	0	18.2
19-May-15	-----		0	18.6	0	13.2	0	20.2	0	18.3	0	20.4	0	13.8	0	19.5
19-Aug-15	-----		0	20.3	0	20.3	0	20.3	0	18.2	0	20.4	0	20.3	0	20.3
16-Nov-15	-----		0	15.3	0	15.3	0	15.1	0	17.8	0	16.0	0	18.1	0	14.9
22-Feb-16	-----		0	20.4	0	20.4	0	18.4	0	17.0	0	20.3	0	19.8	0	20.5
12-May-16	-----		0	13.2	0	16.4	0	16.4	0	16.1	0	15.9	0	15.8	0	16.4
6-Sep-16	0	15.5	0	18.6	0	17.9	0	18.7	0	18.1	0	15.7	0	15.2	0	13.2
15-Nov-16	0	20.3	0	17.2	0	16.1	0	16.5	0	17.4	0	12.8	0	17.8	0	18.2
6-Mar-17	0	17.3	0	16.0	0	17.1	0	15.0	0	17.4	0	16.3	0	18.7	0	18.4
18-May-17	0	20.9	0	15.6	0	16.7	0	17.2	0	16.9	0	18.5	0	18.8	0	15.9
8-Aug-17	0	16.2	0	15.4	0	16.7	0	16.9	0	16.9	0	12.4	0	11.7	0	11.1
14-Nov-17	0	9.2	0	7.5	0	12.8	0	10.5	0	13.0	0	7.1	0	13.9	0	12.0
26-Feb-18	0	20.9	0	20.9	0	20.9	0	16.1	0	16.7	0	11.2	0	20.1	0	16.1
5-May-18	0	20.9	0	14.8	0	16.2	0	15.7	0	15.3	0	16.2	0	21.2	0	15.9
24-Aug-18	0	15.5	0	14.2	0	15.7	0	15.0	0	14.6	0	15.9	0	14.4	3	12.2
26-Nov-18	0	13.1	0	11.5	0	13.9	0	13.4	0	12.5	0	20.4	0	11.2	0	11.3
25-Feb-19	0	20.9	0	15.2	0	16.9	0	18.2	0	20.9	0	20.4	0	15.6	0	17.6
20-May-19	0	20.2	0	16.0	0	17.2	0	17.3	0	16.7	0	11.2	0	13.2	0	16.0
26-Aug-19	0	20.2	0	14.8	0	15.4	0	14.7	0	14.2	0	13.4	0	15.3	4	12.7
18-Nov-19	0	16.1	0	15.4	0	17.1	0	16.8	0	16.5	0	13.1	0	16.8	4	16.0
24-Feb-20	0	13.2	0	11.2	0	15.2	0	15.1	0	13.6	0	7.7	16	6.3	0	14.1
11-May-20	0	19.9	0	18.4	0	18.5	0	18.4	0	18.4	0	17.4	0	15.0	0	18.5
26-Aug-20	0	20.0	0	12.2	0	17.1	0	13.3	0	14.7	0	11.8	0	4.1	0	4.2
16-Nov-20	0	20.3	0	11.0	0	14.0	0	12.9	0	13.8	0	10.4	0	3.8	0	13.3
23-Feb-21	0	18.2	0	8.2	0	14.3	0	12.1	0	14.0	0	4.3	0	2.3	0	11.7
24-May-21	0	20.9	0	16.6	0	17.4	0	18.3	0	17.7	0	16.4	0	12.0	0	16.5
31-Aug-21	0	20.1	0	14.7	0	15.2	0	15.6	0	14.9	0	13.1	0	8.7	0	12.4
30-Nov-21	0	13.3	0	14.6	0	15.6	0	15.2	0	15.3	0	12.1	0	12.9	0	15.1
28-Feb-22	0	20.9	0	16.2	0	7.3	0	14.9	0	16.3	0	20.9	0	13.8	0	17.9
23-May-22	0	20.9	0	12.1	0	14.7	0	14.8	0	14.2	83	13.8	0	3.9	0	13.4
29-Aug-22	0	20.9	0	14.1	0	20.9	0	16.2	0	15.2	0	15.2	0	11.2	0	13.6
14-Nov-22	NS	NS	0	11.9	0	13.0	0	12.8	0	12.6	0	12.5	0	5.4	0	11.1
27-Feb-23	0	20.9	0	11.4	0	14.7	0	16.3	0	15.1	0	8.6	0	4.4	14	15.3
22-May-23	0	20.9	0	12.4	0	14.7	0	14.3	0	14.2	0	12.0	0	6.9	0	13.1
28-Aug-23	9	14.5	0	16.1	0	14.9	0	16.9	0	14.5	0	13.4	0	9.7	0	11.5
13-Nov-23	0	15.3	0	14.2	0	15.5	0	15.2	0	15.5	0	12.6	0	11.3	0	15.3
26-Feb-24	0	20.9	0	19.6	0	20.3	0	20.2	0	20.2	0	19.4	0	18.9	0	19.9
20-May-24	0	20.9	0	19.9	0	20.2	0	20.1	0	20.2	0	20.1	0	18.9	0	20.0
26-Aug-24	0	20.9	0	20.1	0	20.1	0	20.1	0	20.0	0	20.9	0	19.9	0	19.9
18-Nov-24	0	20.9	0	20.9	0	20.5	0	20.5	0	20.5	0	20.9	0	19.3	0	20.9

----- Installation of vents

MF = Instrument Malfunction

EARTH DATA INCORPORATED

Table 7 - Summary of combustible gas and oxygen levels in soil vapor points at Dulin Rubble Landfill, Kent County, Maryland

APPENDICES

APPENDIX A

**Earth Data Field Reports
(Groundwater Sampling)**

FIELD NOTES

EDI W.O. # 46971
DATE: February 26, 2024

PROJECT: Kent Co. Landfill – Dulin
LOCATION: Chestertown, Maryland

EDI Personnel: S. Wolf

Weather: Clear, 60s° F

Onsite Time: 9:15am-1:00pm

Earth Data Inc. personnel arrived onsite to collect water samples from 5 onsite groundwater monitoring wells. Prior to sampling, each monitoring well was gauged with an oil/water interface probe. The depth to water (DTW) from the top of casing (TOC) was measured and recorded (see Gauging Data Report).

Each monitoring well was purged of three well-volumes of water using a 12-volt submersible purge pump. After purging, a water sample was collected from each well for laboratory analysis. Each sample was collected in laboratory-supplied sample containers, labeled and immediately placed on ice in the field for subsequent transfer to an EPA-approved laboratory via courier. Sampling pumps were decontaminated between wells and tubing was replaced between wells. Field pH, and conductivity were measured and summarized below. A duplicate sample (Duplicate) was collected from MW-4.

Well ID	Sample Time	Depth to Water (ft)	pH	Conductivity (µS)
MW-1	11:50	9.30	4.9	229
MW-2	12:30	11.22	4.7	128.7
MW-3	10:40	10.11	5.7	279
MW-4	09:45	46.09	6.1	152.4
MW-5	11:20	25.02	5.2	77.8

Signed: _____

Scott Wolf

FIELD NOTES

EDI W.O. # 4697J
DATE: August 26, 2024

PROJECT: Kent Co. Landfill – Dulin
LOCATION: Chestertown, Maryland

EDI Personnel: S. Wolf, J. Speary
Onsite Time: 8:30am-1:00pm

Weather: Clear, 80s° F

Earth Data Inc. personnel arrived onsite to collect water samples from 5 onsite groundwater monitoring wells. Prior to sampling, each monitoring well was gauged with an oil/water interface probe. The depth to water (DTW) from the top of casing (TOC) was measured and recorded (see Gauging Data Report).

Each monitoring well was purged of three well-volumes of water using a 12-volt submersible purge pump. After purging, a water sample was collected from each well for laboratory analysis. Each sample was collected in laboratory-supplied sample containers, labeled and immediately placed on ice in the field for subsequent transfer to an EPA-approved laboratory via courier. Sampling pumps were decontaminated between wells and tubing was replaced between wells. Field pH, and conductivity were measured and summarized below. A duplicate sample (Duplicate) was collected from MW-5.

Well ID	Sample Time	Depth to Water (ft)	pH	Conductivity (µS)
MW-1	11:20	9.68	5.2	224
MW-2	11:45	11.58	5.3	129.3
MW-3	10:45	10.35	5.4	111.8
MW-4	10:15	46.28	5.6	95.2
MW-5	09:30	25.43	6.3	95.9

Signed: _____

Scott Wolf



Public Works | Environmental Operations

APRIL 19, 2024

Brian Coblenz, Chief
Solid Waste Program
Maryland Department of the Environment
1800 Washington Blvd., Suite 605
Baltimore, MD 21230-1719

Dear Mr. Coblenz:

Attached please find the Post Closure Inspection Report for the closed Nicholson Landfill and the closed Dulin Rubble Landfill, inspected on April 5, 2024. Kent County Environmental Operations will continue submitting the inspection reports in compliance with the COMAR regulations. Inspections will be conducted in April and October of each year.

Please contact me if you need additional information.

Sincerely,

Daniel F. Mattson, P.E., C.F.M., C.M.E
Public Works Director

DFM/tf

**Semi-Annual Inspection
Nicholson Landfill and Dulin Rubble Landfill
Kent County, Maryland
April 2024**

1. Background and Requirements

COMAR 26.04.07.22 Sanitary Landfills – Post Closure Monitoring and Maintenance, requires that landfills in Maryland be subject to post-closure monitoring and maintenance after the complete installation of the landfill cap.

COMAR stipulates that closed landfills shall be inspected at least twice per year by the permit holder or it's designate. The inspection shall include:

- A. Observation of the cover at the landfill.
- B. Notation of any drainage irregularities or signs of erosion of the cover.
- C. Notation of any surface expressions of leachate at the landfill; and
- D. Checking the status of the monitoring wells.

2. Site Location and Access

The Nicholson Landfill is located approximately 5 miles northwest of Chestertown. The 15-acre site is accessible via routes 20 and 298 by Earl Nicholson Rd.

The Dulin Rubble Landfill, a 5.6-acre site is located just northeast of the intersection of Ricauds Branch Rd. and Hynson Rogers Rd. It is accessible from State Route 20 by Bakers Lane. The Dulin Site is approximately 3 miles southwest of the Nicholson Landfill Site.

3. Site Description

The Nicholson Landfill was closed in May of 1992 and a 2-foot cap of cover material was applied over the stored solid waste. A capping plan was completed by Century Engineering, Inc. and given to the Maryland Environmental Service (MES) for implementation. The liner cap was installed by Days Cove Reclamation Company and all work completed during the fall of 1996.

The Dulin Rubble Landfill was closed on April 1, 1999 and a 2-foot cap of cover material was applied over the stored rubble material. A capping plan was completed by Century Engineering, Inc. and approved by Maryland Department of the Environment. Lindstrom Excavating Contractors installed the liner cap, and all work was completed during the fall of 2001.

4. Site Inspection

At the direction of the Kent County Environmental Operations Division (EOD), Michael Usilton, EOD Crew Leader conducted the site inspection at the closed Dulin Rubble Landfill on 4/5/2024.

The Dulin Rubble Landfill is well maintained with all grass routinely cut during the growing season. Final cover is dense with a strong root system. The first round of grass cutting occurred prior to the inspection (4/5/2023). Crew Leader, Michael Usilton reported that no repairs were needed following the inspection.

The closed Nicholson Landfill was inspected on 4/5/2024 and is well maintained with all grass routinely being cut during the growing season. Final cover is dense with a strong root system. The markers (posts) surrounding and identifying the water and methane gas wells are intact. Crew Leader, Michael Usilton reported that no repairs were needed.

The capping system at the Nicholson Landfill and the Dulin Rubble Landfill appear to be intact and functioning properly. Stone at the base of the side slopes are intact.

The Dulin Rubble Landfill and the Nicholson Landfill were inspected for surface leachate seeps. No leachate outbreaks were found during the inspections.

5. Ground Water Monitoring Wells

The groundwater monitoring wells at the Nicholson Landfill and the Dulin Rubble Landfill are well maintained and kept accessible. Each well has a security cover that is kept locked at all times. The ground water monitoring wells are sampled and monitored twice a year by Earth Data.

To address the off-site movement of dissolved VOCs, that was detected back in 2007, a groundwater containment/recovery and treat system was installed. The system was completed and fully operational in April of 2011. Upgrades to the water treatment plant are underway with site plans/design documents completed and have been reviewed and approved by Maryland Department of the Environment. The project was bid, with received bids exceeding anticipated budget. Coordination of increased funding obligation is ongoing.

6. Methane Gas Wells – Nicholson Landfill

Eighteen methane gas wells/vapor points are positioned around the perimeter of the Nicholson Landfill and are monitored by Earth Data four times per year (January, March/April, July, September/October).

During October of 2008, Earth Data installed four methane gas wells on the Welch property with two wells installed near the residence and outbuilding. The wells were tested, and the results showed elevated organic vapors at 100% LEL at locations up to 100 feet from the Nicholson landfill property boundary.

Additional vents were installed but did not correct the movement of landfill gases beyond the property line. A blower system was installed and became operational in April of 2011.

Following the approval of Maryland Department of the Environment, Kent County hired APTIM Environmental to install a permanent flare system. Methane gas levels have been reduced in most gas wells, however elevated levels in the gas wells on the Northwest section of the landfill away from the landfill cell tested concentrations at 100% LEL. It should be noted that these wells are not connected to the flare system.

Kent County contracted with Earth Data Inc. in August 2019 to drill/install ten (10) additional passive 4-inch diameter vents equipped with turbine ventilators along the Northwest section of landfill to vent methane gas from 40-feet below ground surface. Due to methane gas being detected in both the shallow 20-foot monitoring wells and the deep 42-foot wells, EOD staff installed turbine ventilators on all seven-water treatment plant recovery wells.

7. Methane Gas Wells – Dulin Rubble Landfill

Four methane gas wells are positioned around the Dulin Rubble Landfill and are well maintained and secured with a lock. Earth Data monitors the methane gas wells four times per year (January, March/April, July, September/October).

8. Access and Security

The Nicholson Landfill facility is also the location of the Nicholson Drop-off Center for collection of solid waste and recyclables. Solid waste is hauled to the Mid Shore Regional Landfill in Ridgely, Maryland. The Nicholson facility is secured by a six-foot fence around the perimeter with a locked gate (after business hours) at the entrance.

The Dulin Rubble Landfill is secured with a six-foot fence around the perimeter with a locked gate at the entrance. The gate is always locked.

Access roads at the Nicholson Landfill and the Dulin Rubble Landfill are well maintained and have adequate stone and gravel to prevent erosion.

**KENT COUNTY PUBLIC WORKS/ENVIRONMENTAL OPERATIONS DIVISION
 NICHOLSON LANDFILL POSTCLOSURE INSPECTION
 23750 Larney Nick Rd. Chestertown, MD 21620**

Date: 4/5/24

Weather: partly cloudy

Time: 1115hrs.

Inspector: Mike Usilton

Maintenance Required		Date	Date
Yes	No	Scheduled	Completed

A. Final Cover Systems

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Subsidence Areas		✓		
4. Leachate Seeps		✓		
5. Woody Vegetation		✓		
6. Access Roads		✓		
7. Sediment Deposition		✓		

B. Drainage Control Systems

1. Cover Terrace		✓		
2. Riprap Downchutes		✓		
3. Grassed & Riprap Swales		✓		
4. Drainage Layer Toe Drains		✓		
5. Riprap Slope Protection		✓		
6. Sediment Deposition		✓		

**C. Stormwater Management Ponds,
Berms & Traps**

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Seepage Through Pond Embankment		✓		
4. Woody Vegetation		✓		
5. Holes in Embankment (burrowing animals)		✓		
6. Riprap Inlet & Outlet Aprons		✓		
7. Pond Culvert Inlet Structures		✓		
8. Sediment Deposition		✓		

D. Other Inspections

1. Security (Facility Fence & Locking Gate)		✓		
2. Groundwater Monitoring Wells		✓		
3. Gas Monitoring Wells		✓		

E. Clarity of Ponds and Trap Discharge

1. Pond #1		✓		
2. Pond #2		✓		

Comments:

**KENT COUNTY PUBLIC WORKS/ENVIRONMENTAL OPERATIONS DIVISION
DULIN RUBBLE LANDFILL POSTCLOSURE INSPECTION
23310 Ricauds Branch Rd. Chestertown, MD 21620**

Date: 4/5/24

Weather: partly cloudy

Time: 0830hrs.

Inspector: Mike Usilton

Maintenance Required		Date	Date
Yes	No	Scheduled	Completed

A. Final Cover Systems

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Subsidence Areas		✓		
4. Leachate Seeps		✓		
5. Woody Vegetation		✓		
6. Access Roads		✓		
7. Sediment Deposition		✓		

B. Drainage Control Systems

1. Cover Terrace		✓		
2. Riprap Downchutes		✓		
3. Grassed & Riprap Swales		✓		
4. Drainage Layer Toe Drains		✓		
5. Riprap Slope Protection		✓		
6. Sediment Deposition		✓		

**C. Stormwater Management Ponds,
Berms & Traps**

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Seepage Through Pond Embankment		✓		
4. Woody Vegetation		✓		
5. Holes in Embankment (burrowing animals)		✓		
6. Riprap Inlet & Outlet Aprons		✓		
7. Pond Culvert Inlet Structures		✓		
8. Sediment Deposition		✓		

D. Other Inspections

1. Security (Facility Fence & Locking Gate)		✓		
2. Groundwater Monitoring Wells		✓		
3. Gas Monitoring Wells		✓		

E. Clarity of Ponds and Trap Discharge

1. Pond #1		✓		
2. Pond #2 N/A				

Comments:



Public Works | Environmental Operations

APRIL 19, 2024

Brian Coblentz, Chief
Solid Waste Program
Maryland Department of the Environment
1800 Washington Blvd., Suite 605
Baltimore, MD 21230-1719

Dear Mr. Coblentz:

Attached please find the Post Closure Inspection Report for the closed Nicholson Landfill and the closed Dulin Rubble Landfill, inspected on April 5, 2024. Kent County Environmental Operations will continue submitting the inspection reports in compliance with the COMAR regulations. Inspections will be conducted in April and October of each year.

Please contact me if you need additional information.

Sincerely,

Daniel F. Mattson, P.E., C.F.M., C.M.E
Public Works Director

DFM/tf

**Semi-Annual Inspection
Nicholson Landfill and Dulin Rubble Landfill
Kent County, Maryland
April 2024**

1. Background and Requirements

COMAR 26.04.07.22 Sanitary Landfills – Post Closure Monitoring and Maintenance, requires that landfills in Maryland be subject to post-closure monitoring and maintenance after the complete installation of the landfill cap.

COMAR stipulates that closed landfills shall be inspected at least twice per year by the permit holder or it's designate. The inspection shall include:

- A. Observation of the cover at the landfill.
- B. Notation of any drainage irregularities or signs of erosion of the cover.
- C. Notation of any surface expressions of leachate at the landfill; and
- D. Checking the status of the monitoring wells.

2. Site Location and Access

The Nicholson Landfill is located approximately 5 miles northwest of Chestertown. The 15-acre site is accessible via routes 20 and 298 by Earl Nicholson Rd.

The Dulin Rubble Landfill, a 5.6-acre site is located just northeast of the intersection of Ricau's Branch Rd. and Hynson Rogers Rd. It is accessible from State Route 20 by Bakers Lane. The Dulin Site is approximately 3 miles southwest of the Nicholson Landfill Site.

3. Site Description

The Nicholson Landfill was closed in May of 1992 and a 2-foot cap of cover material was applied over the stored solid waste. A capping plan was completed by Century Engineering, Inc. and given to the Maryland Environmental Service (MES) for implementation. The liner cap was installed by Days Cove Reclamation Company and all work completed during the fall of 1996.

The Dulin Rubble Landfill was closed on April 1, 1999 and a 2-foot cap of cover material was applied over the stored rubble material. A capping plan was completed by Century Engineering, Inc. and approved by Maryland Department of the Environment. Lindstrom Excavating Contractors installed the liner cap, and all work was completed during the fall of 2001.

4. Site Inspection

At the direction of the Kent County Environmental Operations Division (EOD), Michael Usilton, EOD Crew Leader conducted the site inspection at the closed Dulin Rubble Landfill on 4/5/2024.

The Dulin Rubble Landfill is well maintained with all grass routinely cut during the growing season. Final cover is dense with a strong root system. The first round of grass cutting occurred prior to the inspection (4/5/2023). Crew Leader, Michael Usilton reported that no repairs were needed following the inspection.

The closed Nicholson Landfill was inspected on 4/5/2024 and is well maintained with all grass routinely being cut during the growing season. Final cover is dense with a strong root system. The markers (posts) surrounding and identifying the water and methane gas wells are intact. Crew Leader, Michael Usilton reported that no repairs were needed.

The capping system at the Nicholson Landfill and the Dulin Rubble Landfill appear to be intact and functioning properly. Stone at the base of the side slopes are intact.

The Dulin Rubble Landfill and the Nicholson Landfill were inspected for surface leachate seeps. No leachate outbreaks were found during the inspections.

5. Ground Water Monitoring Wells

The groundwater monitoring wells at the Nicholson Landfill and the Dulin Rubble Landfill are well maintained and kept accessible. Each well has a security cover that is kept locked at all times. The ground water monitoring wells are sampled and monitored twice a year by Earth Data.

To address the off-site movement of dissolved VOCs, that was detected back in 2007, a groundwater containment/recovery and treat system was installed. The system was completed and fully operational in April of 2011. Upgrades to the water treatment plant are underway with site plans/design documents completed and have been reviewed and approved by Maryland Department of the Environment. The project was bid, with received bids exceeding anticipated budget. Coordination of increased funding obligation is ongoing.

6. Methane Gas Wells – Nicholson Landfill

Eighteen methane gas wells/vapor points are positioned around the perimeter of the Nicholson Landfill and are monitored by Earth Data four times per year (January, March/April, July, September/October).

During October of 2008, Earth Data installed four methane gas wells on the Welch property with two wells installed near the residence and outbuilding. The wells were tested, and the results showed elevated organic vapors at 100% LEL at locations up to 100 feet from the Nicholson landfill property boundary.

Additional vents were installed but did not correct the movement of landfill gases beyond the property line. A blower system was installed and became operational in April of 2011.

Following the approval of Maryland Department of the Environment, Kent County hired APTIM Environmental to install a permanent flare system. Methane gas levels have been reduced in most gas wells, however elevated levels in the gas wells on the Northwest section of the landfill away from the landfill cell tested concentrations at 100% LEL. It should be noted that these wells are not connected to the flare system.

Kent County contracted with Earth Data Inc. in August 2019 to drill/install ten (10) additional passive 4-inch diameter vents equipped with turbine ventilators along the Northwest section of landfill to vent methane gas from 40-feet below ground surface. Due to methane gas being detected in both the shallow 20-foot monitoring wells and the deep 42-foot wells, EOD staff installed turbine ventilators on all seven-water treatment plant recovery wells.

7. Methane Gas Wells – Dulin Rubble Landfill

Four methane gas wells are positioned around the Dulin Rubble Landfill and are well maintained and secured with a lock. Earth Data monitors the methane gas wells four times per year (January, March/April, July, September/October).

8. Access and Security

The Nicholson Landfill facility is also the location of the Nicholson Drop-off Center for collection of solid waste and recyclables. Solid waste is hauled to the Mid Shore Regional Landfill in Ridgely, Maryland. The Nicholson facility is secured by a six-foot fence around the perimeter with a locked gate (after business hours) at the entrance.

The Dulin Rubble Landfill is secured with a six-foot fence around the perimeter with a locked gate at the entrance. The gate is always locked.

Access roads at the Nicholson Landfill and the Dulin Rubble Landfill are well maintained and have adequate stone and gravel to prevent erosion.

**KENT COUNTY PUBLIC WORKS/ENVIRONMENTAL OPERATIONS DIVISION
NICHOLSON LANDFILL POSTCLOSURE INSPECTION
23750 Larney Nick Rd. Chestertown, MD 21620**

Date: 4/5/24

Weather: partly cloudy

Time: 1115hrs.

Inspector: Mike Usilton

Maintenance Required		Date	Date
Yes	No	Scheduled	Completed

A. Final Cover Systems

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Subsidence Areas		✓		
4. Leachate Seeps		✓		
5. Woody Vegetation		✓		
6. Access Roads		✓		
7. Sediment Deposition		✓		

B. Drainage Control Systems

1. Cover Terrace		✓		
2. Riprap Downchutes		✓		
3. Grassed & Riprap Swales		✓		
4. Drainage Layer Toe Drains		✓		
5. Riprap Slope Protection		✓		
6. Sediment Deposition		✓		

**C. Stormwater Management Ponds,
Berms & Traps**

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Seepage Through Pond Embankment		✓		
4. Woody Vegetation		✓		
5. Holes in Embankment (burrowing animals)		✓		
6. Riprap Inlet & Outlet Aprons		✓		
7. Pond Culvert Inlet Structures		✓		
8. Sediment Deposition		✓		

D. Other Inspections

1. Security (Facility Fence & Locking Gate)		✓		
2. Groundwater Monitoring Wells		✓		
3. Gas Monitoring Wells		✓		

E. Clarity of Ponds and Trap Discharge

1. Pond #1		✓		
2. Pond #2		✓		

Comments:

**KENT COUNTY PUBLIC WORKS/ENVIRONMENTAL OPERATIONS DIVISION
DULIN RUBBLE LANDFILL POSTCLOSURE INSPECTION
23310 Ricauds Branch Rd. Chestertown, MD 21620**

Date: 4/5/24

Weather: partly cloudy

Time: 0830hrs.

Inspector: Mike Usilton

Maintenance Required		Date	Date
Yes	No	Scheduled	Completed

A. Final Cover Systems

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Subsidence Areas		✓		
4. Leachate Seeps		✓		
5. Woody Vegetation		✓		
6. Access Roads		✓		
7. Sediment Deposition		✓		

B. Drainage Control Systems

1. Cover Terrace		✓		
2. Riprap Downchutes		✓		
3. Grassed & Riprap Swales		✓		
4. Drainage Layer Toe Drains		✓		
5. Riprap Slope Protection		✓		
6. Sediment Deposition		✓		

**C. Stormwater Management Ponds,
Berms & Traps**

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Seepage Through Pond Embankment		✓		
4. Woody Vegetation		✓		
5. Holes in Embankment (burrowing animals)		✓		
6. Riprap Inlet & Outlet Aprons		✓		
7. Pond Culvert Inlet Structures		✓		
8. Sediment Deposition		✓		

D. Other Inspections

1. Security (Facility Fence & Locking Gate)		✓		
2. Groundwater Monitoring Wells		✓		
3. Gas Monitoring Wells		✓		

E. Clarity of Ponds and Trap Discharge

1. Pond #1		✓		
2. Pond #2 N/A				

Comments:



Public Works | Environmental Operations

OCTOBER 7, 2024

Brian Coblentz, Chief
Solid Waste Program
Maryland Department of the Environment
1800 Washington Blvd., Suite 605
Baltimore, MD 21230-1719

Dear Mr. Coblentz:

Attached please find the Post Closure Inspection Report for the closed Nicholson Landfill and the closed Dulin Rubble Landfill, inspected on October 3, 2024. Kent County Environmental Operations will continue submitting the inspection reports in compliance with the COMAR regulations. Inspections will be conducted in April and October of each year.

Please contact me if you need additional information.

Sincerely,

Daniel F. Mattson, P.E., C.F.M., C.M.E
Public Works Director

DFM/tf

**Semi-Annual Inspection
Nicholson Landfill and Dulin Rubble Landfill
Kent County, Maryland
October 2024**

1. Background and Requirements

COMAR 26.04.07.22 Sanitary Landfills – Post Closure Monitoring and Maintenance, requires that landfills in Maryland be subject to post-closure monitoring and maintenance after the complete installation of the landfill cap.

COMAR stipulates that closed landfills shall be inspected at least twice per year by the permit holder or it's designate. The inspection shall include:

- A. Observation of the cover at the landfill.
- B. Notation of any drainage irregularities or signs of erosion of the cover.
- C. Notation of any surface expressions of leachate at the landfill; and
- D. Checking the status of the monitoring wells.

2. Site Location and Access

The Nicholson Landfill is located approximately 5 miles northwest of Chestertown. The 15-acre site is accessible via routes 20 and 298 by Earl Nicholson Rd.

The Dulin Rubble Landfill, a 5.6-acre site is located just northeast of the intersection of Ricauds Branch Rd. and Hynson Rogers Rd. It is accessible from State Route 20 by Bakers Lane. The Dulin Site is approximately 3 miles southwest of the Nicholson Landfill Site.

3. Site Description

The Nicholson Landfill was closed in May of 1992 and a 2-foot cap of cover material was applied over the stored solid waste. A capping plan was completed by Century Engineering, Inc. and given to the Maryland Environmental Service (MES) for implementation. The liner cap was installed by Days Cove Reclamation Company and all work completed during the fall of 1996.

The Dulin Rubble Landfill was closed on 4-1-99 and a 2-foot cap of cover material was applied over the stored rubble material. A capping plan was completed by Century Engineering, Inc. and approved by Maryland Department of the Environment. Lindstrom Excavating Contractors installed the liner cap, and all work was completed during the fall of 2001.

4. Site Inspection

At the direction of the Kent County Environmental Operations Division (EOD), Michael Usilton, EOD Crew Leader conducted the site inspection at the closed Dulin Rubble Landfill on 10/3/2024.

The Dulin Rubble Landfill is well maintained with all grass routinely cut during the growing season. Final cover is dense with a strong root system. The last round of grass cutting occurred during the week of the inspection (10/3/2024). Crew Leader, Michael Usilton reported that no repairs were needed following the inspection.

The closed Nicholson Landfill was inspected on 10/3/2024 and is well maintained with all grass routinely being cut during the growing season. Final cover is dense with a strong root system. The markers (posts) surrounding and identifying the water and methane gas wells are intact. Crew Leader, Michael Usilton reported that no repairs were needed.

The capping system at the Nicholson Landfill and the Dulin Rubble Landfill appear to be intact and functioning properly. Stone at the base of the side slopes are intact.

The Dulin Rubble Landfill and the Nicholson Landfill were inspected for surface leachate seeps. No leachate outbreaks were found during the inspections.

5. Ground Water Monitoring Wells

The groundwater monitoring wells at the Nicholson Landfill and the Dulin Rubble Landfill are well maintained and kept accessible. Each well has a security cover that is kept locked at all times. The ground water monitoring wells are sampled and monitored twice a year by Earth Data.

To address the off-site movement of dissolved VOCs, that was detected back in 2007, a groundwater containment/recovery and treat system was installed. The system was completed and fully operational in April of 2011. Upgrades to the water treatment plant are underway with site plans/design documents completed and will be sent to Maryland Department of the Environment for review.

6. Methane Gas Wells – Nicholson Landfill

Eighteen methane gas wells/vapor points are positioned around the perimeter of the Nicholson Landfill and are monitored by Earth Data four times per year (January, March/April, July, September/October).

During October of 2008, Earth Data installed four methane gas wells on the Welch property with two wells installed near the residence and outbuilding. The wells were tested, and the results showed elevated organic vapors at 100% LEL at locations up to 100 feet from the Nicholson landfill property boundary.

Additional vents were installed but did not correct the movement of landfill gases beyond the property line. A blower system was installed and became operational in April of 2011.

Following the approval of Maryland Department of the Environment, Kent County hired APTIM Environmental to install a permanent flare system. Methane gas levels have been reduced in most gas wells, however elevated levels in the gas wells on the Northwest section of the landfill away from the landfill cell tested concentrations at 100% LEL. It should be noted that these wells are not connected to the flare system.

Kent County contracted with Earth Data Inc. in August 2019 to drill/install ten (10) additional passive 4-inch diameter vents equipped with turbine ventilators along the Northwest section of landfill to vent methane gas from 40-feet below ground surface. Due to methane gas being detected in both the shallow 20-foot monitoring wells and the deep 42-foot wells, EOD staff installed turbine ventilators on all seven-water treatment plant recovery wells.

7. Methane Gas Wells – Dulin Rubble Landfill

Four methane gas wells are positioned around the Dulin Rubble Landfill and are well maintained and secured with a lock. Earth Data monitors the methane gas wells four times per year (January, March/April, July, September/October).

8. Access and Security

The Nicholson Landfill facility is also the location of the Nicholson Drop-off Center for collection of solid waste and recyclables. Solid waste is hauled to the Mid Shore Regional Landfill in Ridgely, Maryland. The Nicholson facility is secured by a six-foot fence around the perimeter with a locked gate (after business hours) at the entrance.

The Dulin Rubble Landfill is secured with a six-foot fence around the perimeter with a locked gate at the entrance. The gate is always locked.

Access roads at the Nicholson Landfill and the Dulin Rubble Landfill are well maintained and have adequate stone and gravel to prevent erosion.

**KENT COUNTY PUBLIC WORKS/ENVIRONMENTAL OPERATIONS DIVISION
NICHOLSON LANDFILL POSTCLOSURE INSPECTION
23750 Larney Nick Rd. Chestertown, MD 21620**

Date: 10/3/24

Weather: partly cloudy

Time: 1100 hrs.

Inspector: Mike Usilton

Maintenance Required		Date	Date
Yes	No	Scheduled	Completed

A. Final Cover Systems

	Yes	No	Scheduled	Completed
1. Erosion		✓		
2. Vegetation Cover		✓		
3. Subsidence Areas		✓		
4. Leachate Seeps		✓		
5. Woody Vegetation		✓		
6. Access Roads		✓		
7. Sediment Deposition		✓		

B. Drainage Control Systems

	Yes	No	Scheduled	Completed
1. Cover Terrace		✓		
2. Riprap Downchutes		✓		
3. Grassed & Riprap Swales		✓		
4. Drainage Layer Toe Drains		✓		
5. Riprap Slope Protection		✓		
6. Sediment Deposition		✓		

**C. Stormwater Management Ponds,
Berms & Traps**

	Yes	No	Scheduled	Completed
1. Erosion		✓		
2. Vegetation Cover		✓		
3. Seepage Through Pond Embankment		✓		
4. Woody Vegetation		✓		
5. Holes in Embankment (burrowing animals)		✓		
6. Riprap Inlet & Outlet Aprons		✓		
7. Pond Culvert Inlet Structures		✓		
8. Sediment Deposition		✓		

D. Other Inspections

	Yes	No	Scheduled	Completed
1. Security (Facility Fence & Locking Gate)		✓		
2. Groundwater Monitoring Wells		✓		
3. Gas Monitoring Wells		✓		

E. Clarity of Ponds and Trap Discharge

	Yes	No	Scheduled	Completed
1. Pond #1		✓		
2. Pond #2		✓		

Comments:

**KENT COUNTY PUBLIC WORKS/ENVIRONMENTAL OPERATIONS DIVISION
DULIN RUBBLE LANDFILL POSTCLOSURE INSPECTION
23310 Ricauds Branch Rd. Chestertown, MD 21620**

Date: 10/3/24

Weather: partly cloudy

Time: 1330 hrs.

Inspector: Mike Usilton

Maintenance Required		Date	Date
Yes	No	Scheduled	Completed

A. Final Cover Systems

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Subsidence Areas		✓		
4. Leachate Seeps		✓		
5. Woody Vegetation		✓		
6. Access Roads		✓		
7. Sediment Deposition		✓		

B. Drainage Control Systems

1. Cover Terrace		✓		
2. Riprap Downchutes		✓		
3. Grassed & Riprap Swales		✓		
4. Drainage Layer Toe Drains		✓		
5. Riprap Slope Protection		✓		
6. Sediment Deposition		✓		

**C. Stormwater Management Ponds,
Berms & Traps**

1. Erosion		✓		
2. Vegetation Cover		✓		
3. Seepage Through Pond Embankment		✓		
4. Woody Vegetation		✓		
5. Holes in Embankment (burrowing animals)		✓		
6. Riprap Inlet & Outlet Aprons		✓		
7. Pond Culvert Inlet Structures		✓		
8. Sediment Deposition		✓		

D. Other Inspections

1. Security (Facility Fence & Locking Gate)		✓		
2. Groundwater Monitoring Wells		✓		
3. Gas Monitoring Wells		✓		

E. Clarity of Ponds and Trap Discharge

1. Pond #1		✓		
2. Pond #2	N/A			

Comments:

APPENDIX B

Well Gauging Reports

WATER LEVEL DATA SHEET

W.O.: **46971**

DATE: **26-Feb-2024**

WEATHER: **60s Clear**

PROJECT: **Kent County Landfill - Dulin Landfill**

COLLECTED BY: **SW**

LOCATION: **Chestertown, Maryland**

ENTERED BY: **SW**

Monitoring Point	Well Tag Number	Time	Description of Measuring Point (ft msl)	Measuring Point Elevation (ft)	Water Depth (ft)	Water Level Elevation (ft msl)	COMMENTS
MW-1	KE-88-0232	11:50 AM	Lip of Casing	37.07	9.30	27.77	
MW-2	KE-88-0233	12:30 AM	Lip of Casing	40.30	11.22	29.08	
MW-3	KE-94-0891	10:40 AM	Lip of Casing	41.89	10.11	31.78	
MW-4	KE-88-0235	09:45 AM	Lip of Casing	74.96	46.09	28.87	
MW-5	KE-88-0674	11:20 AM	Lip of Casing	54.39	25.02	29.37	

NOTE: MEASURING POINT ELEVATION OBTAINED FROM CENTURY ENGINEERING INC. 02-27-2005

WATER LEVEL DATA SHEET

W.O.: **4697J**

DATE: **26-Aug-2024**

PROJECT: **Kent County Landfill - Dulin Landfill**

WEATHER: **80s Clear**

LOCATION: **Chestertown, Maryland**

COLLECTED BY: **SW**

ENTERED BY: **SW**

Monitoring Point	Well Tag Number	Time	Description of Measuring Point (ft msl)	Measuring Point Elevation (ft)	Water Depth (ft)	Water Level Elevation (ft msl)	COMMENTS
MW-1	KE-88-0232	11:20 AM	Lip of Casing	37.07	9.68	27.39	
MW-2	KE-88-0233	11:45 AM	Lip of Casing	40.30	11.58	28.72	
MW-3	KE-94-0891	10:45 AM	Lip of Casing	41.89	10.35	31.54	
MW-4	KE-88-0235	10:15 AM	Lip of Casing	74.96	46.28	28.68	
MW-5	KE-88-0674	09:30 AM	Lip of Casing	54.39	25.43	28.96	

NOTE: MEASURING POINT ELEVATION OBTAINED FROM CENTURY ENGINEERING INC. 02-27-2005

APPENDIX C

**Laboratory Analytical Reports
(VOCs, PFAS, Total Metals & Indicator
Parameters)**

Project Name: Dulin Landfill
PSS Project No.: 24022709

March 5, 2024

Scott Wolf
Earth Data, Inc
131 Comet Drive
Centreville, MD 21617



Reference: PSS Project No: **24022709**
Project Name: Dulin Landfill
Project Location: Kent Co. MD
Project ID.: 4697I

Dear Scott Wolf:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24022709**.

All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on April 2, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,

Cathy Thompson
QA Officer



Sample Summary

Project Name: Dulin Landfill
 PSS Project No.: 24022709

The following samples were received under chain of custody by Phase Separation Science (PSS) on 02/27/2024 at 12:58 pm
 Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any
 sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24022709-001	MW-1	GROUND WATER	02/26/24 11:50
24022709-002	MW-2	GROUND WATER	02/26/24 12:30
24022709-003	MW-3	GROUND WATER	02/26/24 10:40
24022709-004	MW-4	GROUND WATER	02/26/24 09:45
24022709-005	MW-5	GROUND WATER	02/26/24 11:20
24022709-006	Trip Blank	WATER	02/26/24 00:00

Report Information

Project Name: Dulin Landfill
PSS Project No.: 24022709

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-1 **Date/Time Sampled: 02/26/2024 11:50** **PSS Sample ID: 24022709-001**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

EDB & DBCP	Analytical Method: SW-846 8011	Preparation Method: SW8011_PREP
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	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0042	02/27/24	02/27/24 15:13	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	02/27/24	02/27/24 15:13	1029
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
1,2,3-Trichloropropane	96	%	60-140		1		02/27/24	02/27/24 15:13	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	03/01/24	03/01/24 13:57	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 13:57	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/01/24	03/01/24 13:57	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 13:57	1011
Acetone	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 13:57	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 13:57	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 13:57	1011
Methylene chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 13:57	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	03/01/24	03/01/24 13:57	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 13:57	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 13:57	1011
Vinyl acetate	ND	ug/L	1.0		1	0.31	03/01/24	03/01/24 13:57	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	03/01/24	03/01/24 13:57	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 13:57	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	03/01/24	03/01/24 13:57	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/01/24	03/01/24 13:57	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/01/24	03/01/24 13:57	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 13:57	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	03/01/24	03/01/24 13:57	1011
Benzene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 13:57	1011
Dibromomethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 13:57	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 13:57	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 13:57	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 13:57	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	03/01/24	03/01/24 13:57	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 13:57	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-1 **Date/Time Sampled: 02/26/2024 11:50** **PSS Sample ID: 24022709-001**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 13:57	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	03/01/24	03/01/24 13:57	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 13:57	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 13:57	1011
Toluene	ND	ug/L	1.0		1	0.52	03/01/24	03/01/24 13:57	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	03/01/24	03/01/24 13:57	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 13:57	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 13:57	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 13:57	1011
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	03/01/24	03/01/24 13:57	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 13:57	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 13:57	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 13:57	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	03/01/24	03/01/24 13:57	1011
Styrene	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 13:57	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 13:57	1011
o-Xylene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 13:57	1011
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 13:57	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 13:57	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/01/24	03/01/24 13:57	1011
Iodomethane	ND	ug/L	20		1	0.83	03/01/24	03/01/24 13:57	1011
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	107 %		88-120		1		03/01/24	03/01/24 13:57	1011
Dibromofluoromethane	101 %		92-107		1		03/01/24	03/01/24 13:57	1011
Toluene-D8	100 %		95-106		1		03/01/24	03/01/24 13:57	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-2 **Date/Time Sampled: 02/26/2024 12:30** **PSS Sample ID: 24022709-002**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Turbidity Analytical Method: EPA 180.1

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Turbidity	0.95	NTU	0.50		1	0.37	02/28/24	02/28/24 15:50	1064

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8
Qualifier(s): See Batch 210782 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	02/29/24	03/05/24 13:05	1064
Arsenic	ND	ug/L	1.0		1	0.43	02/29/24	02/29/24 20:07	1064
Barium	26.6	ug/L	1.00		1	0.57	02/29/24	02/29/24 20:07	1064
Beryllium	ND	ug/L	1.0		1	0.61	02/29/24	02/29/24 20:07	1064
Cadmium	ND	ug/L	1.0		1	0.33	02/29/24	02/29/24 20:07	1064
Calcium	8,950	ug/L	100		1	93.2	02/29/24	02/29/24 20:07	1064
Chromium	1.1	ug/L	1.0		1	0.84	02/29/24	03/04/24 18:35	1064
Cobalt	0.70	ug/L	1.0	J	1	0.31	02/29/24	02/29/24 20:07	1064
Copper	ND	ug/L	1.0		1	0.98	02/29/24	02/29/24 20:07	1064
Iron	ND	ug/L	100		1	69	02/29/24	02/29/24 20:07	1064
Lead	ND	ug/L	1.0		1	0.66	02/29/24	02/29/24 20:07	1064
Magnesium	3,390	ug/L	100		1	61	02/29/24	02/29/24 20:07	1064
Manganese	9.4	ug/L	1.0		1	0.94	02/29/24	02/29/24 20:07	1064
Mercury	ND	ug/L	0.20		1	0.11	02/29/24	03/05/24 13:05	1064
Nickel	2.1	ug/L	1.0		1	0.95	02/29/24	03/04/24 18:35	1064
Potassium	2,230	ug/L	100		1	86.4	02/29/24	03/04/24 18:35	1064
Selenium	ND	ug/L	1.0		1	0.6	02/29/24	02/29/24 20:07	1064
Silver	ND	ug/L	1.0		1	0.31	02/29/24	02/29/24 20:07	1064
Sodium	3,850	ug/L	100		1	96.7	02/29/24	03/04/24 18:35	1064
Thallium	ND	ug/L	1.0		1	0.45	02/29/24	02/29/24 20:07	1064
Vanadium	ND	ug/L	1.0		1	0.44	02/29/24	02/29/24 20:07	1064
Zinc	19.8	ug/L	20.0	J	1	7.1	02/29/24	02/29/24 20:07	1064

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-2 **Date/Time Sampled: 02/26/2024 12:30** **PSS Sample ID: 24022709-002**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Total Dissolved Solids (TDS) Analytical Method: SM 2540C -2015 Preparation Method: SM2540C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total dissolved solids (residue, filterable)	68	mg/L	10		1	6.4	02/27/24	02/28/24 13:37	1059

pH, Electrometric Analytical Method: SM 4500-H+ B -2011

Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
pH	5.3	S.U.			1		02/27/24	02/27/24 16:03	1059

Nitrogen, Ammonia Analytical Method: SM 4500-NH3-F -2011 Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	ND	mg/L	0.20		1	0.092	02/28/24	02/28/24 14:41	1053

Chemical Oxygen Demand Analytical Method: SM 5220D -2011

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chemical Oxygen Demand	ND	mg/L	20		1	6.8	03/01/24	03/01/24 14:58	1059

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-2 **Date/Time Sampled: 02/26/2024 12:30** **PSS Sample ID: 24022709-002**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

EDB & DBCP Analytical Method: SW-846 8011 Preparation Method: SW8011_PREP

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0042	02/27/24	02/27/24 15:27	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	02/27/24	02/27/24 15:27	1029
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
1,2,3-Trichloropropane	116	%	60-140		1		02/27/24	02/27/24 15:27	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	03/01/24	03/01/24 14:18	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 14:18	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/01/24	03/01/24 14:18	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 14:18	1011
Acetone	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 14:18	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 14:18	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 14:18	1011
Methylene chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 14:18	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	03/01/24	03/01/24 14:18	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 14:18	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 14:18	1011
Vinyl acetate	ND	ug/L	1.0		1	0.31	03/01/24	03/01/24 14:18	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	03/01/24	03/01/24 14:18	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 14:18	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	03/01/24	03/01/24 14:18	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/01/24	03/01/24 14:18	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/01/24	03/01/24 14:18	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 14:18	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	03/01/24	03/01/24 14:18	1011
Benzene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 14:18	1011
Dibromomethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 14:18	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 14:18	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 14:18	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 14:18	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	03/01/24	03/01/24 14:18	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 14:18	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-2 **Date/Time Sampled: 02/26/2024 12:30** **PSS Sample ID: 24022709-002**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 14:18	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	03/01/24	03/01/24 14:18	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 14:18	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 14:18	1011
Toluene	ND	ug/L	1.0		1	0.52	03/01/24	03/01/24 14:18	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	03/01/24	03/01/24 14:18	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 14:18	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 14:18	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 14:18	1011
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	03/01/24	03/01/24 14:18	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 14:18	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 14:18	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 14:18	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	03/01/24	03/01/24 14:18	1011
Styrene	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 14:18	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 14:18	1011
o-Xylene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 14:18	1011
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 14:18	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 14:18	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/01/24	03/01/24 14:18	1011
Iodomethane	ND	ug/L	20		1	0.83	03/01/24	03/01/24 14:18	1011
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	108 %		88-120		1		03/01/24	03/01/24 14:18	1011
Dibromofluoromethane	101 %		92-107		1		03/01/24	03/01/24 14:18	1011
Toluene-D8	100 %		95-106		1		03/01/24	03/01/24 14:18	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-3 **Date/Time Sampled: 02/26/2024 10:40** **PSS Sample ID: 24022709-003**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Turbidity Analytical Method: EPA 180.1

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Turbidity	11	NTU	0.50		1	0.37	02/28/24	02/28/24 15:50	1064

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

Qualifier(s): See Batch 210782 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	02/29/24	03/05/24 13:10	1064
Arsenic	0.45	ug/L	1.0	J	1	0.43	02/29/24	02/29/24 20:12	1064
Barium	55.4	ug/L	1.00		1	0.57	02/29/24	02/29/24 20:12	1064
Beryllium	ND	ug/L	1.0		1	0.61	02/29/24	02/29/24 20:12	1064
Cadmium	ND	ug/L	1.0		1	0.33	02/29/24	02/29/24 20:12	1064
Calcium	8,040	ug/L	100		1	93.2	02/29/24	02/29/24 20:12	1064
Chromium	6.1	ug/L	1.0		1	0.84	02/29/24	03/04/24 18:56	1064
Cobalt	0.50	ug/L	1.0	J	1	0.31	02/29/24	02/29/24 20:12	1064
Copper	ND	ug/L	1.0		1	0.98	02/29/24	02/29/24 20:12	1064
Iron	776	ug/L	100		1	69.3	02/29/24	02/29/24 20:12	1064
Lead	ND	ug/L	1.0		1	0.66	02/29/24	02/29/24 20:12	1064
Magnesium	4,630	ug/L	100		1	61	02/29/24	02/29/24 20:12	1064
Manganese	22.0	ug/L	1.00		1	0.94	02/29/24	02/29/24 20:12	1064
Mercury	ND	ug/L	0.20		1	0.11	02/29/24	03/05/24 13:10	1064
Nickel	8.9	ug/L	1.0		1	0.95	02/29/24	03/04/24 18:56	1064
Potassium	1,810	ug/L	100		1	86.4	02/29/24	03/04/24 18:56	1064
Selenium	ND	ug/L	1.0		1	0.6	02/29/24	02/29/24 20:12	1064
Silver	ND	ug/L	1.0		1	0.31	02/29/24	02/29/24 20:12	1064
Sodium	3,090	ug/L	100		1	96.7	02/29/24	03/04/24 18:56	1064
Thallium	ND	ug/L	1.0		1	0.45	02/29/24	02/29/24 20:12	1064
Vanadium	2.8	ug/L	1.0		1	0.44	02/29/24	02/29/24 20:12	1064
Zinc	27.0	ug/L	20.0		1	7.1	02/29/24	02/29/24 20:12	1064

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-3 **Date/Time Sampled: 02/26/2024 10:40** **PSS Sample ID: 24022709-003**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

EDB & DBCP	Analytical Method: SW-846 8011	Preparation Method: SW8011_PREP
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	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0041	02/27/24	02/27/24 15:40	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	02/27/24	02/27/24 15:40	1029
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
1,2,3-Trichloropropane	112	%	60-140		1		02/27/24	02/27/24 15:40	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	03/01/24	03/01/24 17:01	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 17:01	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/01/24	03/01/24 17:01	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:01	1011
Acetone	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 17:01	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:01	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:01	1011
Methylene chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 17:01	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	03/01/24	03/01/24 17:01	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:01	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:01	1011
Vinyl acetate	ND	ug/L	1.0		1	0.31	03/01/24	03/01/24 17:01	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	03/01/24	03/01/24 17:01	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:01	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	03/01/24	03/01/24 17:01	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/01/24	03/01/24 17:01	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/01/24	03/01/24 17:01	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:01	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	03/01/24	03/01/24 17:01	1011
Benzene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:01	1011
Dibromomethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:01	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:01	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 17:01	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:01	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	03/01/24	03/01/24 17:01	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:01	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-3 **Date/Time Sampled: 02/26/2024 10:40** **PSS Sample ID: 24022709-003**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:01	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	03/01/24	03/01/24 17:01	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:01	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:01	1011
Toluene	ND	ug/L	1.0		1	0.52	03/01/24	03/01/24 17:01	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	03/01/24	03/01/24 17:01	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:01	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:01	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:01	1011
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	03/01/24	03/01/24 17:01	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:01	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:01	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:01	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	03/01/24	03/01/24 17:01	1011
Styrene	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:01	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 17:01	1011
o-Xylene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:01	1011
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 17:01	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:01	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/01/24	03/01/24 17:01	1011
Iodomethane	ND	ug/L	20		1	0.83	03/01/24	03/01/24 17:01	1011
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	111 %		88-120		1		03/01/24	03/01/24 17:01	1011
Dibromofluoromethane	100 %		92-107		1		03/01/24	03/01/24 17:01	1011
Toluene-D8	100 %		95-106		1		03/01/24	03/01/24 17:01	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-4 **Date/Time Sampled: 02/26/2024 09:45** **PSS Sample ID: 24022709-004**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Turbidity Analytical Method: EPA 180.1

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Turbidity	3.6	NTU	0.50		1	0.37	02/28/24	02/28/24 15:50	1064

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8
Qualifier(s): See Batch 210782 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	02/29/24	03/05/24 13:16	1064
Arsenic	ND	ug/L	1.0		1	0.43	02/29/24	02/29/24 20:17	1064
Barium	32.9	ug/L	1.00		1	0.57	02/29/24	02/29/24 20:17	1064
Beryllium	ND	ug/L	1.0		1	0.61	02/29/24	02/29/24 20:17	1064
Cadmium	ND	ug/L	1.0		1	0.33	02/29/24	02/29/24 20:17	1064
Calcium	11,400	ug/L	1,000		10	932	02/29/24	03/04/24 18:19	1064
Chromium	1.8	ug/L	1.0		1	0.84	02/29/24	03/04/24 19:01	1064
Cobalt	0.79	ug/L	1.0	J	1	0.31	02/29/24	02/29/24 20:17	1064
Copper	ND	ug/L	1.0		1	0.98	02/29/24	02/29/24 20:17	1064
Iron	127	ug/L	100		1	69.3	02/29/24	02/29/24 20:17	1064
Lead	ND	ug/L	1.0		1	0.66	02/29/24	02/29/24 20:17	1064
Magnesium	3,350	ug/L	100		1	61	02/29/24	02/29/24 20:17	1064
Manganese	32.5	ug/L	1.00		1	0.94	02/29/24	02/29/24 20:17	1064
Mercury	ND	ug/L	0.20		1	0.11	02/29/24	03/05/24 13:16	1064
Nickel	3.5	ug/L	1.0		1	0.95	02/29/24	03/04/24 19:01	1064
Potassium	2,400	ug/L	100		1	86.4	02/29/24	03/04/24 19:01	1064
Selenium	ND	ug/L	1.0		1	0.6	02/29/24	02/29/24 20:17	1064
Silver	ND	ug/L	1.0		1	0.31	02/29/24	02/29/24 20:17	1064
Sodium	4,470	ug/L	100		1	96.7	02/29/24	03/04/24 19:01	1064
Thallium	ND	ug/L	1.0		1	0.45	02/29/24	02/29/24 20:17	1064
Vanadium	ND	ug/L	1.0		1	0.44	02/29/24	02/29/24 20:17	1064
Zinc	27.5	ug/L	20.0		1	7.1	02/29/24	02/29/24 20:17	1064

Certificate of Analysis

Project Name: Dulin Landfill
 PSS Project No.: 24022709

Sample ID: MW-4 **Date/Time Sampled: 02/26/2024 09:45** **PSS Sample ID: 24022709-004**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Chloride, Sulfate & Nitrate Analytical Method: EPA 300.0 Preparation Method: E300.0P

Qualifier(s): See Batch 210755 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloride	9.6	mg/L	1.0		1	0.5	02/27/24	02/27/24 15:00	1053
Nitrate (as N)	9.4	mg/L	0.10		1	0.021	02/27/24	02/27/24 15:00	1053
Sulfate	ND	mg/L	1.0		1	0.19	02/27/24	03/01/24 01:55	1053

Alkalinity Low Level Analytical Method: SM 2320B -11

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Alkalinity, Total (as CaCO3)	ND	mg/L	1.0		1	1	02/29/24	02/29/24 15:49	1053

Hardness, Total by Calculation Analytical Method: SM 2340B Preparation Method: E200.8

Qualifier(s): See Batch 210835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Hardness (Ca & Mg)	42	mg/L	6.6		10	3.3	02/29/24	03/04/24 18:19	1064

Conductivity Analytical Method: SM 2510B -2011

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Conductivity @ 25.0C	130	us/cm	10		1	1	02/28/24	02/28/24 14:00	1059

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-4 **Date/Time Sampled: 02/26/2024 09:45** **PSS Sample ID: 24022709-004**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

EDB & DBCP Analytical Method: SW-846 8011 Preparation Method: SW8011_PREP

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0041	02/27/24	02/27/24 15:54	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	02/27/24	02/27/24 15:54	1029
Surrogate(s)	Recovery		Limits						
1,2,3-Trichloropropane	108	%	60-140		1		02/27/24	02/27/24 15:54	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	03/01/24	03/01/24 17:21	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 17:21	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/01/24	03/01/24 17:21	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:21	1011
Acetone	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 17:21	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:21	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:21	1011
Methylene chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 17:21	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	03/01/24	03/01/24 17:21	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:21	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:21	1011
Vinyl acetate	ND	ug/L	1.0		1	0.31	03/01/24	03/01/24 17:21	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	03/01/24	03/01/24 17:21	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:21	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	03/01/24	03/01/24 17:21	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/01/24	03/01/24 17:21	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/01/24	03/01/24 17:21	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:21	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	03/01/24	03/01/24 17:21	1011
Benzene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:21	1011
Dibromomethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:21	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:21	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 17:21	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:21	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	03/01/24	03/01/24 17:21	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:21	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-4 **Date/Time Sampled: 02/26/2024 09:45** **PSS Sample ID: 24022709-004**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:21	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	03/01/24	03/01/24 17:21	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:21	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:21	1011
Toluene	ND	ug/L	1.0		1	0.52	03/01/24	03/01/24 17:21	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	03/01/24	03/01/24 17:21	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:21	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:21	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:21	1011
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	03/01/24	03/01/24 17:21	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:21	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:21	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:21	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	03/01/24	03/01/24 17:21	1011
Styrene	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:21	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 17:21	1011
o-Xylene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:21	1011
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 17:21	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:21	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/01/24	03/01/24 17:21	1011
Iodomethane	ND	ug/L	20		1	0.83	03/01/24	03/01/24 17:21	1011
Surrogate(s) Recovery Limits									
4-Bromofluorobenzene	107	%	88-120		1		03/01/24	03/01/24 17:21	1011
Dibromofluoromethane	100	%	92-107		1		03/01/24	03/01/24 17:21	1011
Toluene-D8	100	%	95-106		1		03/01/24	03/01/24 17:21	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-5 **Date/Time Sampled: 02/26/2024 11:20** **PSS Sample ID: 24022709-005**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Turbidity Analytical Method: EPA 180.1

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Turbidity	1.5	NTU	0.50		1	0.37	02/28/24	02/28/24 15:50	1064

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

Qualifier(s): See Batch 210782 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	02/29/24	03/05/24 13:21	1064
Arsenic	ND	ug/L	1.0		1	0.43	02/29/24	02/29/24 20:22	1064
Barium	12.2	ug/L	1.00		1	0.57	02/29/24	02/29/24 20:22	1064
Beryllium	ND	ug/L	1.0		1	0.61	02/29/24	02/29/24 20:22	1064
Cadmium	ND	ug/L	1.0		1	0.33	02/29/24	02/29/24 20:22	1064
Calcium	4,520	ug/L	100		1	93.2	02/29/24	02/29/24 20:22	1064
Chromium	3.1	ug/L	1.0		1	0.84	02/29/24	03/04/24 19:06	1064
Cobalt	0.87	ug/L	1.0	J	1	0.31	02/29/24	02/29/24 20:22	1064
Copper	ND	ug/L	1.0		1	0.98	02/29/24	02/29/24 20:22	1064
Iron	ND	ug/L	100		1	69	02/29/24	02/29/24 20:22	1064
Lead	ND	ug/L	1.0		1	0.66	02/29/24	02/29/24 20:22	1064
Magnesium	2,110	ug/L	100		1	61	02/29/24	02/29/24 20:22	1064
Manganese	45.1	ug/L	1.00		1	0.94	02/29/24	02/29/24 20:22	1064
Mercury	ND	ug/L	0.20		1	0.11	02/29/24	03/05/24 13:21	1064
Nickel	1.6	ug/L	1.0		1	0.95	02/29/24	03/04/24 19:06	1064
Potassium	2,220	ug/L	100		1	86.4	02/29/24	03/04/24 19:06	1064
Selenium	ND	ug/L	1.0		1	0.6	02/29/24	02/29/24 20:22	1064
Silver	ND	ug/L	1.0		1	0.31	02/29/24	02/29/24 20:22	1064
Sodium	2,660	ug/L	100		1	96.7	02/29/24	03/04/24 19:06	1064
Thallium	ND	ug/L	1.0		1	0.45	02/29/24	02/29/24 20:22	1064
Vanadium	ND	ug/L	1.0		1	0.44	02/29/24	02/29/24 20:22	1064
Zinc	20.2	ug/L	20.0		1	7.1	02/29/24	02/29/24 20:22	1064

Certificate of Analysis

Project Name: Dulin Landfill
 PSS Project No.: 24022709

Sample ID: MW-5 **Date/Time Sampled: 02/26/2024 11:20** **PSS Sample ID: 24022709-005**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Chloride, Sulfate & Nitrate Analytical Method: EPA 300.0 Preparation Method: E300.0P

Qualifier(s): See Batch 210755 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloride	3.6	mg/L	1.0		1	0.5	02/27/24	02/27/24 15:23	1053
Nitrate (as N)	2.9	mg/L	0.10		1	0.021	02/27/24	02/27/24 15:23	1053
Sulfate	1.3	mg/L	1.0		1	0.19	02/27/24	03/01/24 02:18	1053

Alkalinity Low Level Analytical Method: SM 2320B -11

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Alkalinity, Total (as CaCO3)	7.4	mg/L	1.0		1	1	02/29/24	02/29/24 15:49	1053

Hardness, Total by Calculation Analytical Method: SM 2340B Preparation Method: E200.8

Qualifier(s): See Batch 210835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Hardness (Ca & Mg)	19	mg/L	6.6		10	3.3	02/29/24	03/04/24 18:24	1064

Conductivity Analytical Method: SM 2510B -2011

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Conductivity @ 25.0C	67	us/cm	10		1	1	02/28/24	02/28/24 14:00	1059

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-5 **Date/Time Sampled: 02/26/2024 11:20** **PSS Sample ID: 24022709-005**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

EDB & DBCP	Analytical Method: SW-846 8011	Preparation Method: SW8011_PREP
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	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0041	02/27/24	02/27/24 16:07	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	02/27/24	02/27/24 16:07	1029
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
1,2,3-Trichloropropane	116	%	60-140		1		02/27/24	02/27/24 16:07	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	03/01/24	03/01/24 17:42	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 17:42	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/01/24	03/01/24 17:42	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:42	1011
Acetone	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 17:42	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:42	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:42	1011
Methylene chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 17:42	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	03/01/24	03/01/24 17:42	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:42	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:42	1011
Vinyl acetate	ND	ug/L	1.0		1	0.31	03/01/24	03/01/24 17:42	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	03/01/24	03/01/24 17:42	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:42	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	03/01/24	03/01/24 17:42	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/01/24	03/01/24 17:42	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/01/24	03/01/24 17:42	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:42	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	03/01/24	03/01/24 17:42	1011
Benzene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:42	1011
Dibromomethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:42	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:42	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 17:42	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:42	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	03/01/24	03/01/24 17:42	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:42	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: MW-5 **Date/Time Sampled: 02/26/2024 11:20** **PSS Sample ID: 24022709-005**
Matrix: GROUND WATER **Date/Time Received: 02/27/2024 12:58**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:42	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	03/01/24	03/01/24 17:42	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:42	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:42	1011
Toluene	ND	ug/L	1.0		1	0.52	03/01/24	03/01/24 17:42	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	03/01/24	03/01/24 17:42	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:42	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 17:42	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:42	1011
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	03/01/24	03/01/24 17:42	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:42	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 17:42	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 17:42	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	03/01/24	03/01/24 17:42	1011
Styrene	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 17:42	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 17:42	1011
o-Xylene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 17:42	1011
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 17:42	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 17:42	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/01/24	03/01/24 17:42	1011
Iodomethane	ND	ug/L	20		1	0.83	03/01/24	03/01/24 17:42	1011
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	108 %		88-120		1		03/01/24	03/01/24 17:42	1011
Dibromofluoromethane	100 %		92-107		1		03/01/24	03/01/24 17:42	1011
Toluene-D8	101 %		95-106		1		03/01/24	03/01/24 17:42	1011

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24022709

Sample ID: Trip Blank **Date/Time Sampled: 02/26/2024 00:00** **PSS Sample ID: 24022709-006**
Matrix: WATER **Date/Time Received: 02/27/2024 12:58**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	03/01/24	03/01/24 18:02	1011
Vinyl chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 18:02	1011
Bromomethane	ND	ug/L	1.0		1	0.6	03/01/24	03/01/24 18:02	1011
Chloroethane	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 18:02	1011
Acetone	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 18:02	1011
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 18:02	1011
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 18:02	1011
Methylene chloride	ND	ug/L	1.0		1	0.34	03/01/24	03/01/24 18:02	1011
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	03/01/24	03/01/24 18:02	1011
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 18:02	1011
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 18:02	1011
Vinyl acetate	ND	ug/L	1.0		1	0.31	03/01/24	03/01/24 18:02	1011
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	03/01/24	03/01/24 18:02	1011
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 18:02	1011
Bromochloromethane	ND	ug/L	1.0		1	0.28	03/01/24	03/01/24 18:02	1011
Chloroform	ND	ug/L	1.0		1	0.21	03/01/24	03/01/24 18:02	1011
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	03/01/24	03/01/24 18:02	1011
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 18:02	1011
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	03/01/24	03/01/24 18:02	1011
Benzene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 18:02	1011
Dibromomethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 18:02	1011
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 18:02	1011
Acrylonitrile	ND	ug/L	5.0		1	1.5	03/01/24	03/01/24 18:02	1011
Trichloroethene	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 18:02	1011
Carbon Disulfide	ND	ug/L	1.0		1	0.35	03/01/24	03/01/24 18:02	1011
Bromodichloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 18:02	1011
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 18:02	1011
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	03/01/24	03/01/24 18:02	1011
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 18:02	1011
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 18:02	1011
Toluene	ND	ug/L	1.0		1	0.52	03/01/24	03/01/24 18:02	1011
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	03/01/24	03/01/24 18:02	1011
Dibromochloromethane	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 18:02	1011
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	03/01/24	03/01/24 18:02	1011
Bromoform	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 18:02	1011

Certificate of Analysis

Project Name: Dulin Landfill
 PSS Project No.: 24022709

Sample ID: Trip Blank **Date/Time Sampled: 02/26/2024 00:00** **PSS Sample ID: 24022709-006**
Matrix: WATER **Date/Time Received: 02/27/2024 12:58**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 210799 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	03/01/24	03/01/24 18:02	1011
Tetrachloroethene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 18:02	1011
Chlorobenzene	ND	ug/L	1.0		1	0.23	03/01/24	03/01/24 18:02	1011
Ethylbenzene	ND	ug/L	1.0		1	0.15	03/01/24	03/01/24 18:02	1011
m&p-Xylene	ND	ug/L	2.0		1	0.4	03/01/24	03/01/24 18:02	1011
Styrene	ND	ug/L	1.0		1	0.17	03/01/24	03/01/24 18:02	1011
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 18:02	1011
o-Xylene	ND	ug/L	1.0		1	0.18	03/01/24	03/01/24 18:02	1011
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	03/01/24	03/01/24 18:02	1011
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	03/01/24	03/01/24 18:02	1011
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	03/01/24	03/01/24 18:02	1011
Iodomethane	ND	ug/L	20		1	0.83	03/01/24	03/01/24 18:02	1011
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	108	%	88-120		1		03/01/24	03/01/24 18:02	1011
Dibromofluoromethane	99	%	92-107		1		03/01/24	03/01/24 18:02	1011
Toluene-D8	100	%	95-106		1		03/01/24	03/01/24 18:02	1011

Case Narrative

Project Name: Dulin Landfill

PSS Project No.: 24022709

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

The analyses of pH has a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Analytical:

Total Metals

Batch: 210782

Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified; see QC summary. The concentration of the following analyte(s) in the reference sample was greater than four times the matrix spike concentration : calcium, magnesium, potassium, sodium

Batch: 210835

Method exceedance: Continuing calibration verification standard (CCV) exceedances identified; see QC summary.

Analytical:

Chloride, Sulfate & Nitrate

Batch: 210755

Method exceedance: Continuing calibration verification standard (CCV) exceedances identified; see QC summary. Results were confirmed by re-analysis outside holding time within an RPD of 25%.

Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified; see QC summary.

Analytical:

Volatile Organic Compounds MDE List

Batch: 210799

Continuing calibration verification standard (CCV) meets method criteria in that more than 80% of analytes are within acceptance limits, see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Project Name: Dulin Landfill
PSS Project No.: 24022709

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed	
EPA 180.1	24022709-001	590	Initial	W	210733	210733	02/28/2024 15:50	02/28/2024 15:50	
	24022709-002	591	Initial	W	210733	210733	02/28/2024 15:50	02/28/2024 15:50	
	24022709-003	592	Initial	W	210733	210733	02/28/2024 15:50	02/28/2024 15:50	
	24022709-004	593	Initial	W	210733	210733	02/28/2024 15:50	02/28/2024 15:50	
	24022709-005	594	Initial	W	210733	210733	02/28/2024 15:50	02/28/2024 15:50	
	210733-1-BLK		BLK	W	210733	210733	02/28/2024 15:50	02/28/2024 15:50	
	24022709-001 D	590	MD	W	210733	210733	02/28/2024 15:50	02/28/2024 15:50	
EPA 200.8	24022709-001	560	Initial	W	99110	210782	02/29/2024 12:15	02/29/2024 19:52	
	24022709-002	561	Initial	W	99110	210782	02/29/2024 12:15	02/29/2024 20:07	
	24022709-003	562	Initial	W	99110	210782	02/29/2024 12:15	02/29/2024 20:12	
	24022709-004	563	Initial	W	99110	210782	02/29/2024 12:15	02/29/2024 20:17	
	24022709-005	564	Initial	W	99110	210782	02/29/2024 12:15	02/29/2024 20:22	
	99110-1-BKS		BKS	W	99110	210782	02/29/2024 12:15	02/29/2024 19:47	
	99110-1-BLK		BLK	W	99110	210782	02/29/2024 12:15	02/29/2024 19:42	
	24022709-001 S	560	MS	W	99110	210782	02/29/2024 12:15	02/29/2024 19:57	
	24022815-001 S	707	MS	W	99110	210782	02/29/2024 12:15	02/29/2024 21:13	
	24022709-001 SD	560	MSD	W	99110	210782	02/29/2024 12:15	02/29/2024 20:02	
	99110-1-BKS		Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 17:53	
	99110-1-BLK		Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 17:48	
	24022709-001	560	Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 18:30	
	24022709-002	561	Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 18:35	
	24022709-003	562	Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 18:56	
	24022709-004	563	Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 19:01	
	24022709-005	564	Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 19:06	
	24022709-001	560	Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 18:04	
	24022709-004	563	Reanalysis	W	99110	210835	02/29/2024 12:15	03/04/2024 18:19	
	99110-1-BKS		Reanalysis	W	99110	210840	02/29/2024 12:15	03/05/2024 13:53	
	99110-1-BLK		Reanalysis	W	99110	210840	02/29/2024 12:15	03/05/2024 12:49	
	24022709-001	560	Reanalysis	W	99110	210840	02/29/2024 12:15	03/05/2024 13:00	
	24022709-002	561	Reanalysis	W	99110	210840	02/29/2024 12:15	03/05/2024 13:05	
	24022709-003	562	Reanalysis	W	99110	210840	02/29/2024 12:15	03/05/2024 13:10	
	24022709-004	563	Reanalysis	W	99110	210840	02/29/2024 12:15	03/05/2024 13:16	
	24022709-005	564	Reanalysis	W	99110	210840	02/29/2024 12:15	03/05/2024 13:21	
	EPA 300.0	24022709-001	585	Initial	W	99078	210755	02/27/2024 13:44	02/27/2024 13:51
		24022709-002	586	Initial	W	99078	210755	02/27/2024 13:44	02/27/2024 14:14
24022709-003		587	Initial	W	99078	210755	02/27/2024 13:44	02/27/2024 14:37	
24022709-004		588	Initial	W	99078	210755	02/27/2024 13:44	02/27/2024 15:00	
24022709-005		589	Initial	W	99078	210755	02/27/2024 13:44	02/27/2024 15:23	
99078-1-BKS			BKS	W	99078	210755	02/27/2024 11:42	02/27/2024 13:03	
99078-1-BLK			BLK	W	99078	210755	02/27/2024 11:42	02/27/2024 12:40	
99078-1-BSD			BSD	W	99078	210755	02/27/2024 11:42	02/27/2024 13:26	
24022709-005 S		589	MS	W	99078	210755	02/27/2024 13:44	02/27/2024 15:46	
24022709-005 SD		589	MSD	W	99078	210755	02/27/2024 13:44	02/27/2024 16:09	
24022709-001		585	Reanalysis	W	99078	210755	02/27/2024 13:44	02/27/2024 16:32	
24022709-001		585	Reanalysis	W	99078	210774	02/27/2024 13:44	03/01/2024 00:46	

Lab Chronology

Project Name: Dulin Landfill
PSS Project No.: 24022709

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
EPA 300.0	24022709-002	586	Reanalysis	W	99078	210774	02/27/2024 13:44	03/01/2024 01:09
	24022709-003	587	Reanalysis	W	99078	210774	02/27/2024 13:44	03/01/2024 01:32
	24022709-004	588	Reanalysis	W	99078	210774	02/27/2024 13:44	03/01/2024 01:55
	24022709-005	589	Reanalysis	W	99078	210774	02/27/2024 13:44	03/01/2024 02:18
	99111-1-BKS		BKS	W	99111	210774	02/29/2024 12:12	02/29/2024 17:28
	99111-1-BLK		BLK	W	99111	210774	02/29/2024 12:12	02/29/2024 17:05
	99111-1-BSD		BSD	W	99111	210774	02/29/2024 12:12	02/29/2024 17:51
SM 2320B -11	24022709-001	575	Initial	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
	24022709-002	576	Initial	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
	24022709-003	577	Initial	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
	24022709-004	578	Initial	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
	24022709-005	579	Initial	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
	210760-1-BKS		BKS	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
	210760-1-BLK		BLK	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
	24022709-003 D	577	MD	W	210760	210760	02/29/2024 15:49	02/29/2024 15:49
SM 2340B	24022709-001	560	Initial	W	99110	210835	02/29/2024 12:15	03/04/2024 18:04
	24022709-002	561	Initial	W	99110	210835	02/29/2024 12:15	03/04/2024 18:09
	24022709-003	562	Initial	W	99110	210835	02/29/2024 12:15	03/04/2024 18:14
	24022709-004	563	Initial	W	99110	210835	02/29/2024 12:15	03/04/2024 18:19
	24022709-005	564	Initial	W	99110	210835	02/29/2024 12:15	03/04/2024 18:24
SM 2510B -2011	24022709-001	585	Initial	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
	24022709-002	586	Initial	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
	24022709-003	587	Initial	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
	24022709-004	588	Initial	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
	24022709-005	589	Initial	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
	210732-1-BKS		BKS	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
	210732-1-BLK		BLK	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
	24022709-001 D	585	MD	W	210732	210732	02/28/2024 14:00	02/28/2024 14:00
SM 2540C -2015	24022709-001	580	Initial	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
	24022709-002	581	Initial	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
	24022709-003	582	Initial	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
	24022709-004	583	Initial	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
	24022709-005	584	Initial	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
	99090-1-BKS		BKS	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
	99090-1-BLK		BLK	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
	24022709-001 D	580	MD	W	99090	210801	02/27/2024 14:47	02/28/2024 13:37
SM 4500-H+ B -2011	24022709-001	585	Initial	W	210718	210718	02/27/2024 16:03	02/27/2024 16:03
	24022709-002	586	Initial	W	210718	210718	02/27/2024 16:03	02/27/2024 16:03
	24022709-003	587	Initial	W	210718	210718	02/27/2024 16:03	02/27/2024 16:03
	24022709-004	588	Initial	W	210718	210718	02/27/2024 16:03	02/27/2024 16:03
	24022709-005	589	Initial	W	210718	210718	02/27/2024 16:03	02/27/2024 16:03
	24022709-001 D	585	MD	W	210718	210718	02/27/2024 16:03	02/27/2024 16:03
SM 4500-NH3-F -	24022709-001	566	Initial	W	99091	210755	02/28/2024 11:39	02/28/2024 14:33

Lab Chronology

Project Name: Dulin Landfill
 PSS Project No.: 24022709

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SM 4500-NH3-F - 2011	24022709-002	567	Initial	W	99091	210754	02/28/2024 11:39	02/28/2024 14:41
	24022709-003	569	Initial	W	99091	210754	02/28/2024 11:39	02/28/2024 14:44
	24022709-004	571	Initial	W	99091	210754	02/28/2024 11:39	02/28/2024 14:46
	24022709-005	574	Initial	W	99091	210754	02/28/2024 11:39	02/28/2024 14:49
	99091-1-BKS		BKS	W	99091	210754	02/28/2024 11:39	02/28/2024 14:25
	99091-1-BLK		BLK	W	99091	210754	02/28/2024 11:39	02/28/2024 14:22
	99091-1-BSD		BSD	W	99091	210754	02/28/2024 11:39	02/28/2024 14:28
	24022709-001 S	566	MS	W	99091	210754	02/28/2024 11:39	02/28/2024 14:36
	24022709-001 SD	566	MSD	W	99091	210754	02/28/2024 11:39	02/28/2024 14:38
SM 5220D -2011	24022709-001	565	Initial	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	24022709-002	567	Initial	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	24022709-003	570	Initial	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	24022709-004	571	Initial	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	24022709-005	573	Initial	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	210789-1-BKS		BKS	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	210789-1-BLK		BLK	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	24022709-001 S	565	MS	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
	24022709-001 SD	565	MSD	W	210789	210789	03/01/2024 14:58	03/01/2024 14:58
SW-846 8011	24022709-001	610	Initial	W	99076	210727	02/27/2024 14:23	02/27/2024 15:13
	24022709-002	614	Initial	W	99076	210727	02/27/2024 14:23	02/27/2024 15:27
	24022709-003	616	Initial	W	99076	210727	02/27/2024 14:23	02/27/2024 15:40
	24022709-004	619	Initial	W	99076	210727	02/27/2024 14:23	02/27/2024 15:54
	24022709-005	622	Initial	W	99076	210727	02/27/2024 14:23	02/27/2024 16:07
	99076-1-BKS		BKS	W	99076	210727	02/27/2024 10:49	02/27/2024 12:31
	99076-1-BLK		BLK	W	99076	210727	02/27/2024 10:49	02/27/2024 12:18
	99076-1-BSD		BSD	W	99076	210727	02/27/2024 10:49	02/27/2024 12:45
	24022206-001 S	892	MS	W	99076	210727	02/27/2024 10:49	02/27/2024 13:12
SW-846 8260 D	24022709-001	595	Initial	W	99132	210799	03/01/2024 10:20	03/01/2024 13:57
	24022709-002	598	Initial	W	99132	210799	03/01/2024 10:20	03/01/2024 14:18
	24022709-003	602	Initial	W	99132	210799	03/01/2024 10:20	03/01/2024 17:01
	24022709-004	605	Initial	W	99132	210799	03/01/2024 10:20	03/01/2024 17:21
	24022709-005	608	Initial	W	99132	210799	03/01/2024 10:20	03/01/2024 17:42
	24022709-006	625	Initial	W	99132	210799	03/01/2024 10:20	03/01/2024 18:02
	99132-1-BKS		BKS	W	99132	210799	03/01/2024 10:20	03/01/2024 10:20
	99132-1-BLK		BLK	W	99132	210799	03/01/2024 10:20	03/01/2024 11:21
	24022709-001 S	596	MS	W	99132	210799	03/01/2024 10:20	03/01/2024 14:38
	24022709-001 SD	596	MSD	W	99132	210799	03/01/2024 10:20	03/01/2024 14:59

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: EPA 180.1

Seq Number: 210733

Matrix: Water
MB Sample ID: 210733-1-BLK

Parameter	MB Result	LOD	RL	Units	Flag
Turbidity	ND	0.3700	0.5000	NTU	

Analytical Method: EPA 180.1

Seq Number: 210733

Matrix: Ground Water
MD Sample ID: 24022709-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Turbidity	2.000	2.000	0	20	NTU	

Analytical Method: SM 2320B -11

Seq Number: 210760

Matrix: Water
LCS Sample ID: 210760-1-BKS

MB Sample ID: 210760-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Alkalinity, Total (as CaCO3)	<20.00	6.000	6.100	102	85-115	mg/L	

Analytical Method: SM 2320B -11

Seq Number: 210760

Matrix: Ground Water
MD Sample ID: 24022709-003 D

Parent Sample ID: 24022709-003

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Alkalinity, Total (as CaCO3)	3.200	3.500	9	20	mg/L	

Analytical Method: SM 2510B -2011

Seq Number: 210732

Matrix: Water
LCS Sample ID: 210732-1-BKS

MB Sample ID: 210732-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Conductivity @ 25.0C	<1.000	1413	1420	100	85-115	us/cm	

Analytical Method: SM 2510B -2011

Seq Number: 210732

Matrix: Ground Water
MD Sample ID: 24022709-001 D

Parent Sample ID: 24022709-001

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Conductivity @ 25.0C	239	239	0	2	us/cm	

QC Summary

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: SM 2540C -2015

Seq Number: 210801
MB Sample ID: 99090-1-BLK

Matrix: Water
LCS Sample ID: 99090-1-BKS

Prep Method: SM2540C_Prep
Date Prep: 02/27/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total dissolved solids (residue, filtere	<6.400	50.00	53.00	106	82-120	mg/L	

Analytical Method: SM 2540C -2015

Seq Number: 210801
Parent Sample ID: 24022709-001

Matrix: Ground Water
MD Sample ID: 24022709-001 D

Prep Method: SM2540C_Prep
Date Prep: 02/27/24

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Total dissolved solids (residue, filtere	139	139	0	20	mg/L	

Analytical Method: SM 4500-H+ B -2011

Seq Number: 210718
Parent Sample ID: 24022709-001

Matrix: Ground Water
MD Sample ID: 24022709-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
pH	6.291	6.321	0	10	S.U.	

Analytical Method: SM 4500-NH3-F -2011

Seq Number: 210754
MB Sample ID: 99091-1-BLK

Matrix: Water
LCS Sample ID: 99091-1-BKS

Prep Method: SM4500-NH3B
Date Prep: 02/28/24
LCSD Sample ID: 99091-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	<0.09200	2.500	2.592	104	2.572	103	89-111	1	20	mg/L	

Analytical Method: SM 4500-NH3-F -2011

Seq Number: 210754
Parent Sample ID: 24022709-001

Matrix: Ground Water
MS Sample ID: 24022709-001 S

Prep Method: SM4500-NH3B
Date Prep: 02/28/24
MSD Sample ID: 24022709-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	<0.09200	2.500	2.548	102	2.524	101	82-129	1	20	mg/L	

Analytical Method: SM 5220D -2011

Seq Number: 210789
MB Sample ID: 210789-1-BLK

Matrix: Water
LCS Sample ID: 210789-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Chemical Oxygen Demand	<6.800	250	259.3	104	88-118	mg/L	

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: SM 5220D -2011

Seq Number: 210789 Matrix: Ground Water
Parent Sample ID: 24022709-001 MS Sample ID: 24022709-001 S MSD Sample ID: 24022709-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chemical Oxygen Demand	<6.800	250	258.6	103	252.1	101	69-139	3	20	mg/L	

Analytical Method: EPA 200.8

Seq Number: 210782 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 99110-1-BLK LCS Sample ID: 99110-1-BKS Date Prep: 02/29/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Arsenic	<0.4300	50.00	51.12	102	85-115	ug/L	
Barium	<0.5700	50.00	50.95	102	85-115	ug/L	
Beryllium	<0.6100	50.00	51.51	103	85-115	ug/L	
Cadmium	<0.3300	50.00	49.85	100	85-115	ug/L	
Calcium	<93.20	500	499.2	100	85-115	ug/L	
Cobalt	<0.3100	50.00	48.92	98	85-115	ug/L	
Copper	<0.9800	50.00	50.27	101	85-115	ug/L	
Iron	<69.30	500	470.7	94	85-115	ug/L	
Lead	<0.6600	50.00	49.45	99	85-115	ug/L	
Magnesium	<61.00	500	493.4	99	85-115	ug/L	
Manganese	<0.9400	50.00	49.65	99	85-115	ug/L	
Mercury	<0.1100	1.000	0.9460	95	85-115	ug/L	
Potassium	<86.40	500	517.7	104	85-115	ug/L	
Selenium	<0.6000	50.00	48.55	97	85-115	ug/L	
Silver	<0.3100	5.000	4.898	98	85-115	ug/L	
Sodium	<96.70	500	550	110	85-115	ug/L	
Thallium	<0.4500	50.00	47.99	96	85-115	ug/L	
Vanadium	<0.4400	50.00	49.13	98	85-115	ug/L	
Zinc	<7.100	100	101.7	102	85-115	ug/L	

Analytical Method: EPA 200.8

Seq Number: 210835 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 99110-1-BLK LCS Sample ID: 99110-1-BKS Date Prep: 02/29/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Chromium	<0.8400	50.00	42.31	85	85-115	ug/L	
Nickel	<0.9500	50.00	44.57	89	85-115	ug/L	

Analytical Method: EPA 200.8

Seq Number: 210840 Matrix: Water Prep Method: E200.8_PREP
MB Sample ID: 99110-1-BLK LCS Sample ID: 99110-1-BKS Date Prep: 02/29/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<1.800	25.00	25.69	103	85-115	ug/L	

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: EPA 200.8

Seq Number: 210782

Parent Sample ID: 24022709-001

Matrix: Ground Water

MS Sample ID: 24022709-001 S

Prep Method: E200.8_PREP

Date Prep: 02/29/24

MSD Sample ID: 24022709-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Antimony	<1.800	25.00	36.42	146	35.34	141	70-130	3	25	ug/L	X
Arsenic	<0.4300	50.00	52.35	105	51.41	103	70-130	2	25	ug/L	
Barium	91.28	50.00	146.1	110	143.2	104	70-130	2	25	ug/L	
Beryllium	<0.6100	50.00	50.59	101	47.90	96	70-130	5	25	ug/L	
Cadmium	<0.3300	50.00	51.25	103	49.82	100	70-130	3	25	ug/L	
Calcium	14850	500	15730	176	15410	112	70-130	2	25	ug/L	X
Chromium	1.608	50.00	52.29	101	51.10	99	70-130	2	25	ug/L	
Cobalt	1.013	50.00	51.57	101	50.31	99	70-130	2	25	ug/L	
Copper	<0.9800	50.00	51.15	102	49.98	100	70-130	2	25	ug/L	
Iron	81.22	500	578.5	99	564.6	97	70-130	2	25	ug/L	
Lead	<0.6600	50.00	50.00	100	49.08	98	70-130	2	25	ug/L	
Magnesium	6234	500	6949	143	6825	118	70-130	2	25	ug/L	X
Manganese	21.31	50.00	73.84	105	72.50	102	70-130	2	25	ug/L	
Mercury	<0.1100	1.000	1.012	101	0.9450	95	70-130	7	25	ug/L	
Nickel	6.215	50.00	56.53	101	55.81	99	70-130	1	25	ug/L	
Potassium	3810	500	4491	136	4409	120	70-130	2	25	ug/L	X
Selenium	<0.6000	50.00	48.86	98	47.89	96	70-130	2	25	ug/L	
Silver	<0.3100	5.000	4.997	100	4.873	97	70-130	3	25	ug/L	
Sodium	12770	500	13700	186	13450	136	70-130	2	25	ug/L	X
Thallium	<0.4500	50.00	49.62	99	48.35	97	70-130	3	25	ug/L	
Vanadium	<0.4400	50.00	51.49	103	50.07	100	70-130	3	25	ug/L	
Zinc	35.46	100	137.7	102	147.5	112	70-130	7	25	ug/L	

Analytical Method: EPA 200.8

Seq Number: 210835

REBLK Sample ID: 99110-1-BLK

Matrix: Water

LCS Sample ID: 99110-1-BKS

Prep Method: E200.8_PREP

Date Prep: 02/29/24

Parameter	REBLK Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Calcium	<93.20	500	550.6	110	85-115	ug/L	
Sodium	<96.70	500	460.2	92	85-115	ug/L	

Analytical Method: EPA 300.0

Seq Number: 210755

MB Sample ID: 99078-1-BLK

Matrix: Water

LCS Sample ID: 99078-1-BKS

Prep Method: E300.0P

Date Prep: 02/27/24

LCSD Sample ID: 99078-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chloride	<0.5000	10.00	9.865	99	9.755	98	90-110	1	20	mg/L	
Nitrate (as N)	<0.02100	1.000	0.9293	93	0.9168	92	90-110	1	20	mg/L	
Sulfate	<0.1900	10.00	9.339	93	9.387	94	90-110	1	20	mg/L	

QC Summary

Project Name Dulin Landfill

PSS Project No.: 24022709

Analytical Method: EPA 300.0

Seq Number: 210774

MB Sample ID: 99111-1-BLK

Matrix: Water

LCS Sample ID: 99111-1-BKS

Prep Method: E300.0P

Date Prep: 02/29/24

LCSD Sample ID: 99111-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Sulfate	<0.1900	10.00	9.333	93	9.370	94	90-110	0	20	mg/L	

Analytical Method: EPA 300.0

Seq Number: 210755

Parent Sample ID: 24022709-005

Matrix: Ground Water

MS Sample ID: 24022709-005 S

Prep Method: E300.0P

Date Prep: 02/27/24

MSD Sample ID: 24022709-005 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chloride	3.585	10.00	12.93	93	12.92	93	90-117	0	20	mg/L	
Nitrate (as N)	2.928	1.000	3.782	85	3.773	85	77-133	0	20	mg/L	
Sulfate	1.016	10.00	9.452	84	9.416	84	77-121	0	20	mg/L	

Analytical Method: SW-846 8011

Seq Number: 210727

MB Sample ID: 99076-1-BLK

Matrix: Water

LCS Sample ID: 99076-1-BKS

Prep Method: SW8011_Prep

Date Prep: 02/27/24

LCSD Sample ID: 99076-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,2-Dibromoethane	<0.003967	0.2514	0.2413	96	0.2578	104	70-130	7	10	ug/L	
1,2-Dibromo-3-Chloropropane	<0.002975	0.2514	0.2514	100	0.2578	104	70-130	3	10	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
1,2,3-Trichloropropane	96		100		104		60-140	%

Project Name Dulin Landfill

PSS Project No.: 24022709

Analytical Method: SW-846 8260 D

Seq Number: 210799

Matrix: Water

Prep Method: SW5030B

Date Prep: 03/01/24

MB Sample ID: 99132-1-BLK

LCS Sample ID: 99132-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Chloromethane	<0.3300	50.00	48.26	97	41-148	ug/L	
Vinyl chloride	<0.3400	50.00	45.36	91	53-151	ug/L	
Bromomethane	<0.6000	50.00	36.15	72	42-118	ug/L	
Chloroethane	<0.2300	50.00	45.53	91	61-113	ug/L	
Acetone	<1.500	50.00	44.66	89	49-154	ug/L	
Trichlorofluoromethane	<0.1700	50.00	44.08	88	74-125	ug/L	
1,1-Dichloroethene	<0.1800	50.00	43.98	88	74-119	ug/L	
Methylene chloride	<0.3400	50.00	44.26	89	75-113	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	43.64	87	73-121	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	42.01	84	71-114	ug/L	
1,1-Dichloroethane	<0.1900	50.00	45.14	90	75-118	ug/L	
Vinyl acetate	<0.3100	50.00	43.66	87	66-125	ug/L	
2-Butanone (MEK)	<1.300	50.00	39.41	79	55-136	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	43.84	88	75-119	ug/L	
Bromochloromethane	<0.2800	50.00	43.56	87	74-119	ug/L	
Chloroform	<0.2100	50.00	44.17	88	75-113	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	43.83	88	79-118	ug/L	
1,2-Dichloroethane	<0.1800	50.00	44.76	90	72-115	ug/L	
Carbon tetrachloride	<0.2200	50.00	44.19	88	77-119	ug/L	
Benzene	<0.1900	50.00	44.90	90	76-112	ug/L	
Dibromomethane	<0.2600	50.00	43.62	87	75-113	ug/L	
1,2-Dichloropropane	<0.1700	50.00	46.20	92	76-115	ug/L	
Acrylonitrile	<1.500	50.00	42.22	84	64-118	ug/L	
Trichloroethene	<0.1900	50.00	43.33	87	77-112	ug/L	
Carbon Disulfide	<0.3500	50.00	45.14	90	80-124	ug/L	
Bromodichloromethane	<0.1800	50.00	46.85	94	78-117	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	44.47	89	83-122	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	42.65	85	57-127	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	43.71	87	76-118	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	44.65	89	75-115	ug/L	
Toluene	<0.5200	50.00	44.71	89	77-112	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	44.01	88	55-136	ug/L	
Dibromochloromethane	<0.1800	50.00	46.62	93	79-121	ug/L	
1,1,1,2-Tetrachloroethane	<0.1900	50.00	46.12	92	78-120	ug/L	
Bromoform	<0.1700	50.00	42.30	85	69-123	ug/L	
trans-1,4-dichloro-2-butene	<0.4300	50.00	44.98	90	60-141	ug/L	
Tetrachloroethene	<0.2300	50.00	42.71	85	76-123	ug/L	
Chlorobenzene	<0.2300	50.00	44.03	88	76-114	ug/L	
Ethylbenzene	<0.1500	50.00	46.74	93	78-118	ug/L	
m&p-Xylene	<0.4000	100	93.81	94	79-121	ug/L	
Styrene	<0.1700	50.00	47.95	96	81-124	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	43.37	87	66-123	ug/L	
o-Xylene	<0.1800	50.00	46.73	93	78-122	ug/L	
1,2,3-Trichloropropane	<0.2700	50.00	42.95	86	70-123	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	44.26	89	76-118	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	45.19	90	75-121	ug/L	
Iodomethane	<0.8300	50.00	26.42	53	25-136	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
4-Bromofluorobenzene	111		98		88-120	%
Dibromofluoromethane	100		99		92-107	%

QC Summary

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: SW-846 8260 D

Seq Number: 210799

MB Sample ID: 99132-1-BLK

Matrix: Water

LCS Sample ID: 99132-1-BKS

Prep Method: SW5030B

Date Prep: 03/01/24

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	Limits	Units
Toluene-D8	100		100		95-106	%

Project Name Dulin Landfill

PSS Project No.: 24022709

Analytical Method: SW-846 8260 D

Seq Number: 210799

Parent Sample ID: 24022709-001

Matrix: Ground Water

MS Sample ID: 24022709-001 S

Prep Method: SW5030B

Date Prep: 03/01/24

MSD Sample ID: 24022709-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chloromethane	<0.3300	50.00	52.88	106	48.95	98	32-170	8	25	ug/L	
Vinyl chloride	<0.3400	50.00	55.73	111	59.66	119	40-160	7	25	ug/L	
Bromomethane	<0.6000	50.00	40.59	81	42.31	85	26-131	4	25	ug/L	
Chloroethane	<0.2300	50.00	50.21	100	46.49	93	60-124	8	25	ug/L	
Acetone	<1.500	50.00	28.17	56	27.56	55	32-96	2	25	ug/L	
Trichlorofluoromethane	<0.1700	50.00	49.53	99	47.00	94	66-130	5	25	ug/L	
1,1-Dichloroethene	<0.1800	50.00	42.85	86	41.13	82	69-120	4	25	ug/L	
Methylene chloride	<0.3400	50.00	47.66	95	46.02	92	72-114	4	25	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	47.92	96	46.53	93	70-118	3	25	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	43.57	87	44.75	90	67-112	3	25	ug/L	
1,1-Dichloroethane	<0.1900	50.00	48.90	98	47.63	95	68-122	3	25	ug/L	
Vinyl acetate	<0.3100	50.00	44.56	89	45.25	91	54-124	2	25	ug/L	
2-Butanone (MEK)	<1.300	50.00	33.42	67	33.66	67	45-109	1	25	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	46.96	94	46.56	93	71-116	1	25	ug/L	
Bromochloromethane	<0.2800	50.00	46.33	93	45.97	92	70-114	1	25	ug/L	
Chloroform	<0.2100	50.00	47.36	95	46.40	93	70-113	2	25	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	48.03	96	46.95	94	72-121	2	25	ug/L	
1,2-Dichloroethane	<0.1800	50.00	47.43	95	46.54	93	61-120	2	25	ug/L	
Carbon tetrachloride	<0.2200	50.00	49.15	98	47.56	95	74-119	3	25	ug/L	
Benzene	<0.1900	50.00	48.52	97	47.12	94	73-114	3	25	ug/L	
Dibromomethane	<0.2600	50.00	46.09	92	45.69	91	69-112	1	25	ug/L	
1,2-Dichloropropane	<0.1700	50.00	49.10	98	48.13	96	69-119	2	25	ug/L	
Acrylonitrile	<1.500	50.00	42.42	85	41.38	83	68-115	2	25	ug/L	
Trichloroethene	<0.1900	50.00	47.51	95	46.23	92	72-115	3	25	ug/L	
Carbon Disulfide	<0.3500	50.00	49.89	100	47.37	95	71-130	5	25	ug/L	
Bromodichloromethane	<0.1800	50.00	49.43	99	48.46	97	71-118	2	25	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	46.67	93	46.49	93	72-123	0	25	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	42.67	85	43.34	87	49-133	2	25	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	45.69	91	45.80	92	67-123	0	25	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	47.18	94	46.38	93	70-114	2	25	ug/L	
Toluene	<0.5200	50.00	48.26	97	46.41	93	71-115	4	25	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	40.32	81	41.15	82	44-131	2	25	ug/L	
Dibromochloromethane	<0.1800	50.00	48.91	98	48.73	97	73-120	0	25	ug/L	
1,1,1,2-Tetrachloroethane	<0.1900	50.00	48.73	97	48.00	96	73-119	2	25	ug/L	
Bromoform	<0.1700	50.00	43.84	88	43.70	87	59-127	0	25	ug/L	
trans-1,4-dichloro-2-butene	<0.4300	50.00	46.13	92	46.79	94	40-146	1	25	ug/L	
Tetrachloroethene	<0.2300	50.00	47.35	95	45.54	91	71-121	4	25	ug/L	
Chlorobenzene	<0.2300	50.00	47.38	95	46.14	92	73-115	3	25	ug/L	
Ethylbenzene	<0.1500	50.00	50.54	101	48.61	97	74-121	4	25	ug/L	
m&p-Xylene	<0.4000	100	101.2	101	97.34	97	73-125	4	25	ug/L	
Styrene	<0.1700	50.00	51.29	103	49.97	100	75-126	3	25	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	43.03	86	44.00	88	61-125	2	25	ug/L	
o-Xylene	<0.1800	50.00	50.16	100	48.43	97	71-126	4	25	ug/L	
1,2,3-Trichloropropane	<0.2700	50.00	45.43	91	44.69	89	66-124	2	25	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	45.33	91	45.08	90	68-120	1	25	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	45.96	92	46.19	92	68-122	0	25	ug/L	
Iodomethane	<0.8300	50.00	31.47	63	36.80	74	27-156	16	25	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
4-Bromofluorobenzene	96		97		88-120	%
Dibromofluoromethane	99		100		92-107	%

QC Summary

Project Name: Dulin Landfill
PSS Project No.: 24022709

Analytical Method: SW-846 8260 D

Seq Number: 210799

Parent Sample ID: 24022709-001

Matrix: Ground Water

MS Sample ID: 24022709-001 S

Prep Method: SW5030B

Date Prep: 03/01/24

MSD Sample ID: 24022709-001 SD

Surrogate

Toluene-D8

MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
101		100		95-106	%

Project Name Dulin Landfill

PSS Project No.: 24022709

Analytical Method: EPA 180.1

CCV Sample Id: CCV-01 Seq Number: 210733

Analyzed Date: 02/28/24 15:50

Parameter	CCV %Rec	Limits	Flag
Turbidity	101	95-105	

Analytical Method: EPA 180.1

Parent Sample Id: LLCCV-01 Seq Number: 210733

Analyzed Date: 02/28/24 15:50

Parameter	LLCCV %Rec	Limits	Flag
Turbidity	101	95-105	

Analytical Method: SM 4500-NH3-F -2011

CCV Sample Id: CCV-01 Seq Number: 210754

Analyzed Date: 02/28/24 14:52

Parameter	CCV %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	103	90-110	

Analytical Method: SM 4500-NH3-F -2011

Parent Sample Id: ICV Seq Number: 210753

Analyzed Date: 02/28/24 14:17

Parameter	ICV %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	106	90-110	

Analytical Method: SM 5220D -2011

CCV Sample Id: CCV-01 Seq Number: 210789

Analyzed Date: 03/01/24 14:58

Parameter	CCV %Rec	Limits	Flag
Chemical Oxygen Demand	107	90-110	

Analytical Method: SM 5220D -2011

Parent Sample Id: ICV-01 Seq Number: 208202

Analyzed Date: 11/14/23 13:28

Parameter	ICV %Rec	Limits	Flag
Chemical Oxygen Demand	103	90-110	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 210782

Analyzed Date: 02/29/24 19:32

Analytical Method: EPA 180.1

CCV Sample Id: CCV-02 Seq Number: 210733

Analyzed Date: 02/28/24 15:50

Parameter	CCV %Rec	Limits	Flag
Turbidity	101	95-105	

Analytical Method: SM 2510B -2011

CCV Sample Id: CCV-01 Seq Number: 210732

Analyzed Date: 02/28/24 14:00

Parameter	CCV %Rec	Limits	Flag
Conductivity @ 25.0C	104	90-110	

Analytical Method: SM 4500-NH3-F -2011

CCV Sample Id: CCV-02 Seq Number: 210754

Analyzed Date: 02/28/24 15:07

Parameter	CCV %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	103	90-110	

Analytical Method: SM 4500-NH3-F -2011

Parent Sample Id: MRL Seq Number: 210754

Analyzed Date: 02/28/24 14:30

Parameter	MRL %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	120	50-150	

Analytical Method: SM 5220D -2011

CCV Sample Id: CCV-02 Seq Number: 210789

Analyzed Date: 03/01/24 14:58

Parameter	CCV %Rec	Limits	Flag
Chemical Oxygen Demand	105	90-110	

Analytical Method: SM 5220D -2011

Parent Sample Id: MRL-01 Seq Number: 210789

Analyzed Date: 03/01/24 14:58

Parameter	MRL %Rec	Limits	Flag
Chemical Oxygen Demand	85	50-150	

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 210782
Analyzed Date: 02/29/24 19:32

Parameter	CCV %Rec	Limits	Flag
Arsenic	104	85-115	
Barium	102	85-115	
Beryllium	98	85-115	
Cadmium	102	85-115	
Calcium	96	85-115	
Cobalt	100	85-115	
Copper	101	85-115	
Iron	95	85-115	
Lead	101	85-115	
Magnesium	99	85-115	
Manganese	102	85-115	
Selenium	100	85-115	
Silver	98	85-115	
Thallium	93	85-115	
Vanadium	100	85-115	
Zinc	103	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 210782
Analyzed Date: 02/29/24 20:38

Parameter	CCV %Rec	Limits	Flag
Arsenic	104	85-115	
Barium	102	85-115	
Beryllium	99	85-115	
Cadmium	102	85-115	
Calcium	96	85-115	
Cobalt	100	85-115	
Copper	101	85-115	
Iron	96	85-115	
Lead	95	85-115	
Magnesium	99	85-115	
Manganese	101	85-115	
Selenium	100	85-115	
Silver	99	85-115	
Thallium	95	85-115	
Vanadium	100	85-115	
Zinc	103	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 210782
Analyzed Date: 02/29/24 21:44

Parameter	CCV %Rec	Limits	Flag
Arsenic	108	85-115	
Barium	106	85-115	
Beryllium	96	85-115	
Cadmium	103	85-115	
Calcium	93	85-115	
Cobalt	102	85-115	
Copper	102	85-115	
Iron	91	85-115	
Lead	93	85-115	
Magnesium	102	85-115	
Manganese	106	85-115	
Selenium	93	85-115	
Silver	99	85-115	
Thallium	96	85-115	
Vanadium	103	85-115	
Zinc	110	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 210835
Analyzed Date: 03/04/24 18:45

Parameter	CCV %Rec	Limits	Flag
Calcium	103	85-115	
Chromium	99	85-115	
Nickel	100	85-115	
Potassium	104	85-115	
Sodium	106	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 210835
Analyzed Date: 03/04/24 19:53

Parameter	CCV %Rec	Limits	Flag
Calcium	101	85-115	
Chromium	101	85-115	
Nickel	100	85-115	
Potassium	118	85-115	X

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 210835
Analyzed Date: 03/04/24 19:53

Parameter	CCV %Rec	Limits	Flag
Sodium	117	85-115	X

Analytical Method: EPA 200.8

CCV Sample Id: CCV 1 Seq Number: 210840
Analyzed Date: 03/05/24 13:42

Parameter	CCV %Rec	Limits	Flag
Antimony	113	85-115	
Mercury	93	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 210840
Analyzed Date: 03/05/24 14:03

Parameter	CCV %Rec	Limits	Flag
Antimony	108	85-115	
Mercury	97	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 210782
Analyzed Date: 02/29/24 18:04

Parameter	ICV %Rec	Limits	Flag
Arsenic	99	90-110	
Barium	98	90-110	
Beryllium	108	90-110	
Cadmium	100	90-110	
Calcium	99	90-110	
Cobalt	98	90-110	
Copper	101	90-110	
Iron	99	90-110	
Lead	99	90-110	
Magnesium	98	90-110	
Manganese	97	90-110	
Selenium	103	90-110	
Silver	98	90-110	
Thallium	97	90-110	
Vanadium	97	90-110	
Zinc	101	90-110	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 210835
Analyzed Date: 03/04/24 17:17

Parameter	ICV %Rec	Limits	Flag
Calcium	100	90-110	
Chromium	95	90-110	
Nickel	97	90-110	
Potassium	94	90-110	
Sodium	95	90-110	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 210840
Analyzed Date: 03/05/24 12:23

Parameter	ICV %Rec	Limits	Flag
Antimony	105	90-110	
Mercury	103	90-110	

Analytical Method: EPA 300.0

CCV Sample Id: CCV-01 Seq Number: 210755
Analyzed Date: 02/27/24 11:54

Parameter	CCV %Rec	Limits	Flag
Chloride	97	90-110	
Nitrate (as N)	95	90-110	

Analytical Method: EPA 300.0

CCV Sample Id: CCV-02 Seq Number: 210755
Analyzed Date: 02/27/24 16:55

Parameter	CCV %Rec	Limits	Flag
Chloride	90	90-110	
Nitrate (as N)	77	90-110	X

Analytical Method: EPA 300.0

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: EPA 300.0

CCV Sample Id: CCV-03 Seq Number: 210755
Analyzed Date: 02/27/24 19:36

Parameter	CCV %Rec	Limits	Flag
Chloride	92	90-110	
Nitrate (as N)	79	90-110	X

Analytical Method: EPA 300.0

CCV Sample Id: CCV-01 Seq Number: 210774
Analyzed Date: 02/29/24 23:37

Parameter	CCV %Rec	Limits	Flag
Sulfate	94	90-110	

Analytical Method: EPA 300.0

CCV Sample Id: CCV-02 Seq Number: 210774
Analyzed Date: 03/01/24 03:04

Parameter	CCV %Rec	Limits	Flag
Sulfate	98	90-110	

Analytical Method: EPA 300.0

Parent Sample Id: ICV-01 Seq Number: 210346
Analyzed Date: 02/13/24 14:55

Parameter	ICV %Rec	Limits	Flag
Chloride	97	90-110	
Nitrate (as N)	102	90-110	
Sulfate	96	90-110	

Analytical Method: SW-846 8011

CCV Sample Id: CCV-01 Seq Number: 210727
Analyzed Date: 02/27/24 12:02

Parameter	CCV %Rec	Limits	Flag
1,2-Dibromoethane	96	60-140	
1,2-Dibromo-3-Chloropropane	101	60-140	
Surrogate		Limits	Flag
1,2,3-Trichloropropane	98	60-140	

Analytical Method: SW-846 8011

CCV Sample Id: CCV-02 Seq Number: 210727
Analyzed Date: 02/27/24 14:06

Parameter	CCV %Rec	Limits	Flag
1,2-Dibromoethane	97	60-140	
1,2-Dibromo-3-Chloropropane	102	60-140	
Surrogate		Limits	Flag
1,2,3-Trichloropropane	93	60-140	

Analytical Method: SW-846 8011

CCV Sample Id: CCV-03 Seq Number: 210727
Analyzed Date: 02/27/24 16:35

Parameter	CCV %Rec	Limits	Flag
1,2-Dibromoethane	97	60-140	
1,2-Dibromo-3-Chloropropane	103	60-140	
Surrogate		Limits	Flag
1,2,3-Trichloropropane	89	60-140	

Analytical Method: SW-846 8011

Parent Sample Id: ICV-01 Seq Number: 201713
Analyzed Date: 03/06/23 14:28

Parameter	ICV %Rec	Limits	Flag
1,2-Dibromoethane	101	60-140	
1,2-Dibromo-3-Chloropropane	96	60-140	
Surrogate		Limits	Flag
1,2,3-Trichloropropane	97	60-140	

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 210799
Analyzed Date: 03/01/24 10:20

Parameter	CCV %Rec	Limits	Flag
Chloromethane	97	80-120	
Vinyl chloride	91	80-120	
Bromomethane	72	80-120	X
Chloroethane	91	80-120	

Project Name Dulin Landfill

PSS Project No.: 24022709

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV-01 Seq Number: 210799

Analyzed Date: 03/01/24 10:20

Parameter	CCV %Rec	Limits	Flag
Acetone	89	80-120	
Trichlorofluoromethane	88	80-120	
1,1-Dichloroethene	88	80-120	
Methylene chloride	89	80-120	
trans-1,2-Dichloroethene	87	80-120	
Methyl-t-Butyl Ether	84	80-120	
1,1-Dichloroethane	90	80-120	
Vinyl acetate	87	80-120	
2-Butanone (MEK)	79	80-120	X
cis-1,2-Dichloroethene	88	80-120	
Bromochloromethane	87	80-120	
Chloroform	88	80-120	
1,1,1-Trichloroethane	88	80-120	
1,2-Dichloroethane	90	80-120	
Carbon tetrachloride	88	80-120	
Benzene	90	80-120	
Dibromomethane	87	80-120	
1,2-Dichloropropane	92	80-120	
Acrylonitrile	84	80-120	
Trichloroethene	87	80-120	
Carbon Disulfide	90	80-120	
Bromodichloromethane	94	80-120	
cis-1,3-Dichloropropene	89	80-120	
4-Methyl-2-Pentanone (MIBK)	85	80-120	
trans-1,3-Dichloropropene	87	80-120	
1,1,2-Trichloroethane	89	80-120	
Toluene	89	80-120	
2-Hexanone (MBK)	88	80-120	
Dibromochloromethane	93	80-120	
1,1,1,2-Tetrachloroethane	92	80-120	
Bromoform	85	80-120	
trans-1,4-dichloro-2-butene	90	80-120	
Tetrachloroethene	85	80-120	
Chlorobenzene	88	80-120	
Ethylbenzene	93	80-120	
m&p-Xylene	94	80-120	
Styrene	96	80-120	
1,1,2,2-Tetrachloroethane	87	80-120	
o-Xylene	93	80-120	
1,2,3-Trichloropropane	86	80-120	
1,4-Dichlorobenzene	89	80-120	
1,2-Dichlorobenzene	90	80-120	
Iodomethane	53	80-120	X
Surrogate		Limits	Flag
4-Bromofluorobenzene	98	80-120	
Dibromofluoromethane	99	80-120	
Toluene-D8	100	80-120	

Analytical Method: SW-846 8260 D

Project Name Dulin Landfill

PSS Project No.: 24022709

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 210677

Analyzed Date: 02/26/24 11:52

Parameter	ICV %Rec	Limits	Flag
Acetone	107	70-130	
Acrylonitrile	89	70-130	
Benzene	92	70-130	
Bromochloromethane	93	70-130	
Bromodichloromethane	94	70-130	
Bromoform	87	70-130	
Bromomethane	91	70-130	
2-Butanone (MEK)	101	70-130	
Carbon Disulfide	95	70-130	
Carbon tetrachloride	94	70-130	
Chlorobenzene	92	70-130	
Chloroethane	90	70-130	
Chloroform	90	70-130	
Chloromethane	96	70-130	
Dibromochloromethane	96	70-130	
Dibromomethane	91	70-130	
1,2-Dichlorobenzene	94	70-130	
1,4-Dichlorobenzene	93	70-130	
1,1-Dichloroethane	92	70-130	
1,2-Dichloroethane	91	70-130	
cis-1,2-Dichloroethene	93	70-130	
1,1-Dichloroethene	90	70-130	
1,2-Dichloropropane	92	70-130	
cis-1,3-Dichloropropene	92	70-130	
trans-1,3-Dichloropropene	91	70-130	
trans-1,4-Dichloro-2-butene	91	70-130	
trans-1,2-Dichloroethene	92	70-130	
Ethylbenzene	95	70-130	
2-Hexanone (MBK)	99	70-130	
Iodomethane	85	70-130	
Methylene chloride	93	70-130	
4-Methyl-2-Pentanone (MIBK)	92	70-130	
Methyl-t-Butyl Ether	95	70-130	
Styrene	100	70-130	
1,1,1,2-Tetrachloroethane	94	70-130	
1,1,2,2-Tetrachloroethane	88	70-130	
Tetrachloroethene	93	70-130	
Toluene	92	70-130	
1,1,1-Trichloroethane	93	70-130	
Trichloroethene	92	70-130	
1,1,2-Trichloroethane	91	70-130	
Trichlorofluoromethane	90	70-130	
1,2,3-Trichloropropane	88	70-130	
Vinyl Acetate	93	70-130	
Vinyl chloride	76	70-130	
m&p-Xylene	96	70-130	
o-Xylene	95	70-130	

Surrogate		Limits	Flag
4-Bromofluorobenzene	98	70-130	
Dibromofluoromethane	100	70-130	

Project Name Dulin Landfill
PSS Project No.: 24022709

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 210677
Analyzed Date: 02/26/24 11:52

Surrogate		Limits	Flag
Toluene-D8	100	70-130	



SAMPLE CHAIN OF CUSTODY/AGREEMENT FORM

PHASE SEPARATION SCIENCE, INC.

www.phaseonline.com
email: info@phaseonline.com

1 CLIENT: <i>Earth Data Inc</i> OFFICE LOC: <i>Centreville MD</i>					PSS Work Order #: <i>24022709</i> PAGE <u>1</u> OF <u>1</u>				
PROJECT MGR: <i>Scott Wolf</i> PHONE NO.: <i>(410) 758-8160</i>					Matrix Codes: SW=Surface Wtr DW=Drinking Wrt GW=Ground Wtr WW=Waste Wtr O=Oil S=Soil WL=Waste Liquid WS=Waste Solid W= Wipe				
EMAIL: <i>Swof@earthdatainc.com</i> FAX NO.: ()					No. CONTAINERS C = COMP G = GRAB	Preservatives Used: <i>HNO₃ H₂SO₄ H₂SO₄ - - - - HCl HCl</i>		Analysis/Method Required: <i>ZZ Total Metals 200.8 + Hardness COD Nitrogen Ammonia Alkalinity - Low Level TDS Conductivity, pH, Cl Nitrate, Sulfate Turbidity VOL 8260 Project List VOC 8011 EDB DBCP</i>	
PROJECT NAME: <i>Dulin Landfill</i> PROJECT NO.: <i>4697I</i>						Analysis/Method Required: 3			
SITE LOCATION: <i>Kent Co MD</i> P.O. NO.:						Analysis/Method Required:			
SAMPLERS: <i>SW</i>						Analysis/Method Required:			
LAB NO.	SAMPLE IDENTIFICATION	DATE	TIME	MATRIX (See Codes)	No.	CONTAINERS	Preservatives Used	Analysis/Method Required	REMARKS
1	MW-1	2-26-24	1150	GW	13	G	X X X X X X X X X		
2	MW-2	2-26-24	1230	GW	13	G	X X X X X X X X X		
3	MW-3	2-26-24	1040	GW	13	G	X X X X X X X X X		
4	MW-4	2-26-24	0945	GW	13	G	X X X X X X X X X		
5	MW-5	2-26-24	1120	GW	13	G	X X X X X X X X X		
6	Trip Blank								
5 Relinquished By: (1) <i>[Signature]</i> Date: <i>2-27-24</i> Time: <i>10:37</i> Received By: <i>John (2507)</i>					4 Requested Turnaround Time: <input type="checkbox"/> 5-Day <input type="checkbox"/> 3-Day <input type="checkbox"/> 2-Day <input type="checkbox"/> Next Day <input type="checkbox"/> Emergency <input type="checkbox"/> Other				
Relinquished By: (2) <i>John (2507)</i> Date: <i>2/27/24</i> Time: <i>11:24</i> Received By: <i>[Signature]</i>					# of Coolers: <i>3</i> Custody Seal: <i>ABS</i> Data Deliverables Required: Ice Present: <i>POCS</i> Temp: <i>1.0-3.1°C</i> Shipping Carrier: <i>TRE</i>				
Relinquished By: (3) <i>[Signature]</i> Date: <i>2/27</i> Time: <i>11:58</i> Received By: <i>[Signature]</i>					Special Instructions:				
Relinquished By: (4)					Special Instructions:				

6630 Baltimore National Pike • Route 40 West • Baltimore, Maryland 21228 • (410) 747-8770 • (800) 932-9047 • Fax (410) 788-8723

The client (Client Name), by signing, or having client's agent sign, this "Sample Chain of Custody/Agreement Form", agrees to pay for the above requested services per the latest version of the Service Brochure or PSS-provided quotation including any and all attorney's or other reasonable fees if collection becomes necessary.

Sample Receipt Checklist

Project Name: Dulin Landfill
 PSS Project No.: 24022709

Client Name Earth Data, Inc
Disposal Date 04/02/2024

Received By Tyler Enwright
Date Received 02/27/2024 12:58 PM
Delivered By Trans Time Express
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 3

Custody Seal(s) Intact? N/A
 Seal(s) Signed / Dated? N/A

Ice Present
 Temp (°C) 3.1
 Temp Blank Present No

Documentation

COC agrees with sample labels? Yes
 Chain of Custody Yes

Sampler Name Scott Wolf
 MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
 Intact? Yes
 Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
 Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? No

Total # of Samples Received 6
 Total # of Containers Received 67

Preservation

Total Metals (pH<2) Yes
 Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
 Orthophosphorus, filtered within 15 minutes of collection N/A
 Cyanides (pH>12) N/A
 Sulfide (pH>9) N/A
 TOC, DOC (field filtered), COD, Phenols (pH<2) Yes
 TOX, TKN, NH3, Total Phos (pH<2) Yes
 VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
 Do VOA vials have zero headspace? Yes
 624 VOC (Rcvd at least one unpreserved VOA vial) N/A
 524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

The analyses of pH has a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Samples Inspected/Checklist Completed By: Tyler Enwright
 Tyler Enwright

Date: 02/27/2024

PM Review and Approval: N.J. Jackson
 N.J. Jackson

Date: 02/27/2024

 **ANALYTICAL REPORT****PREPARED FOR**

Attn: Scott Wolf
Earth Data Inc
131 Comet Drive
Centreville, Maryland 21617

Generated 3/13/2024 10:55:03 AM

JOB DESCRIPTION

Dulin Landfill

JOB NUMBER

240-200119-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
3/13/2024 10:55:03 AM

Authorized for release by
Michael DeMonico, Project Manager I
Michael.DeMonico@et.eurofinsus.com
(330)497-9396



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Definitions/Glossary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
H3	Sample was received and analyzed past holding time. This does not meet regulatory requirements.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Earth Data Inc
Project: Dulin Landfill

Job ID: 240-200119-1

Job ID: 240-200119-1

Eurofins Cleveland

Job Narrative 240-200119-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers are applied to indicate exceptions. Noncompliant quality control (QC) is further explained in narrative comments.

- Matrix QC may not be reported if insufficient sample or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 2/28/2024 10:00 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.7°C.

GC/MS VOA

Method 8260D: The continuing calibration verification (CCV) analyzed in batch 240-604752 was outside the method criteria for the following analyte(s): Bromomethane and Chloroethane. A CCV standard at or below the reporting limit (RL) was analyzed with the affected samples and found to be acceptable. As indicated in the reference method, sample analysis may proceed; however, any detection for the affected analyte(s) is considered estimated.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Cleveland

Method Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	EET CLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	EET CLE
180.1	Turbidity, Nephelometric	EPA	EET CLE
2320B-2011	Alkalinity, Total	SM	EET CLE
2510B-2011	Conductivity, Specific Conductance	SM	EET CLE
2540 C-2011	Total Dissolved Solids (Dried at 180 °C)	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
4500 NH3 H	Ammonia	SM	EET CLE
5220D-2011	Chemical Oxygen Demand	SM	EET CLE
9040C	pH	SW846	EET CLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
8011	Microextraction	SW846	EET CLE

Protocol References:

EPA = US Environmental Protection Agency

SM = "Standard Methods For The Examination Of Water And Wastewater"

SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Sample Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

<u>Lab Sample ID</u>	<u>Client Sample ID</u>	<u>Matrix</u>	<u>Collected</u>	<u>Received</u>
240-200119-1	MW-4	Water	02/26/24 09:50	02/28/24 10:00
240-200119-2	TRIP BLANK	Water	02/26/24 00:00	02/28/24 10:00

- 1
- 2
- 3
- 4
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- 13
- 14

Detection Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Client Sample ID: MW-4

Lab Sample ID: 240-200119-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Barium	31		5.0	2.2	ug/L	1		6020B	Total Recoverable
Calcium	11000		1000	250	ug/L	1		6020B	Total Recoverable
Cobalt	0.77	J	1.0	0.19	ug/L	1		6020B	Total Recoverable
Chromium	2.1	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Iron	410		100	47	ug/L	1		6020B	Total Recoverable
Potassium	2500		1000	220	ug/L	1		6020B	Total Recoverable
Magnesium	3300		1000	61	ug/L	1		6020B	Total Recoverable
Manganese	33		5.0	3.5	ug/L	1		6020B	Total Recoverable
Sodium	4300		1000	330	ug/L	1		6020B	Total Recoverable
Nickel	2.6		2.0	1.5	ug/L	1		6020B	Total Recoverable
Zinc	20		20	15	ug/L	1		6020B	Total Recoverable
Hardness as calcium carbonate	42		6.6	6.6	mg/L	1		SM 2340B	Total Recoverable
Turbidity	4.6	H H3	0.50	0.15	NTU	1		180.1	Total/NA
Alkalinity	3.7	J	5.0	2.6	mg/L	1		2320B-2011	Total/NA
Specific Conductance	400		1.0	0.61	umhos/cm	1		2510B-2011	Total/NA
Resistivity	2500	^2	1.0	0.61	ohm cm	1		2510B-2011	Total/NA
Total Dissolved Solids	110		10	7.8	mg/L	1		2540 C-2011	Total/NA
Chloride	9.9		1.0	0.13	mg/L	1		300.0	Total/NA
Nitrate as N	10	H H3	1.0	0.15	mg/L	10		300.0	Total/NA
pH	5.2	HF	0.1	0.1	SU	1		9040C	Total/NA

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-200119-2

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Acetone	13		10	5.4	ug/L	1		8260D	Total/NA
Methylene Chloride	3.3	J	5.0	2.6	ug/L	1		8260D	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Client Sample ID: MW-4

Lab Sample ID: 240-200119-1

Date Collected: 02/26/24 09:50

Matrix: Water

Date Received: 02/28/24 10:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.43	ug/L			03/01/24 23:29	1
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			03/01/24 23:29	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			03/01/24 23:29	1
1,1,2-Trichloroethane	ND		1.0	0.48	ug/L			03/01/24 23:29	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			03/01/24 23:29	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			03/01/24 23:29	1
1,2,3-Trichloropropane	ND		1.0	0.52	ug/L			03/01/24 23:29	1
1,2-Dichlorobenzene	ND		1.0	0.48	ug/L			03/01/24 23:29	1
1,2-Dichloroethane	ND		1.0	0.46	ug/L			03/01/24 23:29	1
1,2-Dichloropropane	ND		1.0	0.47	ug/L			03/01/24 23:29	1
1,4-Dichlorobenzene	ND		1.0	0.41	ug/L			03/01/24 23:29	1
2-Butanone (MEK)	ND		10	1.2	ug/L			03/01/24 23:29	1
2-Hexanone	ND		10	1.1	ug/L			03/01/24 23:29	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.99	ug/L			03/01/24 23:29	1
Acetone	ND		10	5.4	ug/L			03/01/24 23:29	1
Acrylonitrile	ND		20	5.5	ug/L			03/01/24 23:29	1
Benzene	ND		1.0	0.42	ug/L			03/01/24 23:29	1
Bromoform	ND		1.0	0.76	ug/L			03/01/24 23:29	1
Bromomethane	ND		1.0	0.42	ug/L			03/01/24 23:29	1
Carbon disulfide	ND		1.0	0.59	ug/L			03/01/24 23:29	1
Carbon tetrachloride	ND		1.0	0.26	ug/L			03/01/24 23:29	1
Chlorobenzene	ND		1.0	0.38	ug/L			03/01/24 23:29	1
Chlorodibromomethane	ND		1.0	0.39	ug/L			03/01/24 23:29	1
Chloroethane	ND		1.0	0.83	ug/L			03/01/24 23:29	1
Chloroform	ND		1.0	0.47	ug/L			03/01/24 23:29	1
Chloromethane	ND		1.0	0.63	ug/L			03/01/24 23:29	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			03/01/24 23:29	1
cis-1,3-Dichloropropene	ND		1.0	0.61	ug/L			03/01/24 23:29	1
Dibromomethane	ND		1.0	0.40	ug/L			03/01/24 23:29	1
Chlorobromomethane	ND		1.0	0.54	ug/L			03/01/24 23:29	1
Dichlorobromomethane	ND		1.0	0.38	ug/L			03/01/24 23:29	1
Ethylbenzene	ND		1.0	0.42	ug/L			03/01/24 23:29	1
Iodomethane	ND		1.0	0.69	ug/L			03/01/24 23:29	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			03/01/24 23:29	1
Methylene Chloride	ND		5.0	2.6	ug/L			03/01/24 23:29	1
Styrene	ND		1.0	0.45	ug/L			03/01/24 23:29	1
Tetrachloroethene	ND		1.0	0.44	ug/L			03/01/24 23:29	1
Toluene	ND		1.0	0.44	ug/L			03/01/24 23:29	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			03/01/24 23:29	1
trans-1,3-Dichloropropene	ND		1.0	0.67	ug/L			03/01/24 23:29	1
trans-1,4-Dichloro-2-butene	ND		2.5	1.3	ug/L			03/01/24 23:29	1
Trichloroethene	ND		1.0	0.44	ug/L			03/01/24 23:29	1
Trichlorofluoromethane	ND		1.0	0.45	ug/L			03/01/24 23:29	1
Vinyl acetate	ND		2.0	0.61	ug/L			03/01/24 23:29	1
Vinyl chloride	ND		1.0	0.45	ug/L			03/01/24 23:29	1
Xylenes, Total	ND		2.0	0.42	ug/L			03/01/24 23:29	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 122		03/01/24 23:29	1
Dibromofluoromethane (Surr)	100		73 - 120		03/01/24 23:29	1

Eurofins Cleveland

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Client Sample ID: MW-4
Date Collected: 02/26/24 09:50
Date Received: 02/28/24 10:00

Lab Sample ID: 240-200119-1
Matrix: Water

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		56 - 136		03/01/24 23:29	1
1,2-Dichloroethane-d4 (Surr)	115		62 - 137		03/01/24 23:29	1

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.020	0.0060	ug/L		03/06/24 11:51	03/07/24 01:59	1
1,2-Dibromo-3-Chloropropane	ND		0.020	0.0080	ug/L		03/06/24 11:51	03/07/24 01:59	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	100		60 - 140	03/06/24 11:51	03/07/24 01:59	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.053	ug/L		02/29/24 14:00	03/01/24 14:26	1
Arsenic	ND		5.0	0.75	ug/L		02/29/24 14:00	03/01/24 14:26	1
Barium	31		5.0	2.2	ug/L		02/29/24 14:00	03/01/24 14:26	1
Beryllium	ND		1.0	0.62	ug/L		02/29/24 14:00	03/01/24 14:26	1
Calcium	11000		1000	250	ug/L		02/29/24 14:00	03/01/24 14:26	1
Cadmium	ND		1.0	0.20	ug/L		02/29/24 14:00	03/01/24 14:26	1
Cobalt	0.77	J	1.0	0.19	ug/L		02/29/24 14:00	03/01/24 14:26	1
Chromium	2.1	J	5.0	1.2	ug/L		02/29/24 14:00	03/01/24 14:26	1
Copper	ND		2.0	1.7	ug/L		02/29/24 14:00	03/01/24 14:26	1
Iron	410		100	47	ug/L		02/29/24 14:00	03/01/24 14:26	1
Potassium	2500		1000	220	ug/L		02/29/24 14:00	03/01/24 14:26	1
Magnesium	3300		1000	61	ug/L		02/29/24 14:00	03/01/24 14:26	1
Manganese	33		5.0	3.5	ug/L		02/29/24 14:00	03/01/24 14:26	1
Sodium	4300		1000	330	ug/L		02/29/24 14:00	03/01/24 14:26	1
Nickel	2.6		2.0	1.5	ug/L		02/29/24 14:00	03/01/24 14:26	1
Lead	ND		1.0	0.45	ug/L		02/29/24 14:00	03/01/24 14:26	1
Antimony	ND		2.0	0.57	ug/L		02/29/24 14:00	03/01/24 14:26	1
Selenium	ND		5.0	0.89	ug/L		02/29/24 14:00	03/01/24 14:26	1
Vanadium	ND		5.0	0.82	ug/L		02/29/24 14:00	03/01/24 14:26	1
Zinc	20		20	15	ug/L		02/29/24 14:00	03/01/24 14:26	1
Thallium	ND		1.0	0.20	ug/L		02/29/24 14:00	03/01/24 14:26	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/29/24 14:00	03/04/24 17:09	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	42		6.6	6.6	mg/L			03/06/24 10:58	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity (EPA 180.1)	4.6	H H3	0.50	0.15	NTU			03/04/24 09:54	1
Alkalinity (SM 2320B-2011)	3.7	J	5.0	2.6	mg/L			02/29/24 23:59	1
Specific Conductance (SM 2510B-2011)	400		1.0	0.61	umhos/cm			03/07/24 11:42	1
Resistivity (SM 2510B-2011)	2500	^2	1.0	0.61	ohm cm			03/07/24 11:42	1

Eurofins Cleveland

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Client Sample ID: MW-4

Lab Sample ID: 240-200119-1

Date Collected: 02/26/24 09:50

Matrix: Water

Date Received: 02/28/24 10:00

General Chemistry (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids (SM 2540 C-2011)	110		10	7.8	mg/L			03/04/24 09:55	1
Chloride (EPA 300.0)	9.9		1.0	0.13	mg/L			02/28/24 15:32	1
Nitrate as N (EPA 300.0)	10	H H3	1.0	0.15	mg/L			03/01/24 11:57	10
Sulfate (EPA 300.0)	ND		1.0	0.35	mg/L			02/28/24 15:32	1
Ammonia (SM 4500 NH3 H)	ND		0.20	0.076	mg/L			03/05/24 18:08	1
Chemical Oxygen Demand (SM 5220D-2011)	ND		10	1.8	mg/L			03/11/24 11:57	1
pH (SW846 9040C)	5.2	HF	0.1	0.1	SU			02/28/24 14:12	1

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-200119-2

Date Collected: 02/26/24 00:00

Matrix: Water

Date Received: 02/28/24 10:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.43	ug/L			03/01/24 22:14	1
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			03/01/24 22:14	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			03/01/24 22:14	1
1,1,2-Trichloroethane	ND		1.0	0.48	ug/L			03/01/24 22:14	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			03/01/24 22:14	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			03/01/24 22:14	1
1,2,3-Trichloropropane	ND		1.0	0.52	ug/L			03/01/24 22:14	1
1,2-Dichlorobenzene	ND		1.0	0.48	ug/L			03/01/24 22:14	1
1,2-Dichloroethane	ND		1.0	0.46	ug/L			03/01/24 22:14	1
1,2-Dichloropropane	ND		1.0	0.47	ug/L			03/01/24 22:14	1
1,4-Dichlorobenzene	ND		1.0	0.41	ug/L			03/01/24 22:14	1
2-Butanone (MEK)	ND		10	1.2	ug/L			03/01/24 22:14	1
2-Hexanone	ND		10	1.1	ug/L			03/01/24 22:14	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.99	ug/L			03/01/24 22:14	1
Acetone	13		10	5.4	ug/L			03/01/24 22:14	1
Acrylonitrile	ND		20	5.5	ug/L			03/01/24 22:14	1
Benzene	ND		1.0	0.42	ug/L			03/01/24 22:14	1
Bromoform	ND		1.0	0.76	ug/L			03/01/24 22:14	1
Bromomethane	ND		1.0	0.42	ug/L			03/01/24 22:14	1
Carbon disulfide	ND		1.0	0.59	ug/L			03/01/24 22:14	1
Carbon tetrachloride	ND		1.0	0.26	ug/L			03/01/24 22:14	1
Chlorobenzene	ND		1.0	0.38	ug/L			03/01/24 22:14	1
Chlorodibromomethane	ND		1.0	0.39	ug/L			03/01/24 22:14	1
Chloroethane	ND		1.0	0.83	ug/L			03/01/24 22:14	1
Chloroform	ND		1.0	0.47	ug/L			03/01/24 22:14	1
Chloromethane	ND		1.0	0.63	ug/L			03/01/24 22:14	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			03/01/24 22:14	1
cis-1,3-Dichloropropene	ND		1.0	0.61	ug/L			03/01/24 22:14	1
Dibromomethane	ND		1.0	0.40	ug/L			03/01/24 22:14	1
Chlorobromomethane	ND		1.0	0.54	ug/L			03/01/24 22:14	1
Dichlorobromomethane	ND		1.0	0.38	ug/L			03/01/24 22:14	1
Ethylbenzene	ND		1.0	0.42	ug/L			03/01/24 22:14	1
Iodomethane	ND		1.0	0.69	ug/L			03/01/24 22:14	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			03/01/24 22:14	1
Methylene Chloride	3.3 J		5.0	2.6	ug/L			03/01/24 22:14	1
Styrene	ND		1.0	0.45	ug/L			03/01/24 22:14	1
Tetrachloroethene	ND		1.0	0.44	ug/L			03/01/24 22:14	1
Toluene	ND		1.0	0.44	ug/L			03/01/24 22:14	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			03/01/24 22:14	1
trans-1,3-Dichloropropene	ND		1.0	0.67	ug/L			03/01/24 22:14	1
trans-1,4-Dichloro-2-butene	ND		2.5	1.3	ug/L			03/01/24 22:14	1
Trichloroethene	ND		1.0	0.44	ug/L			03/01/24 22:14	1
Trichlorofluoromethane	ND		1.0	0.45	ug/L			03/01/24 22:14	1
Vinyl acetate	ND		2.0	0.61	ug/L			03/01/24 22:14	1
Vinyl chloride	ND		1.0	0.45	ug/L			03/01/24 22:14	1
Xylenes, Total	ND		2.0	0.42	ug/L			03/01/24 22:14	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	92		78 - 122		03/01/24 22:14	1
Dibromofluoromethane (Surr)	92		73 - 120		03/01/24 22:14	1

Eurofins Cleveland

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-200119-2

Date Collected: 02/26/24 00:00

Matrix: Water

Date Received: 02/28/24 10:00

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

<u>Surrogate</u>	<u>%Recovery</u>	<u>Qualifier</u>	<u>Limits</u>	<u>Prepared</u>	<u>Analyzed</u>	<u>Dil Fac</u>
4-Bromofluorobenzene (Surr)	87		56 - 136		03/01/24 22:14	1
1,2-Dichloroethane-d4 (Surr)	100		62 - 137		03/01/24 22:14	1

- 1
- 2
- 3
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- 14

Surrogate Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL (78-122)	DBFM (73-120)	BFB (56-136)	DCA (62-137)
240-200119-1	MW-4	101	100	98	115
240-200119-2	TRIP BLANK	92	92	87	100
LCS 240-604752/5	Lab Control Sample	102	102	103	101
MB 240-604752/8	Method Blank	101	86	99	102

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCEA1 (60-140)
240-200119-1	MW-4	100
LCS 240-605170/2-A	Lab Control Sample	101
MB 240-605170/1-A	Method Blank	94

Surrogate Legend

TCEA = 1,1,1,2-Tetrachloroethane

QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-604752/8
Matrix: Water
Analysis Batch: 604752

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0	0.43	ug/L			03/01/24 18:55	1
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			03/01/24 18:55	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			03/01/24 18:55	1
1,1,2-Trichloroethane	ND		1.0	0.48	ug/L			03/01/24 18:55	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			03/01/24 18:55	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			03/01/24 18:55	1
1,2,3-Trichloropropane	ND		1.0	0.52	ug/L			03/01/24 18:55	1
1,2-Dichlorobenzene	ND		1.0	0.48	ug/L			03/01/24 18:55	1
1,2-Dichloroethane	ND		1.0	0.46	ug/L			03/01/24 18:55	1
1,2-Dichloropropane	ND		1.0	0.47	ug/L			03/01/24 18:55	1
1,4-Dichlorobenzene	ND		1.0	0.41	ug/L			03/01/24 18:55	1
2-Butanone (MEK)	ND		10	1.2	ug/L			03/01/24 18:55	1
2-Hexanone	ND		10	1.1	ug/L			03/01/24 18:55	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.99	ug/L			03/01/24 18:55	1
Acetone	ND		10	5.4	ug/L			03/01/24 18:55	1
Acrylonitrile	ND		20	5.5	ug/L			03/01/24 18:55	1
Benzene	ND		1.0	0.42	ug/L			03/01/24 18:55	1
Bromoform	ND		1.0	0.76	ug/L			03/01/24 18:55	1
Bromomethane	ND		1.0	0.42	ug/L			03/01/24 18:55	1
Carbon disulfide	ND		1.0	0.59	ug/L			03/01/24 18:55	1
Carbon tetrachloride	ND		1.0	0.26	ug/L			03/01/24 18:55	1
Chlorobenzene	ND		1.0	0.38	ug/L			03/01/24 18:55	1
Chlorodibromomethane	ND		1.0	0.39	ug/L			03/01/24 18:55	1
Chloroethane	ND		1.0	0.83	ug/L			03/01/24 18:55	1
Chloroform	ND		1.0	0.47	ug/L			03/01/24 18:55	1
Chloromethane	ND		1.0	0.63	ug/L			03/01/24 18:55	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			03/01/24 18:55	1
cis-1,3-Dichloropropene	ND		1.0	0.61	ug/L			03/01/24 18:55	1
Dibromomethane	ND		1.0	0.40	ug/L			03/01/24 18:55	1
Chlorobromomethane	ND		1.0	0.54	ug/L			03/01/24 18:55	1
Dichlorobromomethane	ND		1.0	0.38	ug/L			03/01/24 18:55	1
Ethylbenzene	ND		1.0	0.42	ug/L			03/01/24 18:55	1
Iodomethane	ND		1.0	0.69	ug/L			03/01/24 18:55	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			03/01/24 18:55	1
Methylene Chloride	ND		5.0	2.6	ug/L			03/01/24 18:55	1
Styrene	ND		1.0	0.45	ug/L			03/01/24 18:55	1
Tetrachloroethene	ND		1.0	0.44	ug/L			03/01/24 18:55	1
Toluene	ND		1.0	0.44	ug/L			03/01/24 18:55	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			03/01/24 18:55	1
trans-1,3-Dichloropropene	ND		1.0	0.67	ug/L			03/01/24 18:55	1
trans-1,4-Dichloro-2-butene	ND		2.5	1.3	ug/L			03/01/24 18:55	1
Trichloroethene	ND		1.0	0.44	ug/L			03/01/24 18:55	1
Trichlorofluoromethane	ND		1.0	0.45	ug/L			03/01/24 18:55	1
Vinyl acetate	ND		2.0	0.61	ug/L			03/01/24 18:55	1
Vinyl chloride	ND		1.0	0.45	ug/L			03/01/24 18:55	1
Xylenes, Total	ND		2.0	0.42	ug/L			03/01/24 18:55	1

QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-604752/8
Matrix: Water
Analysis Batch: 604752

Client Sample ID: Method Blank
Prep Type: Total/NA

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 122		03/01/24 18:55	1
Dibromofluoromethane (Surr)	86		73 - 120		03/01/24 18:55	1
4-Bromofluorobenzene (Surr)	99		56 - 136		03/01/24 18:55	1
1,2-Dichloroethane-d4 (Surr)	102		62 - 137		03/01/24 18:55	1

Lab Sample ID: LCS 240-604752/5
Matrix: Water
Analysis Batch: 604752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,2-Tetrachloroethane	25.0	26.5		ug/L		106	71 - 124
1,1,1-Trichloroethane	25.0	25.8		ug/L		103	64 - 131
1,1,2,2-Tetrachloroethane	25.0	23.8		ug/L		95	58 - 157
1,1,2-Trichloroethane	25.0	26.1		ug/L		104	70 - 138
1,1-Dichloroethane	25.0	26.6		ug/L		106	72 - 127
1,1-Dichloroethene	25.0	24.2		ug/L		97	63 - 134
1,2,3-Trichloropropane	25.0	23.9		ug/L		95	57 - 150
1,2-Dichlorobenzene	25.0	24.7		ug/L		99	78 - 120
1,2-Dichloroethane	25.0	26.2		ug/L		105	66 - 128
1,2-Dichloropropane	25.0	27.5		ug/L		110	75 - 133
1,4-Dichlorobenzene	25.0	24.1		ug/L		96	80 - 120
2-Butanone (MEK)	50.0	52.2		ug/L		104	54 - 156
2-Hexanone	50.0	57.6		ug/L		115	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	53.2		ug/L		106	46 - 158
Acetone	50.0	53.1		ug/L		106	50 - 149
Acrylonitrile	25.0	23.9		ug/L		96	51 - 161
Benzene	25.0	25.7		ug/L		103	77 - 123
Bromoform	25.0	24.7		ug/L		99	57 - 129
Bromomethane	12.5	8.59		ug/L		69	36 - 142
Carbon disulfide	25.0	25.5		ug/L		102	43 - 140
Carbon tetrachloride	25.0	26.1		ug/L		104	55 - 137
Chlorobenzene	25.0	25.7		ug/L		103	80 - 121
Chlorodibromomethane	25.0	28.0		ug/L		112	70 - 124
Chloroethane	12.5	9.14		ug/L		73	38 - 152
Chloroform	25.0	25.4		ug/L		102	74 - 122
Chloromethane	12.5	10.1		ug/L		81	47 - 143
cis-1,2-Dichloroethene	25.0	24.7		ug/L		99	77 - 123
cis-1,3-Dichloropropene	25.0	26.6		ug/L		106	64 - 130
Dibromomethane	25.0	24.4		ug/L		98	67 - 131
Chlorobromomethane	25.0	25.7		ug/L		103	71 - 121
Dichlorobromomethane	25.0	26.0		ug/L		104	69 - 126
Ethylbenzene	25.0	26.5		ug/L		106	80 - 121
Iodomethane	25.0	24.0		ug/L		96	39 - 136
Methyl tert-butyl ether	25.0	24.4		ug/L		98	65 - 126
Methylene Chloride	25.0	22.8		ug/L		91	71 - 125
Styrene	25.0	28.6		ug/L		114	80 - 135
Tetrachloroethene	25.0	24.9		ug/L		100	76 - 123
Toluene	25.0	25.1		ug/L		100	80 - 123

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-604752/5
Matrix: Water
Analysis Batch: 604752

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,2-Dichloroethene	25.0	25.7		ug/L		103	75 - 124
trans-1,3-Dichloropropene	25.0	24.6		ug/L		99	57 - 129
trans-1,4-Dichloro-2-butene	25.0	25.7		ug/L		103	14 - 173
Trichloroethene	25.0	26.6		ug/L		107	70 - 122
Trichlorofluoromethane	12.5	10.3		ug/L		82	30 - 170
Vinyl acetate	25.0	30.1		ug/L		121	44 - 145
Vinyl chloride	12.5	8.27		ug/L		66	60 - 144
Xylenes, Total	50.0	51.9		ug/L		104	80 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	102		78 - 122
Dibromofluoromethane (Surr)	102		73 - 120
4-Bromofluorobenzene (Surr)	103		56 - 136
1,2-Dichloroethane-d4 (Surr)	101		62 - 137

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 240-605170/1-A
Matrix: Water
Analysis Batch: 605213

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 605170

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.020	0.0060	ug/L		03/06/24 11:51	03/06/24 16:19	1
1,2-Dibromo-3-Chloropropane	ND		0.020	0.0080	ug/L		03/06/24 11:51	03/06/24 16:19	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	94		60 - 140	03/06/24 11:51	03/06/24 16:19	1

Lab Sample ID: LCS 240-605170/2-A
Matrix: Water
Analysis Batch: 605213

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 605170

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylene Dibromide	0.100	0.102		ug/L		102	60 - 140
1,2-Dibromo-3-Chloropropane	0.100	0.0833		ug/L		83	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,1,1,2-Tetrachloroethane	101		60 - 140

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-604580/1-A
Matrix: Water
Analysis Batch: 604798

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604580

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.053	ug/L		02/29/24 14:00	03/01/24 12:47	1
Arsenic	ND		5.0	0.75	ug/L		02/29/24 14:00	03/01/24 12:47	1

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: MB 240-604580/1-A
Matrix: Water
Analysis Batch: 604798

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 604580

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Barium	ND		5.0	2.2	ug/L		02/29/24 14:00	03/01/24 12:47	1
Beryllium	ND		1.0	0.62	ug/L		02/29/24 14:00	03/01/24 12:47	1
Calcium	ND		1000	250	ug/L		02/29/24 14:00	03/01/24 12:47	1
Cadmium	ND		1.0	0.20	ug/L		02/29/24 14:00	03/01/24 12:47	1
Cobalt	ND		1.0	0.19	ug/L		02/29/24 14:00	03/01/24 12:47	1
Chromium	ND		5.0	1.2	ug/L		02/29/24 14:00	03/01/24 12:47	1
Copper	ND		2.0	1.7	ug/L		02/29/24 14:00	03/01/24 12:47	1
Iron	ND		100	47	ug/L		02/29/24 14:00	03/01/24 12:47	1
Potassium	ND		1000	220	ug/L		02/29/24 14:00	03/01/24 12:47	1
Magnesium	ND		1000	61	ug/L		02/29/24 14:00	03/01/24 12:47	1
Manganese	ND		5.0	3.5	ug/L		02/29/24 14:00	03/01/24 12:47	1
Sodium	ND		1000	330	ug/L		02/29/24 14:00	03/01/24 12:47	1
Nickel	ND		2.0	1.5	ug/L		02/29/24 14:00	03/01/24 12:47	1
Lead	ND		1.0	0.45	ug/L		02/29/24 14:00	03/01/24 12:47	1
Antimony	ND		2.0	0.57	ug/L		02/29/24 14:00	03/01/24 12:47	1
Selenium	ND		5.0	0.89	ug/L		02/29/24 14:00	03/01/24 12:47	1
Vanadium	ND		5.0	0.82	ug/L		02/29/24 14:00	03/01/24 12:47	1
Zinc	ND		20	15	ug/L		02/29/24 14:00	03/01/24 12:47	1
Thallium	ND		1.0	0.20	ug/L		02/29/24 14:00	03/01/24 12:47	1

Lab Sample ID: LCS 240-604580/2-A
Matrix: Water
Analysis Batch: 604798

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 604580

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	100	95.7		ug/L		96	80 - 120
Arsenic	1000	977		ug/L		98	80 - 120
Barium	1000	960		ug/L		96	80 - 120
Beryllium	500	481		ug/L		96	80 - 120
Calcium	25000	23800		ug/L		95	80 - 120
Cadmium	500	487		ug/L		97	80 - 120
Cobalt	500	477		ug/L		95	80 - 120
Chromium	500	474		ug/L		95	80 - 120
Copper	500	490		ug/L		98	80 - 120
Iron	5000	4820		ug/L		96	80 - 120
Potassium	25000	24100		ug/L		96	80 - 120
Magnesium	25000	23700		ug/L		95	80 - 120
Manganese	500	482		ug/L		96	80 - 120
Sodium	25000	24000		ug/L		96	80 - 120
Nickel	500	495		ug/L		99	80 - 120
Lead	500	472		ug/L		94	80 - 120
Antimony	100	95.9		ug/L		96	80 - 120
Selenium	1000	956		ug/L		96	80 - 120
Vanadium	500	482		ug/L		96	80 - 120
Zinc	500	482		ug/L		96	80 - 120
Thallium	1000	918		ug/L		92	80 - 120

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-604582/1-A
Matrix: Water
Analysis Batch: 604965

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 604582

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		02/29/24 14:00	03/04/24 16:00	1

Lab Sample ID: LCS 240-604582/2-A
Matrix: Water
Analysis Batch: 604965

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 604582

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Mercury	5.00	5.23		ug/L		105	80 - 120

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 240-604837/3
Matrix: Water
Analysis Batch: 604837

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity	ND		0.50	0.15	NTU			03/04/24 09:54	1

Lab Sample ID: LCS 240-604837/4
Matrix: Water
Analysis Batch: 604837

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Turbidity	5.76	5.8		NTU		100	90 - 110

Method: 2320B-2011 - Alkalinity, Total

Lab Sample ID: MB 240-604707/30
Matrix: Water
Analysis Batch: 604707

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0	2.6	mg/L			02/29/24 22:32	1

Lab Sample ID: MB 240-604707/4
Matrix: Water
Analysis Batch: 604707

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Alkalinity	ND		5.0	2.6	mg/L			02/29/24 20:08	1

Lab Sample ID: LCS 240-604707/29
Matrix: Water
Analysis Batch: 604707

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Alkalinity	80.6	84.2		mg/L		105	86 - 123

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 2320B-2011 - Alkalinity, Total (Continued)

Lab Sample ID: 240-200119-1 DU
Matrix: Water
Analysis Batch: 604707

Client Sample ID: MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Alkalinity	3.7	J	ND		mg/L		NC	20

Method: 2510B-2011 - Conductivity, Specific Conductance

Lab Sample ID: MB 240-605330/3
Matrix: Water
Analysis Batch: 605330

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Specific Conductance	ND		1.0	0.61	umhos/cm			03/07/24 11:29	1
Resistivity	2080000		1.0	0.61	ohm cm			03/07/24 11:29	1

Lab Sample ID: LCS 240-605330/4
Matrix: Water
Analysis Batch: 605330

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	1410	1400		umhos/cm		99	87 - 116

Lab Sample ID: 240-200119-1 DU
Matrix: Water
Analysis Batch: 605330

Client Sample ID: MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
Specific Conductance	400		404		umhos/cm		2	20
Resistivity	2500	^2	2480		ohm cm		2	20

Method: 2540 C-2011 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 240-604838/1
Matrix: Water
Analysis Batch: 604838

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			03/04/24 09:55	1

Lab Sample ID: LCS 240-604838/2
Matrix: Water
Analysis Batch: 604838

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	495	462		mg/L		93	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-604390/3
Matrix: Water
Analysis Batch: 604390

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			02/28/24 09:49	1

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: MB 240-604390/3
Matrix: Water
Analysis Batch: 604390

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.35	mg/L			02/28/24 09:49	1

Lab Sample ID: LCS 240-604390/4
Matrix: Water
Analysis Batch: 604390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	50.8		mg/L		102	90 - 110
Sulfate	50.0	52.3		mg/L		105	90 - 110

Lab Sample ID: MB 240-604391/3
Matrix: Water
Analysis Batch: 604391

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.015	mg/L			02/28/24 09:49	1

Lab Sample ID: LCS 240-604391/4
Matrix: Water
Analysis Batch: 604391

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.55		mg/L		102	90 - 110

Lab Sample ID: MB 240-604645/44
Matrix: Water
Analysis Batch: 604645

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Sulfate	ND		1.0	0.35	mg/L			03/01/24 12:41	1

Lab Sample ID: LCS 240-604645/43
Matrix: Water
Analysis Batch: 604645

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Sulfate	50.0	53.4		mg/L		107	90 - 110

Lab Sample ID: MB 240-604646/44
Matrix: Water
Analysis Batch: 604646

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.015	mg/L			03/01/24 12:41	1

QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Method: 300.0 - Anions, Ion Chromatography (Continued)

Lab Sample ID: LCS 240-604646/43
Matrix: Water
Analysis Batch: 604646

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.59		mg/L		104	90 - 110

Method: 4500 NH3 H - Ammonia

Lab Sample ID: MB 240-605079/14
Matrix: Water
Analysis Batch: 605079

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20	0.076	mg/L			03/05/24 16:53	1

Lab Sample ID: LCS 240-605079/15
Matrix: Water
Analysis Batch: 605079

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	3.83	3.59		mg/L		94	90 - 110

Method: 5220D-2011 - Chemical Oxygen Demand

Lab Sample ID: MB 240-605649/9
Matrix: Water
Analysis Batch: 605649

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	1.8	mg/L			03/11/24 10:19	1

Lab Sample ID: LCS 240-605649/10
Matrix: Water
Analysis Batch: 605649

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	41.2	37.6		mg/L		91	90 - 110

Method: 9040C - pH

Lab Sample ID: LCS 240-604453/29
Matrix: Water
Analysis Batch: 604453

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.14	9.0		SU		99	97 - 103

Lab Sample ID: 240-200119-1 DU
Matrix: Water
Analysis Batch: 604453

Client Sample ID: MW-4
Prep Type: Total/NA

Analyte	Sample Result	Sample Qualifier	DU Result	DU Qualifier	Unit	D	RPD	RPD Limit
pH	5.2	HF	5.2		SU		0.8	20

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QC Association Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

GC/MS VOA

Analysis Batch: 604752

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	8260D	
240-200119-2	TRIP BLANK	Total/NA	Water	8260D	
MB 240-604752/8	Method Blank	Total/NA	Water	8260D	
LCS 240-604752/5	Lab Control Sample	Total/NA	Water	8260D	

GC Semi VOA

Prep Batch: 605170

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	8011	
MB 240-605170/1-A	Method Blank	Total/NA	Water	8011	
LCS 240-605170/2-A	Lab Control Sample	Total/NA	Water	8011	

Analysis Batch: 605213

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	8011	605170
MB 240-605170/1-A	Method Blank	Total/NA	Water	8011	605170
LCS 240-605170/2-A	Lab Control Sample	Total/NA	Water	8011	605170

Metals

Prep Batch: 604580

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total Recoverable	Water	3005A	
MB 240-604580/1-A	Method Blank	Total Recoverable	Water	3005A	
LCS 240-604580/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 604582

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	7470A	
MB 240-604582/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-604582/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 604798

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total Recoverable	Water	6020B	604580
MB 240-604580/1-A	Method Blank	Total Recoverable	Water	6020B	604580
LCS 240-604580/2-A	Lab Control Sample	Total Recoverable	Water	6020B	604580

Analysis Batch: 604965

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	7470A	604582
MB 240-604582/1-A	Method Blank	Total/NA	Water	7470A	604582
LCS 240-604582/2-A	Lab Control Sample	Total/NA	Water	7470A	604582

Analysis Batch: 605156

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total Recoverable	Water	SM 2340B	

QC Association Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

General Chemistry

Analysis Batch: 604390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	300.0	
MB 240-604390/3	Method Blank	Total/NA	Water	300.0	
LCS 240-604390/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 604391

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-604391/3	Method Blank	Total/NA	Water	300.0	
LCS 240-604391/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 604453

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	9040C	
LCS 240-604453/29	Lab Control Sample	Total/NA	Water	9040C	
240-200119-1 DU	MW-4	Total/NA	Water	9040C	

Analysis Batch: 604645

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
MB 240-604645/44	Method Blank	Total/NA	Water	300.0	
LCS 240-604645/43	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 604646

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	300.0	
MB 240-604646/44	Method Blank	Total/NA	Water	300.0	
LCS 240-604646/43	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 604707

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	2320B-2011	
MB 240-604707/30	Method Blank	Total/NA	Water	2320B-2011	
MB 240-604707/4	Method Blank	Total/NA	Water	2320B-2011	
LCS 240-604707/29	Lab Control Sample	Total/NA	Water	2320B-2011	
240-200119-1 DU	MW-4	Total/NA	Water	2320B-2011	

Analysis Batch: 604837

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	180.1	
MB 240-604837/3	Method Blank	Total/NA	Water	180.1	
LCS 240-604837/4	Lab Control Sample	Total/NA	Water	180.1	

Analysis Batch: 604838

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	2540 C-2011	
MB 240-604838/1	Method Blank	Total/NA	Water	2540 C-2011	
LCS 240-604838/2	Lab Control Sample	Total/NA	Water	2540 C-2011	

Analysis Batch: 605079

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	4500 NH3 H	
MB 240-605079/14	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 240-605079/15	Lab Control Sample	Total/NA	Water	4500 NH3 H	

Eurofins Cleveland

QC Association Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

General Chemistry

Analysis Batch: 605330

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	2510B-2011	
MB 240-605330/3	Method Blank	Total/NA	Water	2510B-2011	
LCS 240-605330/4	Lab Control Sample	Total/NA	Water	2510B-2011	
240-200119-1 DU	MW-4	Total/NA	Water	2510B-2011	

Analysis Batch: 605649

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-200119-1	MW-4	Total/NA	Water	5220D-2011	
MB 240-605649/9	Method Blank	Total/NA	Water	5220D-2011	
LCS 240-605649/10	Lab Control Sample	Total/NA	Water	5220D-2011	

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14

Lab Chronicle

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Client Sample ID: MW-4

Lab Sample ID: 240-200119-1

Date Collected: 02/26/24 09:50

Matrix: Water

Date Received: 02/28/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	604752	CDG	EET CLE	03/01/24 23:29
Total/NA	Prep	8011			605170	JBN	EET CLE	03/06/24 11:51
Total/NA	Analysis	8011		1	605213	JBN	EET CLE	03/07/24 01:59
Total Recoverable	Prep	3005A			604580	BN	EET CLE	02/29/24 14:00
Total Recoverable	Analysis	6020B		1	604798	RKT	EET CLE	03/01/24 14:26
Total/NA	Prep	7470A			604582	BN	EET CLE	02/29/24 14:00
Total/NA	Analysis	7470A		1	604965	GK	EET CLE	03/04/24 17:09
Total Recoverable	Analysis	SM 2340B		1	605156	KLC	EET CLE	03/06/24 10:58
Total/NA	Analysis	180.1		1	604837	BLW	EET CLE	03/04/24 09:54
Total/NA	Analysis	2320B-2011		1	604707	QUY8	EET CLE	02/29/24 23:59
Total/NA	Analysis	2510B-2011		1	605330	JMR	EET CLE	03/07/24 11:42
Total/NA	Analysis	2540 C-2011		1	604838	C5SV	EET CLE	03/04/24 09:55
Total/NA	Analysis	300.0		10	604646	JWW	EET CLE	03/01/24 11:57
Total/NA	Analysis	300.0		1	604390	JWW	EET CLE	02/28/24 15:32
Total/NA	Analysis	4500 NH3 H		1	605079	MS	EET CLE	03/05/24 18:08
Total/NA	Analysis	5220D-2011		1	605649	MS	EET CLE	03/11/24 11:57
Total/NA	Analysis	9040C		1	604453	MS	EET CLE	02/28/24 14:12

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-200119-2

Date Collected: 02/26/24 00:00

Matrix: Water

Date Received: 02/28/24 10:00

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	604752	CDG	EET CLE	03/01/24 22:14

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

Accreditation/Certification Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-200119-1

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-27-24 *
Illinois	NELAP	200004	07-31-24
Iowa	State	421	06-01-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	06-30-24
New York	NELAP	10975	04-01-24
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-24
Texas	NELAP	T104704517-22-19	08-31-24
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.

Eurofins - Cleveland Sample Receipt Form/Narrative Login # 200119

Barberton Facility Cooler unpacked by Wendy Beyer

Client Earth Data Site Name _____

Cooler Received on 2-28-24 Opened on 2-28-24

FedEx 1st Grp Exp 2-28-24 UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____

Receipt After-Hours Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # ES-LEARN Box Client Cooler Box Other _____

Packing material used Bubble Wrap Foam Plastic Bag None Other _____

COOLANT Water Blue Ice Dry Ice Water None See Multiple Cooler Form

1 Cooler temperature upon receipt? IR GUN # 22 (CF 0.0 °C) Observed Cooler Temp 1.7 °C Corrected Cooler Temp 1.7 °C

2 Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 1

-Were the seals on the outside of the cooler(s) signed & dated? Yes No NA

-Were tamper/custody seals on the bottle(s) or bottle kits (LJHg/MeHg)? Yes No NA

-Were tamper/custody seals intact and uncompromised? Yes No NA

3 Shippers' packing slip attached to the cooler(s)? Yes No NA

4. Did custody papers accompany the sample(s)? Yes No NA

5 Were the custody papers relinquished & signed in the appropriate place? Yes No NA

6. Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA

7 Did all bottles arrive in good condition (Unbroken)? Yes No NA

8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA

9 For each sample, does the COC specify preservative(s) (Y/N), # of containers (Y/N), and sample type of grab/cont (Y/N)? Yes No NA

10 Were correct bottle(s) used for the test(s) indicated? Yes No NA

11 Sufficient quantity received to perform indicated analyses? Yes No NA

12. Are these work share samples and all listed on the COC? Yes No NA

If yes, Questions 13-17 have been checked at the originating laboratory

13 Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC316719

14. Were VOAs on the COC? Yes No NA

15 Were air bubbles > 6 mm in any VOA vials? Yes No NA

16. Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 63024 Yes No NA

17 Was a LL Hg or Me Hg trip blank present? Yes No NA

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____

Concerning _____

18 CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19 SAMPLE CONDITION _____ were received after the recommended holding time had expired

Sample(s) _____ were received in/a broken container

Sample(s) _____ were received with bubble > 6 mm in diameter (Notify PM)

Sample(s) _____

20 SAMPLE PRESERVATION _____ were further preserved in the laboratory

Sample(s) _____ Preservative(s) added/Lot number(s) _____

Time preserved _____ were further preserved in the laboratory

VOA Sample Preservation - Date/Time VOAs Frozen _____

Tests that are not checked for pH by Receiving VOAs Oil and Grease TOC



2/28/2024

Login Container Summary Report

240-200119

3/13/2024

Temperature readings _____

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container pH</u>	<u>Container Temp</u>	<u>Preservation Added</u>	<u>Preservation Lot Number</u>
MW-4	240-200119-H-1	Plastic 250ml - with Nitric Acid	<2	_____	_____	_____
MW-4	240-200119-J-1	Plastic 500ml - with Sulfuric Acid	<2	_____	_____	_____
MW-4	240-200119-K-1	Plastic 500ml - with Nitric Acid	<2	_____	_____	_____

Project Name: Dulin Landfill
PSS Project No.: 24082701

September 4, 2024

Scott Wolf
Earth Data, Inc
131 Comet Drive
Centreville, MD 21617



Reference: PSS Project No: **24082701**
Project Name: Dulin Landfill
Project Location: Kent County, MD
Project ID.: 46975

Dear Scott Wolf:

This report includes the analytical results from the analyses performed on the samples received under the project name referenced above and identified with the Phase Separation Science (PSS) Project number(s) **24082701**.

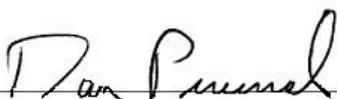
All work reported herein has been performed in accordance with current NELAP standards, referenced methodologies, PSS Standard Operating Procedures and the PSS Quality Assurance Manual unless otherwise noted in the Case Narrative Summary. PSS is limited in liability to the actual cost of the sample analysis done.

PSS reserves the right to return any unused samples, extracts or related solutions. Otherwise, the samples are scheduled for disposal, without any further notice, on October 1, 2024, with the exception of air canisters which are cleaned immediately following analysis. This includes any samples that were received with a request to be held but lacked a specific hold period. It is your responsibility to provide a written request defining a specific disposal date if additional storage is required. Upon receipt, the request will be acknowledged by PSS, thus extending the storage period.

This report shall not be reproduced except in full, without the written approval of an authorized PSS representative. A copy of this report will be retained by PSS for at least 5 years, after which time it will be disposed of without further notice, unless prior arrangements have been made.

We thank you for selecting Phase Separation Science, Inc. to serve your analytical needs. If you have any questions concerning this report, do not hesitate to contact us at 410-747-8770 or info@phaseonline.com.

Sincerely,


Dan Prucnal

Laboratory Manager



Sample Summary

Project Name: Dulin Landfill

PSS Project No.: 24082701

The following samples were received under chain of custody by Phase Separation Science (PSS) on 08/27/2024 at 08:50 am. Please reference the Chain of Custody and Sample Receipt Checklist for specific container counts and preservatives. Any sample conditions not in compliance with sample acceptance criteria are described in Case Narrative Summary.

PSS Sample ID	Sample ID	Matrix	Date/Time Collected
24082701-001	MW-1	GROUND WATER	08/26/24 11:20
24082701-002	MW-2	GROUND WATER	08/26/24 11:45
24082701-003	MW-3	GROUND WATER	08/26/24 10:45
24082701-004	MW-4	GROUND WATER	08/26/24 10:15
24082701-005	MW-5	GROUND WATER	08/26/24 09:30
24082701-006	Trip Blank	WATER	08/26/24 00:00

Report Information

Project Name: Dulin Landfill
PSS Project No.: 24082701

Notes:

1. The presence of a common laboratory contaminant such as methylene chloride may be considered a possible laboratory artifact. Where observed, appropriate consideration of data should be taken.
2. Unless otherwise noted in the case narrative, results are reported on a dry weight basis with the exception of pH, flashpoint, moisture, and paint filter test.
3. Drinking water samples collected for the purpose of compliance with SDWA may not be suitable for their intended use unless collected by a certified sampler [COMAR 26.08.05.07.C.2].
4. The analyses of 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dibromoethane (EDB) by EPA 524.2 and calcium, magnesium, sodium and iron by EPA 200.8 are not currently promulgated for use in testing to meet the Safe Drinking Water Act and as such cannot be used for compliance purposes. The listings of the current promulgated methods for testing in compliance with the Safe Drinking Water Act can be found in the 40 CFR part 141.1, for the primary drinking water contaminants, and part 141.3, for the secondary drinking water contaminants.
5. Samples prepared under EPA 3550C with concentrations greater than 20 mg/Kg should employ the microtip extraction procedure if required to meet data quality objectives.
6. The analysis of acrolein by EPA 624 must be analyzed within three days of sampling unless pH is adjusted to 4-5 units [40 CFR part 136.3(e)].
7. Alkalinity results analyzed by EPA 310.2 that are reported by dilution are estimated and are not in compliance with method requirements

Standard Flags/Abbreviations:

B	A target analyte was identified in the method blank. Its presence indicates possible field or laboratory contamination.
C	Results pending final confirmation.
Dil	Dilution Factor is the factor applied to the reported data due to dilution of the sample aliquot.
E	The data exceeds the upper calibration limit; therefore, the concentration is reported as estimated.
F	RPD exceeded the laboratory control limits.
Fail	The result exceeds the regulatory level for Toxicity Characteristic (TCLP) as cited in 40 CFR 261.24 Table 1.
H	Recovery of BKS, BSD or both exceeded the laboratory control limits.
J	The target analyte was positively identified below the reporting limit but greater than the MDL.
L	Recovery of BKS, BSD or both below the laboratory control limits.
MCL	The Maximum Contaminant Level is the highest level of a contaminant that is allowed in drinking water as determined by the EPA.
MDL	This is the Laboratory Method Detection Limit which is equivalent to the Limit of Detection (LOD). The LOD is the minimum result, which can be reliably discriminated from a blank with a predetermined confidence level.
ND	Not Detected at or above the reporting limit.
RL	PSS Reporting Limit.
X	Recovery outside of QC criteria.
%Rec	Percent Recovery

QC Types:

CCV	Continuing Calibration Verification	MD	Sample Duplicate
ICV	Initial Calibration Verification	MRL	Minimum Reporting Level
LCS / BKS	Laboratory Control Sample	MS	Matrix Spike
LCSD / BSD	Laboratory Control Sample Duplicate	MSD	Matrix Spike Duplicate
LLCCV	Low Level Continuing Calibration Verification	PDS	Post Digestion Spike
MB / BLK	Method Blank	RPD	Relative Percent Difference

Certifications:

<u>Authority</u>	<u>Program</u>	<u>Identification Number</u>
Maryland - MDE	State - Certification of Drinking Water Laboratories	179
MWAA	LDBE	LD1997-0041-2015
Pennsylvania - PADEP	NELAP	68-03330
USCG	NSWC	Accepted Laboratory
USDA	Regulated Soil Permit	P330-12-00268
Virginia - VELAP	NELAP	460156
West Virginia - WVDEP	State - Certified Laboratories	303

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-1 **Date/Time Sampled: 08/26/2024 11:20** **PSS Sample ID: 24082701-001**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8
Qualifier(s): See Batch 215841 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	08/29/24	09/03/24 19:45	1059
Arsenic	ND	ug/L	1.0		1	0.43	08/29/24	09/03/24 19:45	1059
Barium	88.5	ug/L	1.00		1	0.57	08/29/24	09/03/24 19:45	1059
Beryllium	ND	ug/L	1.0		1	0.61	08/29/24	09/03/24 19:45	1059
Cadmium	ND	ug/L	1.0		1	0.33	08/29/24	09/03/24 19:45	1059
Calcium	17,300	ug/L	2,000		20	1,860	08/29/24	09/03/24 20:54	1059
Chromium	2.4	ug/L	1.0		1	0.84	08/29/24	09/03/24 19:45	1059
Cobalt	1.1	ug/L	1.0		1	0.31	08/29/24	09/03/24 19:45	1059
Copper	ND	ug/L	1.0		1	0.98	08/29/24	09/03/24 19:45	1059
Iron	ND	ug/L	100		1	69	08/29/24	09/03/24 19:45	1059
Lead	ND	ug/L	1.0		1	0.66	08/29/24	09/03/24 19:45	1059
Magnesium	6,330	ug/L	100		1	61	08/29/24	09/03/24 19:45	1059
Manganese	23.5	ug/L	1.00		1	0.94	08/29/24	09/03/24 19:45	1059
Mercury	ND	ug/L	0.20		1	0.11	08/29/24	09/03/24 19:45	1059
Nickel	6.8	ug/L	1.0		1	0.95	08/29/24	09/03/24 19:45	1059
Potassium	3,730	ug/L	100		1	86.4	08/29/24	09/03/24 19:45	1059
Selenium	ND	ug/L	1.0		1	0.6	08/29/24	09/03/24 19:45	1059
Silver	ND	ug/L	1.0		1	0.31	08/29/24	09/03/24 19:45	1059
Sodium	15,100	ug/L	2,000		20	1,930	08/29/24	09/03/24 20:54	1059
Thallium	ND	ug/L	1.0		1	0.45	08/29/24	09/03/24 19:45	1059
Vanadium	ND	ug/L	1.0		1	0.44	08/29/24	09/03/24 19:45	1059
Zinc	41.6	ug/L	20.0		1	7.1	08/29/24	09/03/24 19:45	1059

Chloride, Sulfate & Nitrate Analytical Method: EPA 300.0 Preparation Method: E300.0P
Qualifier(s): See Batch 215737 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloride	18	mg/L	1.0		1	0.29	08/27/24	08/27/24 13:02	1053
Nitrate (as N)	20	mg/L	1.0		10	0.33	08/27/24	08/27/24 16:03	1053
Sulfate	ND	mg/L	1.0		1	0.26	08/27/24	08/27/24 13:02	1053

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-1 **Date/Time Sampled: 08/26/2024 11:20** **PSS Sample ID: 24082701-001**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

EDB & DBCP		Analytical Method: SW-846 8011				Preparation Method: SW8011_PREP			
	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0041	08/27/24	08/28/24 10:18	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	08/27/24	08/28/24 10:18	1029
Surrogate(s)	Recovery		Limits						
1,2,3-Trichloropropane	100	%	60-140		1		08/27/24	08/28/24 10:18	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	09/03/24	09/03/24 15:56	1045
Vinyl chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 15:56	1045
Bromomethane	ND	ug/L	1.0		1	0.6	09/03/24	09/03/24 15:56	1045
Chloroethane	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 15:56	1045
Acetone	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 15:56	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 15:56	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 15:56	1045
Methylene chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 15:56	1045
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	09/03/24	09/03/24 15:56	1045
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 15:56	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 15:56	1045
Vinyl acetate	ND	ug/L	1.0		1	0.31	09/03/24	09/03/24 15:56	1045
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	09/03/24	09/03/24 15:56	1045
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 15:56	1045
Bromochloromethane	ND	ug/L	1.0		1	0.28	09/03/24	09/03/24 15:56	1045
Chloroform	ND	ug/L	1.0		1	0.21	09/03/24	09/03/24 15:56	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	09/03/24	09/03/24 15:56	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 15:56	1045
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	09/03/24	09/03/24 15:56	1045
Benzene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 15:56	1045
Dibromomethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 15:56	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 15:56	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 15:56	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 15:56	1045
Carbon Disulfide	ND	ug/L	1.0		1	0.35	09/03/24	09/03/24 15:56	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 15:56	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-1 **Date/Time Sampled: 08/26/2024 11:20** **PSS Sample ID: 24082701-001**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 15:56	1045
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	09/03/24	09/03/24 15:56	1045
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 15:56	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 15:56	1045
Toluene	ND	ug/L	1.0		1	0.52	09/03/24	09/03/24 15:56	1045
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	09/03/24	09/03/24 15:56	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 15:56	1045
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 15:56	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 15:56	1045
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	09/03/24	09/03/24 15:56	1045
Tetrachloroethene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 15:56	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 15:56	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 15:56	1045
m&p-Xylene	ND	ug/L	2.0		1	0.4	09/03/24	09/03/24 15:56	1045
Styrene	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 15:56	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 15:56	1045
o-Xylene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 15:56	1045
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 15:56	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 15:56	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/03/24	09/03/24 15:56	1045
Iodomethane	ND	ug/L	20		1	0.83	09/03/24	09/03/24 15:56	1045
Surrogate(s) Recovery Limits									
4-Bromofluorobenzene	103	%	85-122		1		09/03/24	09/03/24 15:56	1045
Dibromofluoromethane	98	%	96-107		1		09/03/24	09/03/24 15:56	1045
Toluene-D8	101	%	95-105		1		09/03/24	09/03/24 15:56	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-2 **Date/Time Sampled: 08/26/2024 11:45** **PSS Sample ID: 24082701-002**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

Qualifier(s): See Batch 215841 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	08/29/24	09/03/24 20:17	1059
Arsenic	ND	ug/L	1.0		1	0.43	08/29/24	09/03/24 20:17	1059
Barium	29.4	ug/L	1.00		1	0.57	08/29/24	09/03/24 20:17	1059
Beryllium	ND	ug/L	1.0		1	0.61	08/29/24	09/03/24 20:17	1059
Cadmium	ND	ug/L	1.0		1	0.33	08/29/24	09/03/24 20:17	1059
Calcium	11,200	ug/L	2,000		20	1,860	08/29/24	09/03/24 20:59	1059
Chromium	1.1	ug/L	1.0		1	0.84	08/29/24	09/03/24 20:17	1059
Cobalt	0.90	ug/L	1.0	J	1	0.31	08/29/24	09/03/24 20:17	1059
Copper	ND	ug/L	1.0		1	0.98	08/29/24	09/03/24 20:17	1059
Iron	ND	ug/L	100		1	69	08/29/24	09/03/24 20:17	1059
Lead	ND	ug/L	1.0		1	0.66	08/29/24	09/03/24 20:17	1059
Magnesium	4,040	ug/L	100		1	61	08/29/24	09/03/24 20:17	1059
Manganese	11.8	ug/L	1.00		1	0.94	08/29/24	09/03/24 20:17	1059
Mercury	ND	ug/L	0.20		1	0.11	08/29/24	09/03/24 20:17	1059
Nickel	2.4	ug/L	1.0		1	0.95	08/29/24	09/03/24 20:17	1059
Potassium	2,420	ug/L	100		1	86.4	08/29/24	09/03/24 20:17	1059
Selenium	ND	ug/L	1.0		1	0.6	08/29/24	09/03/24 20:17	1059
Silver	ND	ug/L	1.0		1	0.31	08/29/24	09/03/24 20:17	1059
Sodium	4,120	ug/L	100		1	96.7	08/29/24	09/03/24 20:17	1059
Thallium	ND	ug/L	1.0		1	0.45	08/29/24	09/03/24 20:17	1059
Vanadium	ND	ug/L	1.0		1	0.44	08/29/24	09/03/24 20:17	1059
Zinc	30.5	ug/L	20.0		1	7.1	08/29/24	09/03/24 20:17	1059

Chloride, Sulfate & Nitrate Analytical Method: EPA 300.0 Preparation Method: E300.0P

Qualifier(s): See Batch 215737 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloride	14	mg/L	1.0		1	0.29	08/27/24	08/27/24 14:20	1053
Nitrate (as N)	9.2	mg/L	0.10		1	0.033	08/27/24	08/27/24 14:20	1053
Sulfate	ND	mg/L	1.0		1	0.26	08/27/24	08/27/24 14:20	1053

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-2 **Date/Time Sampled: 08/26/2024 11:45** **PSS Sample ID: 24082701-002**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 16:19	1045
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	09/03/24	09/03/24 16:19	1045
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 16:19	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 16:19	1045
Toluene	ND	ug/L	1.0		1	0.52	09/03/24	09/03/24 16:19	1045
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	09/03/24	09/03/24 16:19	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 16:19	1045
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 16:19	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 16:19	1045
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	09/03/24	09/03/24 16:19	1045
Tetrachloroethene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 16:19	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 16:19	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 16:19	1045
m&p-Xylene	ND	ug/L	2.0		1	0.4	09/03/24	09/03/24 16:19	1045
Styrene	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 16:19	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 16:19	1045
o-Xylene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 16:19	1045
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 16:19	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 16:19	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/03/24	09/03/24 16:19	1045
Iodomethane	ND	ug/L	20		1	0.83	09/03/24	09/03/24 16:19	1045
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	104 %		85-122		1		09/03/24	09/03/24 16:19	1045
Dibromofluoromethane	97 %		96-107		1		09/03/24	09/03/24 16:19	1045
Toluene-D8	103 %		95-105		1		09/03/24	09/03/24 16:19	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-3 **Date/Time Sampled: 08/26/2024 10:45** **PSS Sample ID: 24082701-003**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

Qualifier(s): See Batch 215841 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	08/29/24	09/03/24 20:22	1059
Arsenic	ND	ug/L	1.0		1	0.43	08/29/24	09/03/24 20:22	1059
Barium	47.7	ug/L	1.00		1	0.57	08/29/24	09/03/24 20:22	1059
Beryllium	ND	ug/L	1.0		1	0.61	08/29/24	09/03/24 20:22	1059
Cadmium	ND	ug/L	1.0		1	0.33	08/29/24	09/03/24 20:22	1059
Calcium	7,460	ug/L	100		1	93.2	08/29/24	09/03/24 20:22	1059
Chromium	2.2	ug/L	1.0		1	0.84	08/29/24	09/03/24 20:22	1059
Cobalt	0.81	ug/L	1.0	J	1	0.31	08/29/24	09/03/24 20:22	1059
Copper	ND	ug/L	1.0		1	0.98	08/29/24	09/03/24 20:22	1059
Iron	82.4	ug/L	100	J	1	69.3	08/29/24	09/03/24 20:22	1059
Lead	ND	ug/L	1.0		1	0.66	08/29/24	09/03/24 20:22	1059
Magnesium	4,650	ug/L	100		1	61	08/29/24	09/03/24 20:22	1059
Manganese	21.5	ug/L	1.00		1	0.94	08/29/24	09/03/24 20:22	1059
Mercury	ND	ug/L	0.20		1	0.11	08/29/24	09/03/24 20:22	1059
Nickel	2.8	ug/L	1.0		1	0.95	08/29/24	09/03/24 20:22	1059
Potassium	1,860	ug/L	100		1	86.4	08/29/24	09/03/24 20:22	1059
Selenium	ND	ug/L	1.0		1	0.6	08/29/24	09/03/24 20:22	1059
Silver	ND	ug/L	1.0		1	0.31	08/29/24	09/03/24 20:22	1059
Sodium	3,480	ug/L	100		1	96.7	08/29/24	09/03/24 20:22	1059
Thallium	ND	ug/L	1.0		1	0.45	08/29/24	09/03/24 20:22	1059
Vanadium	ND	ug/L	1.0		1	0.44	08/29/24	09/03/24 20:22	1059
Zinc	33.9	ug/L	20.0		1	7.1	08/29/24	09/03/24 20:22	1059

Chloride, Sulfate & Nitrate Analytical Method: EPA 300.0 Preparation Method: E300.0P

Qualifier(s): See Batch 215737 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloride	8.5	mg/L	1.0		1	0.29	08/27/24	08/27/24 14:46	1053
Nitrate (as N)	4.4	mg/L	0.10		1	0.033	08/27/24	08/27/24 14:46	1053
Sulfate	13	mg/L	1.0		1	0.26	08/27/24	08/27/24 14:46	1053

Certificate of Analysis

Project Name: Dulin Landfill
 PSS Project No.: 24082701

Sample ID: MW-3 **Date/Time Sampled: 08/26/2024 10:45** **PSS Sample ID: 24082701-003**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Total Dissolved Solids (TDS) Analytical Method: SM 2540C -2015 Preparation Method: SM2540C

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Total dissolved solids (residue, filterable)	87	mg/L	10		1	6.4	08/27/24	08/28/24 10:35	1074

pH, Electrometric Analytical Method: SM 4500-H+ B -2011
 Qualifier(s): See Sample Receipt section on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
pH	5.4	S.U.			1		08/28/24	08/28/24 11:53	1074

Nitrogen, Ammonia Analytical Method: SM 4500-NH3-F -2011 Preparation Method: SM4500-NH3B

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Nitrogen, Ammonia (as N)	ND	mg/L	0.20		1	0.092	08/27/24	08/27/24 19:04	1053

Chemical Oxygen Demand Analytical Method: SM 5220D -2011

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chemical Oxygen Demand	8.6	mg/L	20	J	1	6.8	08/29/24	08/29/24 20:32	1073

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-3 **Date/Time Sampled: 08/26/2024 10:45** **PSS Sample ID: 24082701-003**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

EDB & DBCP Analytical Method: SW-846 8011 Preparation Method: SW8011_PREP

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0042	08/27/24	08/28/24 10:46	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	08/27/24	08/28/24 10:46	1029
<i>Surrogate(s)</i>	<i>Recovery</i>		<i>Limits</i>						
1,2,3-Trichloropropane	84	%	60-140		1		08/27/24	08/28/24 10:46	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	09/03/24	09/03/24 16:40	1045
Vinyl chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 16:40	1045
Bromomethane	ND	ug/L	1.0		1	0.6	09/03/24	09/03/24 16:40	1045
Chloroethane	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 16:40	1045
Acetone	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 16:40	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 16:40	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 16:40	1045
Methylene chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 16:40	1045
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	09/03/24	09/03/24 16:40	1045
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 16:40	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 16:40	1045
Vinyl acetate	ND	ug/L	1.0		1	0.31	09/03/24	09/03/24 16:40	1045
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	09/03/24	09/03/24 16:40	1045
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 16:40	1045
Bromochloromethane	ND	ug/L	1.0		1	0.28	09/03/24	09/03/24 16:40	1045
Chloroform	ND	ug/L	1.0		1	0.21	09/03/24	09/03/24 16:40	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	09/03/24	09/03/24 16:40	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 16:40	1045
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	09/03/24	09/03/24 16:40	1045
Benzene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 16:40	1045
Dibromomethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 16:40	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 16:40	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 16:40	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 16:40	1045
Carbon Disulfide	ND	ug/L	1.0		1	0.35	09/03/24	09/03/24 16:40	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 16:40	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-3 **Date/Time Sampled: 08/26/2024 10:45** **PSS Sample ID: 24082701-003**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 16:40	1045
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	09/03/24	09/03/24 16:40	1045
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 16:40	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 16:40	1045
Toluene	ND	ug/L	1.0		1	0.52	09/03/24	09/03/24 16:40	1045
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	09/03/24	09/03/24 16:40	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 16:40	1045
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 16:40	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 16:40	1045
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	09/03/24	09/03/24 16:40	1045
Tetrachloroethene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 16:40	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 16:40	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 16:40	1045
m&p-Xylene	ND	ug/L	2.0		1	0.4	09/03/24	09/03/24 16:40	1045
Styrene	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 16:40	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 16:40	1045
o-Xylene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 16:40	1045
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 16:40	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 16:40	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/03/24	09/03/24 16:40	1045
Iodomethane	ND	ug/L	20		1	0.83	09/03/24	09/03/24 16:40	1045
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	101 %		85-122		1		09/03/24	09/03/24 16:40	1045
Dibromofluoromethane	97 %		96-107		1		09/03/24	09/03/24 16:40	1045
Toluene-D8	103 %		95-105		1		09/03/24	09/03/24 16:40	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-4 **Date/Time Sampled: 08/26/2024 10:15** **PSS Sample ID: 24082701-004**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Total (22) Metals Analytical Method: EPA 200.8 Preparation Method: E200.8

Qualifier(s): See Batch 215841 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Antimony	ND	ug/L	5.0		1	1.8	08/29/24	09/03/24 20:27	1059
Arsenic	ND	ug/L	1.0		1	0.43	08/29/24	09/03/24 20:27	1059
Barium	32.6	ug/L	1.00		1	0.57	08/29/24	09/03/24 20:27	1059
Beryllium	ND	ug/L	1.0		1	0.61	08/29/24	09/03/24 20:27	1059
Cadmium	ND	ug/L	1.0		1	0.33	08/29/24	09/03/24 20:27	1059
Calcium	10,400	ug/L	2,000		20	1,860	08/29/24	09/03/24 21:26	1059
Chromium	1.8	ug/L	1.0		1	0.84	08/29/24	09/03/24 20:27	1059
Cobalt	0.89	ug/L	1.0	J	1	0.31	08/29/24	09/03/24 20:27	1059
Copper	ND	ug/L	1.0		1	0.98	08/29/24	09/03/24 20:27	1059
Iron	81.7	ug/L	100	J	1	69.3	08/29/24	09/03/24 20:27	1059
Lead	ND	ug/L	1.0		1	0.66	08/29/24	09/03/24 20:27	1059
Magnesium	2,960	ug/L	100		1	61	08/29/24	09/03/24 20:27	1059
Manganese	73.9	ug/L	1.00		1	0.94	08/29/24	09/03/24 20:27	1059
Mercury	ND	ug/L	0.20		1	0.11	08/29/24	09/03/24 20:27	1059
Nickel	2.1	ug/L	1.0		1	0.95	08/29/24	09/03/24 20:27	1059
Potassium	2,270	ug/L	100		1	86.4	08/29/24	09/03/24 20:27	1059
Selenium	ND	ug/L	1.0		1	0.6	08/29/24	09/03/24 20:27	1059
Silver	ND	ug/L	1.0		1	0.31	08/29/24	09/03/24 20:27	1059
Sodium	3,790	ug/L	100		1	96.7	08/29/24	09/03/24 20:27	1059
Thallium	ND	ug/L	1.0		1	0.45	08/29/24	09/03/24 20:27	1059
Vanadium	ND	ug/L	1.0		1	0.44	08/29/24	09/03/24 20:27	1059
Zinc	28.0	ug/L	20.0		1	7.1	08/29/24	09/03/24 20:27	1059

Chloride, Sulfate & Nitrate Analytical Method: EPA 300.0 Preparation Method: E300.0P

Qualifier(s): See Batch 215737 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloride	11	mg/L	1.0		1	0.29	08/27/24	08/27/24 15:11	1053
Nitrate (as N)	7.6	mg/L	0.10		1	0.033	08/27/24	08/27/24 15:11	1053
Sulfate	ND	mg/L	1.0		1	0.26	08/27/24	08/27/24 15:11	1053

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-4 **Date/Time Sampled: 08/26/2024 10:15** **PSS Sample ID: 24082701-004**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**
EDB & DBCP Analytical Method: SW-846 8011 Preparation Method: SW8011_PREP

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0041	08/27/24	08/28/24 10:59	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	08/27/24	08/28/24 10:59	1029
Surrogate(s)	Recovery		Limits						
1,2,3-Trichloropropane	88	%	60-140		1		08/27/24	08/28/24 10:59	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	09/03/24	09/03/24 17:01	1045
Vinyl chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 17:01	1045
Bromomethane	ND	ug/L	1.0		1	0.6	09/03/24	09/03/24 17:01	1045
Chloroethane	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:01	1045
Acetone	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 17:01	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:01	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:01	1045
Methylene chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 17:01	1045
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	09/03/24	09/03/24 17:01	1045
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:01	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:01	1045
Vinyl acetate	ND	ug/L	1.0		1	0.31	09/03/24	09/03/24 17:01	1045
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	09/03/24	09/03/24 17:01	1045
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:01	1045
Bromochloromethane	ND	ug/L	1.0		1	0.28	09/03/24	09/03/24 17:01	1045
Chloroform	ND	ug/L	1.0		1	0.21	09/03/24	09/03/24 17:01	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	09/03/24	09/03/24 17:01	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:01	1045
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	09/03/24	09/03/24 17:01	1045
Benzene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:01	1045
Dibromomethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:01	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:01	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 17:01	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:01	1045
Carbon Disulfide	ND	ug/L	1.0		1	0.35	09/03/24	09/03/24 17:01	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:01	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-4 **Date/Time Sampled: 08/26/2024 10:15** **PSS Sample ID: 24082701-004**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:01	1045
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	09/03/24	09/03/24 17:01	1045
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:01	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:01	1045
Toluene	ND	ug/L	1.0		1	0.52	09/03/24	09/03/24 17:01	1045
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	09/03/24	09/03/24 17:01	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:01	1045
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:01	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:01	1045
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	09/03/24	09/03/24 17:01	1045
Tetrachloroethene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:01	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:01	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:01	1045
m&p-Xylene	ND	ug/L	2.0		1	0.4	09/03/24	09/03/24 17:01	1045
Styrene	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:01	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 17:01	1045
o-Xylene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:01	1045
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 17:01	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:01	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/03/24	09/03/24 17:01	1045
Iodomethane	ND	ug/L	20		1	0.83	09/03/24	09/03/24 17:01	1045
Surrogate(s) Recovery Limits									
4-Bromofluorobenzene	102	%	85-122		1		09/03/24	09/03/24 17:01	1045
Dibromofluoromethane	98	%	96-107		1		09/03/24	09/03/24 17:01	1045
Toluene-D8	104	%	95-105		1		09/03/24	09/03/24 17:01	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-5 **Date/Time Sampled: 08/26/2024 09:30** **PSS Sample ID: 24082701-005**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**
EDB & DBCP Analytical Method: SW-846 8011 Preparation Method: SW8011_PREP

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
1,2-Dibromoethane	ND	ug/L	0.021		1	0.0041	08/27/24	08/28/24 11:13	1029
1,2-Dibromo-3-Chloropropane	ND	ug/L	0.021		1	0.0031	08/27/24	08/28/24 11:13	1029
Surrogate(s)	Recovery		Limits						
1,2,3-Trichloropropane	104	%	60-140		1		08/27/24	08/28/24 11:13	1029

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B
Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	09/03/24	09/03/24 17:22	1045
Vinyl chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 17:22	1045
Bromomethane	ND	ug/L	1.0		1	0.6	09/03/24	09/03/24 17:22	1045
Chloroethane	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:22	1045
Acetone	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 17:22	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:22	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:22	1045
Methylene chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 17:22	1045
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	09/03/24	09/03/24 17:22	1045
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:22	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:22	1045
Vinyl acetate	ND	ug/L	1.0		1	0.31	09/03/24	09/03/24 17:22	1045
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	09/03/24	09/03/24 17:22	1045
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:22	1045
Bromochloromethane	ND	ug/L	1.0		1	0.28	09/03/24	09/03/24 17:22	1045
Chloroform	ND	ug/L	1.0		1	0.21	09/03/24	09/03/24 17:22	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	09/03/24	09/03/24 17:22	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:22	1045
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	09/03/24	09/03/24 17:22	1045
Benzene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:22	1045
Dibromomethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:22	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:22	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 17:22	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:22	1045
Carbon Disulfide	ND	ug/L	1.0		1	0.35	09/03/24	09/03/24 17:22	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:22	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: MW-5 **Date/Time Sampled: 08/26/2024 09:30** **PSS Sample ID: 24082701-005**
Matrix: GROUND WATER **Date/Time Received: 08/27/2024 08:50**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:22	1045
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	09/03/24	09/03/24 17:22	1045
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:22	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:22	1045
Toluene	ND	ug/L	1.0		1	0.52	09/03/24	09/03/24 17:22	1045
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	09/03/24	09/03/24 17:22	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:22	1045
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:22	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:22	1045
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	09/03/24	09/03/24 17:22	1045
Tetrachloroethene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:22	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:22	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:22	1045
m&p-Xylene	ND	ug/L	2.0		1	0.4	09/03/24	09/03/24 17:22	1045
Styrene	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:22	1045
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 17:22	1045
o-Xylene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:22	1045
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 17:22	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:22	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/03/24	09/03/24 17:22	1045
Iodomethane	ND	ug/L	20		1	0.83	09/03/24	09/03/24 17:22	1045
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	100 %		85-122		1		09/03/24	09/03/24 17:22	1045
Dibromofluoromethane	97 %		96-107		1		09/03/24	09/03/24 17:22	1045
Toluene-D8	104 %		95-105		1		09/03/24	09/03/24 17:22	1045

Certificate of Analysis

Project Name: Dulin Landfill
PSS Project No.: 24082701

Sample ID: Trip Blank **Date/Time Sampled: 08/26/2024 00:00** **PSS Sample ID: 24082701-006**
Matrix: WATER **Date/Time Received: 08/27/2024 08:50**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
Chloromethane	ND	ug/L	1.0		1	0.33	09/03/24	09/03/24 17:43	1045
Vinyl chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 17:43	1045
Bromomethane	ND	ug/L	1.0		1	0.6	09/03/24	09/03/24 17:43	1045
Chloroethane	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:43	1045
Acetone	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 17:43	1045
Trichlorofluoromethane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:43	1045
1,1-Dichloroethene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:43	1045
Methylene chloride	ND	ug/L	1.0		1	0.34	09/03/24	09/03/24 17:43	1045
trans-1,2-Dichloroethene	ND	ug/L	1.0		1	0.29	09/03/24	09/03/24 17:43	1045
Methyl-t-Butyl Ether	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:43	1045
1,1-Dichloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:43	1045
Vinyl acetate	ND	ug/L	1.0		1	0.31	09/03/24	09/03/24 17:43	1045
2-Butanone (MEK)	ND	ug/L	5.0		1	1.3	09/03/24	09/03/24 17:43	1045
cis-1,2-Dichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:43	1045
Bromochloromethane	ND	ug/L	1.0		1	0.28	09/03/24	09/03/24 17:43	1045
Chloroform	ND	ug/L	1.0		1	0.21	09/03/24	09/03/24 17:43	1045
1,1,1-Trichloroethane	ND	ug/L	1.0		1	0.16	09/03/24	09/03/24 17:43	1045
1,2-Dichloroethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:43	1045
Carbon tetrachloride	ND	ug/L	1.0		1	0.22	09/03/24	09/03/24 17:43	1045
Benzene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:43	1045
Dibromomethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:43	1045
1,2-Dichloropropane	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:43	1045
Acrylonitrile	ND	ug/L	5.0		1	1.5	09/03/24	09/03/24 17:43	1045
Trichloroethene	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:43	1045
Carbon Disulfide	ND	ug/L	1.0		1	0.35	09/03/24	09/03/24 17:43	1045
Bromodichloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:43	1045
cis-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:43	1045
4-Methyl-2-Pentanone (MIBK)	ND	ug/L	5.0		1	0.6	09/03/24	09/03/24 17:43	1045
trans-1,3-Dichloropropene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:43	1045
1,1,2-Trichloroethane	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:43	1045
Toluene	ND	ug/L	1.0		1	0.52	09/03/24	09/03/24 17:43	1045
2-Hexanone (MBK)	ND	ug/L	5.0		1	0.83	09/03/24	09/03/24 17:43	1045
Dibromochloromethane	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:43	1045
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0		1	0.19	09/03/24	09/03/24 17:43	1045
Bromoform	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:43	1045

Certificate of Analysis

Project Name: Dulin Landfill
 PSS Project No.: 24082701

Sample ID: Trip Blank **Date/Time Sampled: 08/26/2024 00:00** **PSS Sample ID: 24082701-006**
Matrix: WATER **Date/Time Received: 08/27/2024 08:50**

Volatile Organic Compounds MDE List Analytical Method: SW-846 8260 D Preparation Method: SW5030B

Qualifier(s): See Batch 215835 on Case Narrative.

	Result	Units	RL	Flag	Dil	MDL	Prepared	Analyzed	Analyst
trans-1,4-dichloro-2-butene	ND	ug/L	1.0		1	0.43	09/03/24	09/03/24 17:43	1045
Tetrachloroethene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:43	1045
Chlorobenzene	ND	ug/L	1.0		1	0.23	09/03/24	09/03/24 17:43	1045
Ethylbenzene	ND	ug/L	1.0		1	0.15	09/03/24	09/03/24 17:43	1045
m&p-Xylene	ND	ug/L	2.0		1	0.4	09/03/24	09/03/24 17:43	1045
Styrene	ND	ug/L	1.0		1	0.17	09/03/24	09/03/24 17:43	1045
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 17:43	1045
o-Xylene	ND	ug/L	1.0		1	0.18	09/03/24	09/03/24 17:43	1045
1,2,3-Trichloropropane	ND	ug/L	1.0		1	0.27	09/03/24	09/03/24 17:43	1045
1,4-Dichlorobenzene	ND	ug/L	1.0		1	0.26	09/03/24	09/03/24 17:43	1045
1,2-Dichlorobenzene	ND	ug/L	1.0		1	0.2	09/03/24	09/03/24 17:43	1045
Iodomethane	ND	ug/L	20		1	0.83	09/03/24	09/03/24 17:43	1045
Surrogate(s)	Recovery		Limits						
4-Bromofluorobenzene	103	%	85-122		1		09/03/24	09/03/24 17:43	1045
Dibromofluoromethane	98	%	96-107		1		09/03/24	09/03/24 17:43	1045
Toluene-D8	105	%	95-105		1		09/03/24	09/03/24 17:43	1045

Case Narrative

Project Name: Dulin Landfill

PSS Project No.: 24082701

Any holding time exceedances, deviations from the method specifications, regulatory requirements or variations to the procedures outlined in the PSS Quality Assurance Manual are outlined below.

Matrix spike and matrix spike duplicate analyses may not be performed due to insufficient sample quantity. In these instances, a laboratory control sample and laboratory control sample duplicate are analyzed unless otherwise noted or specified in the method.

Sample Receipt:

The analyses of pH has a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Analytical:

Total Metals

Batch: 215841

Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified; see QC summary. The concentration of the following analytes in the reference sample were greater than four times the matrix spike concentration: calcium, magnesium, sodium.

Method exceedances:

- Laboratory control sample (LCS) exceedances identified; see QC summary.
- Recovery of the low-level initial calibration readback standard for antimony and sodium was 79% and 125%; limits are 80 - 120%. The recovery of the mid-level initial calibration readback standard met acceptance criteria.
- Initial calibration verification standard (ICV) exceedance identified; see QC summary.

Analytical:

Chloride, Sulfate & Nitrate

Batch: 215737

Matrix spike/matrix spike duplicate (MS/MSD) exceedances identified; see QC summary.

The concentration of nitrate in the reference sample was greater than four times the matrix spike concentration.

Analytical:

Alkalinity Low Level

Batch: 215831

For sample 24082701-001, the sample pH fell below the alkalinity pH target end point; therefore, alkalinity is not detected.

Analytical:

Volatile Organic Compounds MDE List

Batch: 215835

Method exceedance: Quality control sample surrogate exceedances identified, see QC summary.

NELAP accreditation was held for all analyses performed unless noted below. See www.phaseonline.com for complete PSS scope of accreditation.

Case Narrative

Project Name: Dulin Landfill

PSS Project No.: 24082701

Project Name: Dulin Landfill
PSS Project No.: 24082701

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed	
EPA 200.8	24082701-001	664	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 19:45	
	24082701-002	665	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:17	
	24082701-003	666	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:22	
	24082701-004	667	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:27	
	24082701-005	668	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:33	
	101757-1-BKS		BKS	W	101757	215841	08/29/2024 14:00	09/03/2024 19:40	
	101757-1-BLK		BLK	W	101757	215841	08/29/2024 14:00	09/03/2024 19:34	
	24082701-001 S	664	MS	W	101757	215841	08/29/2024 14:00	09/03/2024 19:50	
	24082701-001 SD	664	MSD	W	101757	215841	08/29/2024 14:00	09/03/2024 20:11	
	24082701-001	664	Reanalysis	W	101757	215841	08/29/2024 14:00	09/03/2024 20:54	
	24082701-002	665	Reanalysis	W	101757	215841	08/29/2024 14:00	09/03/2024 20:59	
	24082701-004	667	Reanalysis	W	101757	215841	08/29/2024 14:00	09/03/2024 21:26	
	EPA 300.0	24082701-001	689	Initial	W	101713	215737	08/27/2024 10:52	08/27/2024 13:02
24082701-002		690	Initial	W	101713	215737	08/27/2024 10:52	08/27/2024 14:20	
24082701-003		691	Initial	W	101713	215737	08/27/2024 10:52	08/27/2024 14:46	
24082701-004		692	Initial	W	101713	215737	08/27/2024 10:52	08/27/2024 15:11	
24082701-005		693	Initial	W	101713	215737	08/27/2024 10:52	08/27/2024 15:37	
101713-1-BKS			BKS	W	101713	215737	08/27/2024 09:57	08/27/2024 11:44	
101713-1-BLK			BLK	W	101713	215737	08/27/2024 09:57	08/27/2024 11:18	
101713-1-BSD			BSD	W	101713	215737	08/27/2024 09:57	08/27/2024 12:10	
24082701-001 S		689	MS	W	101713	215737	08/27/2024 10:52	08/27/2024 13:28	
24082701-001 SD		689	MSD	W	101713	215737	08/27/2024 10:52	08/27/2024 13:54	
24082701-001		689	Reanalysis	W	101713	215737	08/27/2024 14:54	08/27/2024 16:03	
SM 2130B -2011		24082701-001	694	Initial	W	215757	215757	08/28/2024 14:53	08/28/2024 14:53
		24082701-002	695	Initial	W	215757	215757	08/28/2024 14:53	08/28/2024 14:53
	24082701-003	696	Initial	W	215757	215757	08/28/2024 14:53	08/28/2024 14:53	
	24082701-004	697	Initial	W	215757	215757	08/28/2024 14:53	08/28/2024 14:53	
	24082701-005	698	Initial	W	215757	215757	08/28/2024 14:53	08/28/2024 14:53	
	215757-1-BLK		BLK	W	215757	215757	08/28/2024 14:53	08/28/2024 14:53	
	24082701-001 D	694	MD	W	215757	215757	08/28/2024 14:53	08/28/2024 14:53	
SM 2320B -11	24082701-001	679	Initial	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	24082701-002	680	Initial	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	24082701-003	681	Initial	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	24082701-004	682	Initial	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	24082701-005	683	Initial	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	215831-1-BKS		BKS	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	215831-1-BLK		BLK	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	24082804-012 D	887	MD	W	215831	215831	09/04/2024 12:47	09/04/2024 12:47	
	SM 2340B	24082701-001	664	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 19:45
24082701-002		665	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:17	
24082701-003		666	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:22	
24082701-004		667	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:27	
24082701-005		668	Initial	W	101757	215841	08/29/2024 14:00	09/03/2024 20:33	

Project Name: Dulin Landfill
PSS Project No.: 24082701

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed	
SM 2510B -2011	24082701-001	689	Initial	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
	24082701-002	690	Initial	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
	24082701-003	691	Initial	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
	24082701-004	692	Initial	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
	24082701-005	693	Initial	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
	215669-1-BKS		BKS	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
	215669-1-BLK		BLK	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
	24082701-001 D	689	MD	W	215669	215669	08/28/2024 13:05	08/28/2024 13:05	
SM 2540C -2015	24082701-001	684	Initial	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
	24082701-002	685	Initial	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
	24082701-003	686	Initial	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
	24082701-004	687	Initial	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
	24082701-005	688	Initial	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
	101715-1-BKS		BKS	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
	101715-1-BLK		BLK	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
	24082701-001 D	684	MD	W	101715	215646	08/27/2024 11:30	08/28/2024 10:35	
SM 4500-H+ B -2011	24082701-001	689	Initial	W	215667	215667	08/28/2024 11:53	08/28/2024 11:53	
	24082701-002	690	Initial	W	215667	215667	08/28/2024 11:53	08/28/2024 11:53	
	24082701-003	691	Initial	W	215667	215667	08/28/2024 11:53	08/28/2024 11:53	
	24082701-004	692	Initial	W	215667	215667	08/28/2024 11:53	08/28/2024 11:53	
	24082701-005	693	Initial	W	215667	215667	08/28/2024 11:53	08/28/2024 11:53	
	24082701-001 D	689	MD	W	215667	215667	08/28/2024 11:53	08/28/2024 11:53	
	SM 4500-NH3-F -2011	24082701-001	669	Initial	W	101717	215663	08/27/2024 14:25	08/27/2024 18:53
24082701-002		672	Initial	W	101717	215663	08/27/2024 14:25	08/27/2024 19:01	
24082701-003		673	Initial	W	101717	215663	08/27/2024 14:25	08/27/2024 19:04	
24082701-004		675	Initial	W	101717	215663	08/27/2024 14:25	08/27/2024 19:06	
24082701-005		678	Initial	W	101717	215663	08/27/2024 14:25	08/27/2024 19:09	
101717-1-BKS			BKS	W	101717	215663	08/27/2024 14:25	08/27/2024 18:45	
101717-1-BLK			BLK	W	101717	215663	08/27/2024 14:25	08/27/2024 18:42	
101717-1-BSD			BSD	W	101717	215663	08/27/2024 14:25	08/27/2024 18:48	
24082701-001 S		669	MS	W	101717	215663	08/27/2024 14:25	08/27/2024 18:56	
24082701-001 SD		669	MSD	W	101717	215663	08/27/2024 14:25	08/27/2024 18:58	
SM 5220D -2011		24082701-001	669	Initial	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32
	24082701-002	671	Initial	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	24082701-003	673	Initial	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	24082701-004	675	Initial	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	24082701-005	677	Initial	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	215754-1-BKS		BKS	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	215754-1-BLK		BLK	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	24082701-001 S	669	MS	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	24082701-001 SD	669	MSD	W	215754	215754	08/29/2024 20:32	08/29/2024 20:32	
	SW-846 8011	24082701-001	714	Initial	W	101719	215720	08/27/2024 14:51	08/28/2024 10:18
		24082701-002	718	Initial	W	101719	215720	08/27/2024 16:03	08/28/2024 10:32

Lab Chronology

Project Name: Dulin Landfill
 PSS Project No.: 24082701

Method	PSS Sample ID	Container ID	Analysis Type	Mtx	Prep Batch	Analytical Batch	Prepared	Analyzed
SW-846 8011	24082701-003	720	Initial	W	101719	215720	08/27/2024 16:03	08/28/2024 10:46
	24082701-004	725	Initial	W	101719	215720	08/27/2024 16:03	08/28/2024 10:59
	24082701-005	726	Initial	W	101719	215720	08/27/2024 16:03	08/28/2024 11:13
	101719-1-BKS		BKS	W	101719	215720	08/27/2024 14:51	08/28/2024 08:57
	101719-1-BLK		BLK	W	101719	215720	08/27/2024 14:51	08/28/2024 08:43
	101719-1-BSD		BSD	W	101719	215720	08/27/2024 14:51	08/28/2024 09:10
	24082701-001 S	716	MS	W	101719	215720	08/27/2024 14:51	08/28/2024 09:38
SW-846 8260 D	24082701-001	700	Initial	W	101818	215835	09/03/2024 12:48	09/03/2024 15:56
	24082701-002	702	Initial	W	101818	215835	09/03/2024 12:48	09/03/2024 16:19
	24082701-003	706	Initial	W	101818	215835	09/03/2024 12:48	09/03/2024 16:40
	24082701-004	709	Initial	W	101818	215835	09/03/2024 12:48	09/03/2024 17:01
	24082701-005	713	Initial	W	101818	215835	09/03/2024 12:48	09/03/2024 17:22
	24082701-006	730	Initial	W	101818	215835	09/03/2024 12:48	09/03/2024 17:43
	101818-1-BKS		BKS	W	101818	215835	09/03/2024 12:48	09/03/2024 13:09
	101818-1-BLK		BLK	W	101818	215835	09/03/2024 12:48	09/03/2024 15:35
	101818-1-BSD		BSD	W	101818	215835	09/03/2024 12:48	09/03/2024 13:29
	24082701-001 S	699	MS	W	101818	215835	09/03/2024 12:48	09/03/2024 13:50
	24082701-001 SD	699	MSD	W	101818	215835	09/03/2024 12:48	09/03/2024 14:11

QC Summary

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SM 2130B -2011

Seq Number: 215757

Matrix: Water
MB Sample ID: 215757-1-BLK

Parameter	MB Result	LOD	RL	Units	Flag
Turbidity	ND	0.3700	0.5000	NTU	

Analytical Method: SM 2130B -2011

Seq Number: 215757

Matrix: Ground Water
MD Sample ID: 24082701-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Turbidity	0.7000	0.8000	13	20	NTU	

Analytical Method: SM 2320B -11

Seq Number: 215831

Matrix: Water
LCS Sample ID: 215831-1-BKS

MB Sample ID: 215831-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Alkalinity, Total (as CaCO3)	<20.00	6.000	5.400	90	85-115	mg/L	

Analytical Method: SM 2510B -2011

Seq Number: 215669

Matrix: Water
LCS Sample ID: 215669-1-BKS

MB Sample ID: 215669-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Conductivity @ 25.0C	1.442	1413	1432	101	85-115	us/cm	

Analytical Method: SM 2510B -2011

Seq Number: 215669

Matrix: Ground Water
MD Sample ID: 24082701-001 D

Parent Sample ID: 24082701-001

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Conductivity @ 25.0C	241	239	1	2	us/cm	

Analytical Method: SM 2540C -2015

Seq Number: 215646

Matrix: Water
LCS Sample ID: 101715-1-BKS

Prep Method: SM2540C_Prep
Date Prep: 08/27/24

MB Sample ID: 101715-1-BLK

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Total dissolved solids (residue, filter)	<6.400	50.00	56.00	112	84-116	mg/L	

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SM 2540C -2015

Seq Number: 215646
Parent Sample ID: 24082701-001

Matrix: Ground Water
MD Sample ID: 24082701-001 D

Prep Method: SM2540C_Prep
Date Prep: 08/27/24

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
Total dissolved solids (residue, filter)	180	183	2	20	mg/L	

Analytical Method: SM 4500-H+ B -2011

Seq Number: 215667
Parent Sample ID: 24082701-001

Matrix: Ground Water
MD Sample ID: 24082701-001 D

Parameter	Parent Result	MD Result	RPD	RPD Limit	Units	Flag
pH	5.759	5.522	4	10	S.U.	

Analytical Method: SM 4500-NH3-F -2011

Seq Number: 215663
MB Sample ID: 101717-1-BLK

Matrix: Water
LCS Sample ID: 101717-1-BKS

Prep Method: SM4500-NH3B
Date Prep: 08/27/24
LCSD Sample ID: 101717-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	<0.09200	2.500	2.641	106	2.605	104	89-111	1	20	mg/L	

Analytical Method: SM 4500-NH3-F -2011

Seq Number: 215663
Parent Sample ID: 24082701-001

Matrix: Ground Water
MS Sample ID: 24082701-001 S

Prep Method: SM4500-NH3B
Date Prep: 08/27/24
MSD Sample ID: 24082701-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Nitrogen, Ammonia (as N)	<0.09200	2.500	2.462	98	2.580	103	82-129	5	20	mg/L	

Analytical Method: SM 5220D -2011

Seq Number: 215754
MB Sample ID: 215754-1-BLK

Matrix: Water
LCS Sample ID: 215754-1-BKS

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Chemical Oxygen Demand	<6.800	250	257	103	88-118	mg/L	

Analytical Method: SM 5220D -2011

Seq Number: 215754
Parent Sample ID: 24082701-001

Matrix: Ground Water
MS Sample ID: 24082701-001 S

MSD Sample ID: 24082701-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chemical Oxygen Demand	<6.800	250	273.7	109	264.2	106	69-139	4	20	mg/L	

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: EPA 200.8

Seq Number: 215841

MB Sample ID: 101757-1-BLK

Matrix: Water

LCS Sample ID: 101757-1-BKS

Prep Method: E200.8_PREP

Date Prep: 08/29/24

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	Limits	Units	Flag
Antimony	<1.800	25.00	29.07	116	85-115	ug/L	H
Arsenic	<0.4300	50.00	52.67	105	85-115	ug/L	
Barium	<0.5700	50.00	52.21	104	85-115	ug/L	
Beryllium	<0.6100	50.00	55.84	112	85-115	ug/L	
Cadmium	<0.3300	50.00	52.19	104	85-115	ug/L	
Calcium	<93.20	500	546.2	109	85-115	ug/L	
Chromium	<0.8400	50.00	52.82	106	85-115	ug/L	
Cobalt	<0.3100	50.00	53.59	107	85-115	ug/L	
Copper	<0.9800	50.00	54.80	110	85-115	ug/L	
Iron	<69.30	500	525	105	85-115	ug/L	
Lead	<0.6600	50.00	54.34	109	85-115	ug/L	
Magnesium	<61.00	500	545.9	109	85-115	ug/L	
Manganese	<0.9400	50.00	55.82	112	85-115	ug/L	
Mercury	<0.1100	1.000	1.121	112	85-115	ug/L	
Nickel	<0.9500	50.00	51.86	104	85-115	ug/L	
Potassium	<86.40	500	546.5	109	85-115	ug/L	
Selenium	<0.6000	50.00	51.57	103	85-115	ug/L	
Silver	<0.3100	5.000	5.255	105	85-115	ug/L	
Sodium	<96.70	500	602.4	120	85-115	ug/L	H
Thallium	<0.4500	50.00	53.67	107	85-115	ug/L	
Vanadium	<0.4400	50.00	52.72	105	85-115	ug/L	
Zinc	<7.100	100	111.5	112	85-115	ug/L	

Project Name Dulin Landfill

PSS Project No.: 24082701

Analytical Method: EPA 200.8

Seq Number: 215841

Parent Sample ID: 24082701-001

Matrix: Ground Water

MS Sample ID: 24082701-001 S

Prep Method: E200.8_PREP

Date Prep: 08/29/24

MSD Sample ID: 24082701-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Antimony	<1.800	25.00	28.67	115	29.52	118	70-130	3	25	ug/L	
Arsenic	<0.4300	50.00	51.55	103	52.46	105	70-130	2	25	ug/L	
Barium	88.48	50.00	139.3	102	144.5	112	70-130	4	25	ug/L	
Beryllium	<0.6100	50.00	56.08	112	53.68	107	70-130	4	25	ug/L	
Cadmium	<0.3300	50.00	52.03	104	51.80	104	70-130	0	25	ug/L	
Calcium	15970	500	16320	70	16870	180	70-130	3	25	ug/L	X
Chromium	2.430	50.00	53.44	102	54.54	104	70-130	2	25	ug/L	
Cobalt	1.068	50.00	53.49	105	53.62	105	70-130	0	25	ug/L	
Copper	<0.9800	50.00	52.77	106	53.34	107	70-130	1	25	ug/L	
Iron	<69.30	500	560.7	112	573.8	115	70-130	2	25	ug/L	
Lead	<0.6600	50.00	52.59	105	52.95	106	70-130	1	25	ug/L	
Magnesium	6334	500	6784	90	7001	133	70-130	3	25	ug/L	X
Manganese	23.52	50.00	77.05	107	78.41	110	70-130	2	25	ug/L	
Mercury	<0.1100	1.000	1.087	109	1.094	109	70-130	1	25	ug/L	
Nickel	6.783	50.00	57.50	101	57.98	102	70-130	1	25	ug/L	
Potassium	3734	500	4220	97	4350	123	70-130	3	25	ug/L	
Selenium	<0.6000	50.00	51.70	103	52.27	105	70-130	1	25	ug/L	
Silver	<0.3100	5.000	5.130	103	5.165	103	70-130	1	25	ug/L	
Sodium	13200	500	13550	70	14010	162	70-130	3	25	ug/L	X
Thallium	<0.4500	50.00	52.55	105	53.07	106	70-130	1	25	ug/L	
Vanadium	<0.4400	50.00	52.02	104	52.58	105	70-130	1	25	ug/L	
Zinc	41.62	100	145.4	104	148	106	70-130	2	25	ug/L	

Analytical Method: EPA 300.0

Seq Number: 215737

MB Sample ID: 101713-1-BLK

Matrix: Water

LCS Sample ID: 101713-1-BKS

Prep Method: E300.0P

Date Prep: 08/27/24

LCS Sample ID: 101713-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chloride	<0.2900	10.00	9.783	98	9.758	98	90-110	0	20	mg/L	
Nitrate (as N)	<0.03300	1.000	0.9915	99	0.9854	99	90-110	1	20	mg/L	
Sulfate	<0.2600	10.00	9.656	97	9.697	97	90-110	0	20	mg/L	

Analytical Method: EPA 300.0

Seq Number: 215737

Parent Sample ID: 24082701-001

Matrix: Ground Water

MS Sample ID: 24082701-001 S

Prep Method: E300.0P

Date Prep: 08/27/24

MSD Sample ID: 24082701-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chloride	18.34	10.00	28.20	99	27.99	97	90-117	1	20	mg/L	
Nitrate (as N)	17.80	1.000	18.24	44	18.23	43	77-133	0	20	mg/L	X
Sulfate	<0.2600	10.00	9.970	100	9.775	98	77-121	2	20	mg/L	

QC Summary

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SW-846 8011

Seq Number: 215720

MB Sample ID: 101719-1-BLK

Matrix: Water

LCS Sample ID: 101719-1-BKS

Prep Method: SW8011_Prep

Date Prep: 08/27/24

LCSD Sample ID: 101719-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
1,2-Dibromoethane	<0.003967	0.2478	0.2775	112	0.2798	112	70-130	1	10	ug/L	
1,2-Dibromo-3-Chloropropane	<0.002975	0.2478	0.2577	104	0.2499	100	70-130	3	10	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
1,2,3-Trichloropropane	104		100		96		60-140	%

Analytical Method: SW-846 8011

Seq Number: 215720

Parent Sample ID: 24082701-001

Matrix: Ground Water

MS Sample ID: 24082701-001 S

Prep Method: SW8011_Prep

Date Prep: 08/27/24

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	Limits	Units	Flag
1,2-Dibromoethane	<0.004136	0.2546	0.2546	100	65-135	ug/L	
1,2-Dibromo-3-Chloropropane	<0.003102	0.2546	0.2648	104	65-135	ug/L	

Surrogate	MS Result	MS Flag	Limits	Units
1,2,3-Trichloropropane	104		60-140	%

Project Name Dulin Landfill

PSS Project No.: 24082701

Analytical Method: SW-846 8260 D

Seq Number: 215835

MB Sample ID: 101818-1-BLK

Matrix: Water

LCS Sample ID: 101818-1-BKS

Prep Method: SW5030B

Date Prep: 09/03/24

LCSD Sample ID: 101818-1-BSD

Parameter	MB Result	Spike Amount	LCS Result	LCS %Rec	LCSD Result	LCSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chloromethane	<0.3300	50.00	47.49	95	48.02	96	45-138	1	20	ug/L	
Vinyl chloride	<0.3400	50.00	49.52	99	52.02	104	46-146	5	20	ug/L	
Bromomethane	<0.6000	50.00	52.88	106	55.24	110	50-142	4	20	ug/L	
Chloroethane	<0.2300	50.00	47.87	96	51.44	103	70-122	7	20	ug/L	
Acetone	<1.500	50.00	53.52	107	52.32	105	51-160	2	20	ug/L	
Trichlorofluoromethane	<0.1700	50.00	44.63	89	47.86	96	77-119	7	20	ug/L	
1,1-Dichloroethene	<0.1800	50.00	48.24	96	51.58	103	70-122	7	20	ug/L	
Methylene chloride	<0.3400	50.00	52.13	104	53.10	106	79-120	2	20	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	50.71	101	53.12	106	76-121	5	20	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	55.54	111	55.34	111	74-118	0	20	ug/L	
1,1-Dichloroethane	<0.1900	50.00	47.96	96	49.29	99	73-119	3	20	ug/L	
Vinyl acetate	<0.3100	50.00	54.00	108	53.57	107	70-124	1	20	ug/L	
2-Butanone (MEK)	<1.300	50.00	59.69	119	56.96	114	58-139	5	20	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	52.83	106	54.23	108	77-120	3	20	ug/L	
Bromochloromethane	<0.2800	50.00	51.83	104	52.35	105	78-122	1	20	ug/L	
Chloroform	<0.2100	50.00	48.86	98	50.37	101	77-115	3	20	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	47.01	94	49.92	100	74-119	6	20	ug/L	
1,2-Dichloroethane	<0.1800	50.00	48.40	97	48.51	97	75-120	0	20	ug/L	
Carbon tetrachloride	<0.2200	50.00	46.58	93	49.55	99	77-126	6	20	ug/L	
Benzene	<0.1900	50.00	47.89	96	49.75	100	79-118	4	20	ug/L	
Dibromomethane	<0.2600	50.00	52.04	104	52.39	105	78-121	1	20	ug/L	
1,2-Dichloropropane	<0.1700	50.00	48.58	97	49.45	99	78-122	2	20	ug/L	
Acrylonitrile	<1.500	50.00	53.60	107	52.50	105	68-127	2	20	ug/L	
Trichloroethene	<0.1900	50.00	48.29	97	50.77	102	78-120	5	20	ug/L	
Carbon Disulfide	<0.3500	50.00	45.93	92	49.06	98	73-125	7	20	ug/L	
Bromodichloromethane	<0.1800	50.00	50.88	102	51.28	103	82-123	1	20	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	54.04	108	55.44	111	73-133	3	20	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	51.87	104	51.41	103	71-125	1	20	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	54.70	109	55.85	112	75-117	2	20	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	50.33	101	50.44	101	81-121	0	20	ug/L	
Toluene	<0.5200	50.00	50.98	102	53.74	107	78-118	5	20	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	50.78	102	49.60	99	59-144	2	20	ug/L	
Dibromochloromethane	<0.1800	50.00	50.83	102	49.99	100	84-130	2	20	ug/L	
1,1,1,2-Tetrachloroethane	<0.1900	50.00	48.80	98	49.46	99	84-129	1	20	ug/L	
Bromoform	<0.1700	50.00	53.62	107	53.62	107	70-141	0	20	ug/L	
trans-1,4-dichloro-2-butene	<0.4300	50.00	43.14	86	42.20	84	61-126	2	20	ug/L	
Tetrachloroethene	<0.2300	50.00	51.57	103	55.28	111	73-123	7	20	ug/L	
Chlorobenzene	<0.2300	50.00	49.28	99	50.76	102	80-120	3	20	ug/L	
Ethylbenzene	<0.1500	50.00	51.08	102	52.84	106	82-125	3	20	ug/L	
m&p-Xylene	<0.4000	100	104.7	105	107.5	108	83-124	3	20	ug/L	
Styrene	<0.1700	50.00	56.24	112	57.04	114	85-128	1	20	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	46.09	92	45.36	91	74-131	2	20	ug/L	
o-Xylene	<0.1800	50.00	52.78	106	53.86	108	83-125	2	20	ug/L	
1,2,3-Trichloropropane	<0.2700	50.00	47.87	96	46.65	93	76-123	3	20	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	49.86	100	50.56	101	78-122	1	20	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	52.05	104	52.62	105	80-128	1	20	ug/L	
Iodomethane	<0.8300	50.00	43.92	88	46.71	93	32-143	6	20	ug/L	

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
4-Bromofluorobenzene	101		94		94		85-122	%
Dibromofluoromethane	96		101		100		96-107	%

QC Summary

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SW-846 8260 D

Seq Number: 215835

MB Sample ID: 101818-1-BLK

Matrix: Water

LCS Sample ID: 101818-1-BKS

Prep Method: SW5030B

Date Prep: 09/03/24

LCSD Sample ID: 101818-1-BSD

Surrogate	MB %Rec	MB Flag	LCS Result	LCS Flag	LCSD Result	LCSD Flag	Limits	Units
Toluene-D8	103		105		106	*	95-105	%

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SW-846 8260 D

Seq Number: 215835

Parent Sample ID: 24082701-001

Matrix: Ground Water

MS Sample ID: 24082701-001 S

Prep Method: SW5030B

Date Prep: 09/03/24

MSD Sample ID: 24082701-001 SD

Parameter	Parent Result	Spike Amount	MS Result	MS %Rec	MSD Result	MSD %Rec	Limits	RPD	RPD Limit	Units	Flag
Chloromethane	<0.3300	50.00	47.62	95	46.55	93	34-154	2	25	ug/L	
Vinyl chloride	<0.3400	50.00	52.80	106	51.07	102	47-154	3	25	ug/L	
Bromomethane	<0.6000	50.00	53.37	107	52.17	104	45-147	2	25	ug/L	
Chloroethane	<0.2300	50.00	48.99	98	49.12	98	61-135	0	25	ug/L	
Acetone	<1.500	50.00	20.69	41	21.94	44	8-106	6	25	ug/L	
Trichlorofluoromethane	<0.1700	50.00	45.82	92	45.99	92	73-128	0	25	ug/L	
1,1-Dichloroethene	<0.1800	50.00	48.35	97	46.62	93	64-128	4	25	ug/L	
Methylene chloride	<0.3400	50.00	50.10	100	49.84	100	77-123	1	25	ug/L	
trans-1,2-Dichloroethene	<0.2900	50.00	50.46	101	50.46	101	77-125	0	25	ug/L	
Methyl-t-Butyl Ether	<0.1700	50.00	50.32	101	51.72	103	68-120	3	25	ug/L	
1,1-Dichloroethane	<0.1900	50.00	46.48	93	46.44	93	69-126	0	25	ug/L	
Vinyl acetate	<0.3100	50.00	48.04	96	49.19	98	65-119	2	25	ug/L	
2-Butanone (MEK)	<1.300	50.00	30.49	61	30.92	62	37-106	1	25	ug/L	
cis-1,2-Dichloroethene	<0.1900	50.00	50.76	102	50.93	102	78-123	0	25	ug/L	
Bromochloromethane	<0.2800	50.00	47.60	95	48.70	97	79-122	2	25	ug/L	
Chloroform	<0.2100	50.00	46.84	94	47.12	94	76-119	1	25	ug/L	
1,1,1-Trichloroethane	<0.1600	50.00	47.42	95	47.08	94	75-122	1	25	ug/L	
1,2-Dichloroethane	<0.1800	50.00	44.13	88	45.31	91	72-123	3	25	ug/L	
Carbon tetrachloride	<0.2200	50.00	47.50	95	47.02	94	82-126	1	25	ug/L	
Benzene	<0.1900	50.00	47.34	95	47.04	94	78-123	1	25	ug/L	
Dibromomethane	<0.2600	50.00	47.17	94	48.01	96	77-120	2	25	ug/L	
1,2-Dichloropropane	<0.1700	50.00	46.31	93	46.31	93	74-126	0	25	ug/L	
Acrylonitrile	<1.500	50.00	46.90	94	48.10	96	59-122	3	25	ug/L	
Trichloroethene	<0.1900	50.00	48.04	96	47.66	95	63-137	1	25	ug/L	
Carbon Disulfide	<0.3500	50.00	47.32	95	47.07	94	66-136	1	25	ug/L	
Bromodichloromethane	<0.1800	50.00	47.20	94	47.71	95	79-124	1	25	ug/L	
cis-1,3-Dichloropropene	<0.1500	50.00	50.57	101	51.20	102	73-129	1	25	ug/L	
4-Methyl-2-Pentanone (MIBK)	<0.6000	50.00	43.35	87	45.24	90	60-129	4	25	ug/L	
trans-1,3-Dichloropropene	<0.1500	50.00	50.76	102	51.56	103	72-116	2	25	ug/L	
1,1,2-Trichloroethane	<0.2600	50.00	45.78	92	46.76	94	79-121	2	25	ug/L	
Toluene	<0.5200	50.00	51.06	102	50.35	101	76-124	1	25	ug/L	
2-Hexanone (MBK)	<0.8300	50.00	30.97	62	31.96	64	42-122	3	25	ug/L	
Dibromochloromethane	<0.1800	50.00	45.98	92	46.26	93	82-125	1	25	ug/L	
1,1,1,2-Tetrachloroethane	<0.1900	50.00	46.10	92	46.09	92	85-124	0	25	ug/L	
Bromoform	<0.1700	50.00	47.85	96	48.85	98	71-129	2	25	ug/L	
trans-1,4-dichloro-2-butene	<0.4300	50.00	37.55	75	38.15	76	45-127	2	25	ug/L	
Tetrachloroethene	<0.2300	50.00	53.01	106	52.38	105	74-129	1	25	ug/L	
Chlorobenzene	<0.2300	50.00	47.93	96	47.09	94	79-121	2	25	ug/L	
Ethylbenzene	<0.1500	50.00	50.23	100	49.50	99	80-128	1	25	ug/L	
m&p-Xylene	<0.4000	100	102.1	102	100.4	100	80-127	2	25	ug/L	
Styrene	<0.1700	50.00	53.14	106	52.95	106	82-128	0	25	ug/L	
1,1,2,2-Tetrachloroethane	<0.2700	50.00	41.06	82	41.30	83	68-127	1	25	ug/L	
o-Xylene	<0.1800	50.00	50.70	101	50.16	100	81-126	1	25	ug/L	
1,2,3-Trichloropropane	<0.2700	50.00	41.66	83	42.81	86	68-124	3	25	ug/L	
1,4-Dichlorobenzene	<0.2600	50.00	47.55	95	46.28	93	75-119	3	25	ug/L	
1,2-Dichlorobenzene	<0.2000	50.00	49.12	98	47.90	96	78-123	3	25	ug/L	
Iodomethane	<0.8300	50.00	43.51	87	42.59	85	20-151	2	25	ug/L	

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
4-Bromofluorobenzene	94		94		85-122	%
Dibromofluoromethane	99		101		96-107	%

QC Summary

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SW-846 8260 D

Seq Number: 215835
Parent Sample ID: 24082701-001

Matrix: Ground Water
MS Sample ID: 24082701-001 S

Prep Method: SW5030B
Date Prep: 09/03/24
MSD Sample ID: 24082701-001 SD

Surrogate	MS Result	MS Flag	MSD Result	MSD Flag	Limits	Units
Toluene-D8	107	*	106	*	95-105	%

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SM 2130B -2011

CCV Sample Id: CCV-01 Seq Number: 215757
Analyzed Date: 08/28/24 14:53

Parameter	CCV %Rec	Limits	Flag
Turbidity	100	95-105	

Analytical Method: SM 2130B -2011

CCV Sample Id: CCV-02 Seq Number: 215757
Analyzed Date: 08/28/24 14:53

Parameter	CCV %Rec	Limits	Flag
Turbidity	99	95-105	

Analytical Method: SM 2130B -2011

Parent Sample Id: ICV-01 Seq Number: 213977
Analyzed Date: 06/26/24 12:42

Parameter	ICV %Rec	Limits	Flag
Turbidity	99	90-110	

Analytical Method: SM 2130B -2011

Parent Sample Id: LLCCV-01 Seq Number: 215757
Analyzed Date: 08/28/24 14:53

Parameter	LLCCV %Rec	Limits	Flag
Turbidity	100	95-105	

Analytical Method: SM 2130B -2011

Parent Sample Id: LLCCV-02 Seq Number: 215757
Analyzed Date: 08/28/24 14:53

Parameter	LLCCV %Rec	Limits	Flag
Turbidity	137	50-150	

Analytical Method: SM 2130B -2011

Parent Sample Id: MRL-01 Seq Number: 213977
Analyzed Date: 06/26/24 12:42

Parameter	MRL %Rec	Limits	Flag
Turbidity	88	50-150	

Analytical Method: SM 2510B -2011

CCV Sample Id: CCV-01 Seq Number: 215669
Analyzed Date: 08/28/24 13:05

Parameter	CCV %Rec	Limits	Flag
Conductivity @ 25.0C	102	90-110	

Analytical Method: SM 4500-NH3-F -2011

CCV Sample Id: CCV-01 Seq Number: 215663
Analyzed Date: 08/27/24 19:12

Parameter	CCV %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	101	90-110	

Analytical Method: SM 4500-NH3-F -2011

CCV Sample Id: CCV-02 Seq Number: 215663
Analyzed Date: 08/27/24 19:28

Parameter	CCV %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	104	90-110	

Analytical Method: SM 4500-NH3-F -2011

Parent Sample Id: ICV Seq Number: 215662
Analyzed Date: 08/27/24 18:37

Parameter	ICV %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	98	90-110	

Analytical Method: SM 4500-NH3-F -2011

Parent Sample Id: MRL Seq Number: 215663
Analyzed Date: 08/27/24 18:50

Parameter	MRL %Rec	Limits	Flag
Nitrogen, Ammonia (as N)	57	50-150	

Analytical Method: SM 5220D -2011

CCV Sample Id: CCV-01 Seq Number: 215754
Analyzed Date: 08/29/24 20:32

Parameter	CCV %Rec	Limits	Flag
Chemical Oxygen Demand	103	90-110	

Analytical Method: SM 5220D -2011

CCV Sample Id: CCV-02 Seq Number: 215754
Analyzed Date: 08/29/24 20:32

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SM 5220D -2011

CCV Sample Id: CCV-02 Seq Number: 215754
Analyzed Date: 08/29/24 20:32

Parameter	CCV %Rec	Limits	Flag
Chemical Oxygen Demand	103	90-110	

Analytical Method: SM 5220D -2011

CCV Sample Id: CCV-03 Seq Number: 215754
Analyzed Date: 08/29/24 20:34

Parameter	CCV %Rec	Limits	Flag
Chemical Oxygen Demand	103	90-110	

Analytical Method: SM 5220D -2011

Parent Sample Id: ICV-01 Seq Number: 208202
Analyzed Date: 11/14/23 13:28

Parameter	ICV %Rec	Limits	Flag
Chemical Oxygen Demand	103	90-110	

Analytical Method: SM 5220D -2011

Parent Sample Id: MRL-01 Seq Number: 215754
Analyzed Date: 08/29/24 20:32

Parameter	MRL %Rec	Limits	Flag
Chemical Oxygen Demand	108	50-150	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 2 Seq Number: 215841
Analyzed Date: 09/03/24 19:00

Parameter	CCV %Rec	Limits	Flag
Antimony	102	85-115	
Arsenic	101	85-115	
Barium	100	85-115	
Beryllium	105	85-115	
Cadmium	102	85-115	
Calcium	102	85-115	
Chromium	101	85-115	
Cobalt	103	85-115	
Copper	103	85-115	
Iron	102	85-115	
Lead	103	85-115	
Magnesium	102	85-115	
Manganese	107	85-115	
Mercury	106	85-115	
Nickel	100	85-115	
Potassium	103	85-115	
Selenium	99	85-115	
Silver	100	85-115	
Sodium	105	85-115	
Thallium	104	85-115	
Vanadium	101	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 3 Seq Number: 215841
Analyzed Date: 09/03/24 20:01

Parameter	CCV %Rec	Limits	Flag
Antimony	103	85-115	
Arsenic	101	85-115	
Barium	100	85-115	
Beryllium	103	85-115	
Cadmium	101	85-115	
Calcium	104	85-115	
Chromium	101	85-115	
Cobalt	103	85-115	
Copper	103	85-115	
Iron	103	85-115	
Lead	104	85-115	
Magnesium	103	85-115	
Manganese	107	85-115	
Mercury	109	85-115	
Nickel	100	85-115	
Potassium	103	85-115	
Selenium	102	85-115	
Silver	100	85-115	
Sodium	104	85-115	
Thallium	104	85-115	
Vanadium	101	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 215841
Analyzed Date: 09/03/24 21:10

Parameter	CCV %Rec	Limits	Flag
Antimony	102	85-115	
Arsenic	102	85-115	
Barium	101	85-115	
Beryllium	102	85-115	

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: EPA 200.8

CCV Sample Id: CCV 4 Seq Number: 215841
Analyzed Date: 09/03/24 21:10

Parameter	CCV %Rec	Limits	Flag
Cadmium	101	85-115	
Calcium	105	85-115	
Chromium	101	85-115	
Cobalt	103	85-115	
Copper	103	85-115	
Iron	105	85-115	
Lead	102	85-115	
Magnesium	102	85-115	
Manganese	107	85-115	
Mercury	106	85-115	
Nickel	100	85-115	
Potassium	104	85-115	
Selenium	103	85-115	
Silver	99	85-115	
Sodium	107	85-115	
Thallium	104	85-115	
Vanadium	101	85-115	
Zinc	102	85-115	

Analytical Method: EPA 200.8

CCV Sample Id: CCV 5 Seq Number: 215841
Analyzed Date: 09/03/24 22:15

Parameter	CCV %Rec	Limits	Flag
Antimony	101	85-115	
Arsenic	102	85-115	
Barium	101	85-115	
Beryllium	105	85-115	
Cadmium	101	85-115	
Calcium	105	85-115	
Chromium	101	85-115	
Cobalt	103	85-115	
Copper	103	85-115	
Iron	104	85-115	
Lead	103	85-115	
Magnesium	101	85-115	
Manganese	108	85-115	
Mercury	108	85-115	
Nickel	100	85-115	
Potassium	103	85-115	
Selenium	103	85-115	
Silver	100	85-115	
Sodium	104	85-115	
Thallium	104	85-115	
Vanadium	101	85-115	
Zinc	101	85-115	

Analytical Method: EPA 200.8

Parent Sample Id: ICV 1 Seq Number: 215841
Analyzed Date: 09/03/24 16:43

Parameter	ICV %Rec	Limits	Flag
Antimony	102	90-110	
Arsenic	101	90-110	
Barium	99	90-110	
Beryllium	103	90-110	
Cadmium	101	90-110	
Calcium	103	90-110	
Chromium	101	90-110	
Cobalt	103	90-110	
Copper	104	90-110	
Iron	104	90-110	
Lead	104	90-110	
Magnesium	100	90-110	
Manganese	106	90-110	
Mercury	113	90-110	X
Nickel	100	90-110	
Potassium	100	90-110	
Selenium	103	90-110	
Silver	99	90-110	
Sodium	102	90-110	
Thallium	105	90-110	
Vanadium	100	90-110	
Zinc	102	90-110	

Analytical Method: EPA 300.0

CCV Sample Id: CCV-01 Seq Number: 215737
Analyzed Date: 08/27/24 10:26

Parameter	CCV %Rec	Limits	Flag
Chloride	94	90-110	
Nitrate (as N)	97	90-110	
Sulfate	96	90-110	

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: EPA 300.0

CCV Sample Id: CCV-02 Seq Number: 215737
Analyzed Date: 08/27/24 16:55

Parameter	CCV %Rec	Limits	Flag
Chloride	98	90-110	
Nitrate (as N)	100	90-110	
Sulfate	98	90-110	

Analytical Method: EPA 300.0

Parent Sample Id: ICV-01 Seq Number: 215529
Analyzed Date: 08/21/24 17:16

Parameter	ICV %Rec	Limits	Flag
Chloride	100	90-110	
Nitrate (as N)	103	90-110	
Sulfate	99	90-110	

Analytical Method: SW-846 8011

CCV Sample Id: CCV-01 Seq Number: 215720
Analyzed Date: 08/28/24 08:26

Parameter	CCV %Rec	Limits	Flag
1,2-Dibromoethane	104	60-140	
1,2-Dibromo-3-Chloropropane	101	60-140	
Surrogate		Limits	Flag
1,2,3-Trichloropropane	108	60-140	

Analytical Method: SW-846 8011

CCV Sample Id: CCV-02 Seq Number: 215720
Analyzed Date: 08/28/24 12:08

Parameter	CCV %Rec	Limits	Flag
1,2-Dibromoethane	106	60-140	
1,2-Dibromo-3-Chloropropane	102	60-140	
Surrogate		Limits	Flag
1,2,3-Trichloropropane	116	60-140	

Analytical Method: SW-846 8011

Parent Sample Id: ICV-01 Seq Number: 201713
Analyzed Date: 03/06/23 14:28

Parameter	ICV %Rec	Limits	Flag
1,2-Dibromoethane	101	60-140	
1,2-Dibromo-3-Chloropropane	96	60-140	
Surrogate		Limits	Flag
1,2,3-Trichloropropane	97	60-140	

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV, VOC-1 Seq Number: 215835
Analyzed Date: 09/03/24 12:48

Parameter	CCV %Rec	Limits	Flag
Chloromethane	101	80-120	
Vinyl chloride	107	80-120	
Bromomethane	109	80-120	
Chloroethane	103	80-120	
Acetone	105	80-120	
Trichlorofluoromethane	96	80-120	
1,1-Dichloroethene	98	80-120	
Methylene chloride	106	80-120	
trans-1,2-Dichloroethene	106	80-120	
Methyl-t-Butyl Ether	109	80-120	
1,1-Dichloroethane	99	80-120	
Vinyl acetate	105	80-120	
2-Butanone (MEK)	113	80-120	
cis-1,2-Dichloroethene	108	80-120	

Project Name Dulin Landfill
PSS Project No.: 24082701

Analytical Method: SW-846 8260 D

CCV Sample Id: CCV, VOC-1 Seq Number: 215835
Analyzed Date: 09/03/24 12:48

Parameter	CCV %Rec	Limits	Flag
Bromochloromethane	104	80-120	
Chloroform	100	80-120	
1,1,1-Trichloroethane	99	80-120	
1,2-Dichloroethane	97	80-120	
Carbon tetrachloride	98	80-120	
Benzene	100	80-120	
Dibromomethane	104	80-120	
1,2-Dichloropropane	99	80-120	
Acrylonitrile	103	80-120	
Trichloroethene	101	80-120	
Carbon Disulfide	97	80-120	
Bromodichloromethane	103	80-120	
cis-1,3-Dichloropropene	109	80-120	
4-Methyl-2-Pentanone (MIBK)	101	80-120	
trans-1,3-Dichloropropene	109	80-120	
1,1,2-Trichloroethane	100	80-120	
Toluene	107	80-120	
2-Hexanone (MBK)	100	80-120	
Dibromochloromethane	99	80-120	
1,1,1,2-Tetrachloroethane	99	80-120	
Bromoform	105	80-120	
trans-1,4-dichloro-2-butene	85	80-120	
Tetrachloroethene	110	80-120	
Chlorobenzene	100	80-120	
Ethylbenzene	105	80-120	
m&p-Xylene	107	80-120	
Styrene	113	80-120	
1,1,2,2-Tetrachloroethane	89	80-120	
o-Xylene	107	80-120	
1,2,3-Trichloropropane	92	80-120	
1,4-Dichlorobenzene	100	80-120	
1,2-Dichlorobenzene	103	80-120	
Iodomethane	88	80-120	
Surrogate		Limits	Flag
4-Bromofluorobenzene	94	80-120	
Dibromofluoromethane	101	80-120	
Toluene-D8	106	80-120	

Analytical Method: SW-846 8260 D

Parent Sample Id: ICV-01 Seq Number: 214975
Analyzed Date: 08/05/24 14:21

Parameter	ICV %Rec	Limits	Flag
Acetone	99	70-130	
Acrylonitrile	92	70-130	
Benzene	103	70-130	
Bromochloromethane	100	70-130	
Bromodichloromethane	108	70-130	

Sample Receipt Checklist

Project Name: Dulin Landfill
PSS Project No.: 24082701

Client Name Earth Data, Inc
Disposal Date 10/01/2024

Received By Amber Confer
Date Received 08/27/2024 08:50 AM
Delivered By Trans Time Express
Tracking # Not Applicable
Logged In By Tyler Enwright

Shipping Container(s)

of Coolers 3

Custody Seal(s) Intact? N/A
Seal(s) Signed / Dated? N/A

Ice Present
Temp (°C) 5.5
Temp Blank Present No

Documentation

COC agrees with sample labels? Yes
Chain of Custody Yes

Sampler Name SW, JS
MD DW Cert. No. N/A

Sample Container

Appropriate for Specified Analysis? Yes
Intact? Yes
Labeled and Labels Legible? Yes

Custody Seal(s) Intact? Not Applicable
Seal(s) Signed / Dated Not Applicable

Holding Time

All Samples Received Within Holding Time(s)? No

Total # of Samples Received 6
Total # of Containers Received 67

Preservation

Total Metals (pH<2) Yes
Dissolved Metals, filtered within 15 minutes of collection (pH<2) N/A
Orthophosphorus, filtered within 15 minutes of collection N/A
Cyanides (pH>12) N/A
Sulfide (pH>9) N/A
TOC, DOC (field filtered), COD, Phenols (pH<2) Yes
TOX, TKN, NH3, Total Phos (pH<2) Yes
VOC, BTEX (VOA Vials Rcvd Preserved) (pH<2) Yes
Do VOA vials have zero headspace? Yes
624 VOC (Rcvd at least one unpreserved VOA vial) N/A
524 VOC (Rcvd with trip blanks) (pH<2) N/A

Comments: (Any "No" response must be detailed in the comments section below.)

For any improper preservation conditions, the sample ID, preservative added, documentation of any client notification, and subsequent client instructions are noted below. Samples for pH, chlorine and dissolved oxygen should be analyzed as soon as possible, preferably in the field at the time of sampling. Samples which require thermal preservation shall be considered acceptable when received at a temperature above freezing to 6°C, and <=4°C for EPA 524. Samples that are received by the lab on the day that they are collected may not meet these criteria but shall be considered acceptable if there is evidence that thermal preservation has begun.

The analyses of pH has a maximum holding time of 15 minutes. As such, all laboratory analyses for these analytes exceed holding times.

Samples Inspected/Checklist Completed By: Tyler Enwright
Tyler Enwright

Date: 08/27/2024

PM Review and Approval: N.J. Jackson
N.J. Jackson

Date: 08/27/2024

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ANALYTICAL REPORT

PREPARED FOR

Attn: Scott Wolf
Earth Data Inc
131 Comet Drive
Centreville, Maryland 21617

Generated 9/12/2024 10:30:34 AM

JOB DESCRIPTION

Dulin Landfill

JOB NUMBER

240-210254-1

Eurofins Cleveland

Job Notes

This report may not be reproduced except in full, and with written approval from the laboratory. The results relate only to the samples tested. For questions please contact the Project Manager at the e-mail address or telephone number listed on this page.

The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing North Central, LLC Project Manager.

Authorization



Generated
9/12/2024 10:30:34 AM

Authorized for release by
Michael DeMonico, Project Manager I
Michael.DeMonico@et.eurofinsus.com
(330)497-9396



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Definitions/Glossary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Qualifiers

GC/MS VOA

Qualifier	Qualifier Description
*+	LCS and/or LCSD is outside acceptance limits, high biased.

LCMS

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

Metals

Qualifier	Qualifier Description
J	Result is less than the RL but greater than or equal to the MDL and the concentration is an approximate value.

General Chemistry

Qualifier	Qualifier Description
^2	Calibration Blank (ICB and/or CCB) is outside acceptance limits.
H	Sample was prepped or analyzed beyond the specified holding time. This does not meet regulatory requirements.
HF	Parameter with a holding time of 15 minutes. Test performed by laboratory at client's request. Sample was analyzed outside of hold time.

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
¤	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

Case Narrative

Client: Earth Data Inc
Project: Dulin Landfill

Job ID: 240-210254-1

Job ID: 240-210254-1

Eurofins Cleveland

Job Narrative 240-210254-1

Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.

- Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.
- Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.

Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.

Receipt

The samples were received on 8/28/2024 9:30 AM. Unless otherwise noted below, the samples arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 1.3°C.

GC/MS VOA

Method 8260D: The laboratory control sample (LCS) and / or laboratory control sample duplicate (LCSD) for analytical batch 240-625346 recovered outside control limits for the following analytes: Ethylbenzene, Vinyl acetate and Xylenes, Total. These analytes were biased high in the LCS and were not detected in the associated samples; therefore, the data have been reported.

Method 8260D: The continuing calibration verification (CCV) associated with batch 240-625346 recovered above the upper control limit for Vinyl acetate and Xylenes, Total. The samples associated with this CCV were non-detects for the affected analytes; therefore, the data have been reported. The associated samples are impacted: MW-5 (240-210254-5) and TRIP BLANK (240-210254-6).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

GC Semi VOA

Method 8011: Insufficient sample volume was available to perform a matrix spike/matrix spike duplicate (MS/MSD) associated with preparation batch 240-625290.

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

PFAS

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Metals

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

General Chemistry

Method 180.1: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: MW-5 (240-210254-5).

Method 300: The following sample(s) was received with less than 2 days remaining on the holding time or less than one shift (8 hours) remaining on a test with a holding time of 48 hours or less. As such, the laboratory had insufficient time remaining to perform the analysis within holding time: MW-5 (240-210254-5).

No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.

Eurofins Cleveland

Method Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method	Method Description	Protocol	Laboratory
8260D	Volatile Organic Compounds by GC/MS	SW846	EET CLE
8011	EDB, DBCP, and 1,2,3-TCP (GC)	SW846	EET CLE
537 IDA	EPA 537 Isotope Dilution	EPA	ELLE
6020B	Metals (ICP/MS)	SW846	EET CLE
7470A	Mercury (CVAA)	SW846	EET CLE
SM 2340B	Total Hardness (as CaCO3) by calculation	SM	EET CLE
180.1	Turbidity, Nephelometric	EPA	EET CLE
2320B-2011	Alkalinity, Total	SM	EET CLE
2510B-2011	Conductivity, Specific Conductance	SM	EET CLE
2540 C-2011	Total Dissolved Solids (Dried at 180 °C)	SM	EET CLE
300.0	Anions, Ion Chromatography	EPA	EET CLE
4500 NH3 H	Ammonia	SM	EET CLE
5220D-2011	Chemical Oxygen Demand	SM	EET CLE
9040C	pH	SW846	EET CLE
3005A	Preparation, Total Recoverable or Dissolved Metals	SW846	EET CLE
5030C	Purge and Trap	SW846	EET CLE
7470A	Preparation, Mercury	SW846	EET CLE
8011	Microextraction	SW846	EET CLE
SPE	PFAS by SPE	Lab SOP	ELLE

Protocol References:

- EPA = US Environmental Protection Agency
- Lab SOP = Laboratory Standard Operating Procedure
- SM = "Standard Methods For The Examination Of Water And Wastewater"
- SW846 = "Test Methods For Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 And Its Updates.

Laboratory References:

- EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396
- ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Sample Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Lab Sample ID	Client Sample ID	Matrix	Collected	Received
240-210254-1	MW-1	Water	08/26/24 11:20	08/28/24 09:30
240-210254-2	MW-2	Water	08/26/24 11:45	08/28/24 09:30
240-210254-3	MW-3	Water	08/26/24 10:45	08/28/24 09:30
240-210254-4	MW-4	Water	08/26/24 10:15	08/28/24 09:30
240-210254-5	MW-5	Water	08/26/24 09:30	08/28/24 09:30
240-210254-6	TRIP BLANK	Water	08/26/24 00:00	08/28/24 09:30
240-210254-7	FIELD BLANK	Water	08/26/24 09:15	08/28/24 09:30

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Detection Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-1

Lab Sample ID: 240-210254-1

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.56	J	1.7	0.50	ng/L	1		537 IDA	Total/NA

Client Sample ID: MW-2

Lab Sample ID: 240-210254-2

No Detections.

Client Sample ID: MW-3

Lab Sample ID: 240-210254-3

No Detections.

Client Sample ID: MW-4

Lab Sample ID: 240-210254-4

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.78	J	1.7	0.25	ng/L	1		537 IDA	Total/NA
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	1.7	0.17	ng/L	1		537 IDA	Total/NA

Client Sample ID: MW-5

Lab Sample ID: 240-210254-5

Analyte	Result	Qualifier	RL	MDL	Unit	Dil Fac	D	Method	Prep Type
Perfluorooctanoic acid (PFOA)	0.39	J	1.7	0.25	ng/L	1		537 IDA	Total/NA
Barium	15		5.0	0.77	ug/L	1		6020B	Total Recoverable
Calcium	5500		1000	250	ug/L	1		6020B	Total Recoverable
Cadmium	0.15	J	1.0	0.077	ug/L	1		6020B	Total Recoverable
Cobalt	1.2		1.0	0.086	ug/L	1		6020B	Total Recoverable
Chromium	2.5	J	5.0	1.2	ug/L	1		6020B	Total Recoverable
Potassium	2400		1000	220	ug/L	1		6020B	Total Recoverable
Magnesium	2800		1000	61	ug/L	1		6020B	Total Recoverable
Manganese	51		5.0	3.5	ug/L	1		6020B	Total Recoverable
Sodium	2900		1000	880	ug/L	1		6020B	Total Recoverable
Nickel	2.1		2.0	1.5	ug/L	1		6020B	Total Recoverable
Zinc	29		20	15	ug/L	1		6020B	Total Recoverable
Hardness as calcium carbonate	25		6.6	6.6	mg/L	1		SM 2340B	Total Recoverable
Turbidity	0.55	H	0.50	0.15	NTU	1		180.1	Total/NA
Alkalinity	7.3		5.0	2.6	mg/L	1		2320B-2011	Total/NA
Specific Conductance	85		1.0	0.61	umhos/cm	1		2510B-2011	Total/NA
Resistivity	12000	^2	1.0	0.61	ohm cm	1		2510B-2011	Total/NA
Total Dissolved Solids	70		10	7.8	mg/L	1		2540 C-2011	Total/NA
Chloride	6.0		1.0	0.13	mg/L	1		300.0	Total/NA
Nitrate as N	4.4	H	0.10	0.015	mg/L	1		300.0	Total/NA
Sulfate	1.4		1.0	0.35	mg/L	1		300.0	Total/NA
pH	6.1	HF	0.1	0.1	SU	1		9040C	Total/NA

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Detection Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-210254-6

No Detections.

Client Sample ID: FIELD BLANK

Lab Sample ID: 240-210254-7

No Detections.

- 1
- 2
- 3
- 4
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- 6
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- 12
- 13
- 14
- 15
- 16

This Detection Summary does not include radiochemical test results.

Eurofins Cleveland

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-1

Lab Sample ID: 240-210254-1

Date Collected: 08/26/24 11:20

Matrix: Water

Date Received: 08/28/24 09:30

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 18:02	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 18:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.41	ng/L		08/30/24 16:02	09/05/24 18:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	0.56	J	1.7	0.50	ng/L		08/30/24 16:02	09/05/24 18:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 18:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 18:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	99		52 - 153	08/30/24 16:02	09/05/24 18:02	1
13C9 PFNA	96		52 - 168	08/30/24 16:02	09/05/24 18:02	1
13C8 PFOS	101		59 - 155	08/30/24 16:02	09/05/24 18:02	1
13C3-PFBS	112		34 - 200	08/30/24 16:02	09/05/24 18:02	1
13C3-HFPO-DA	114		13 - 170	08/30/24 16:02	09/05/24 18:02	1
13C3-PFHxS	103		48 - 169	08/30/24 16:02	09/05/24 18:02	1

Client Sample Results

Client: Earth Data Inc
 Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-2

Lab Sample ID: 240-210254-2

Date Collected: 08/26/24 11:45

Matrix: Water

Date Received: 08/28/24 09:30

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.6	0.24	ng/L		08/30/24 16:02	09/05/24 18:17	1
Perfluorononanoic acid (PFNA)	ND		1.6	0.16	ng/L		08/30/24 16:02	09/05/24 18:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.6	0.41	ng/L		08/30/24 16:02	09/05/24 18:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.6	0.49	ng/L		08/30/24 16:02	09/05/24 18:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.6	0.24	ng/L		08/30/24 16:02	09/05/24 18:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.6	0.16	ng/L		08/30/24 16:02	09/05/24 18:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	103		52 - 153	08/30/24 16:02	09/05/24 18:17	1
13C9 PFNA	100		52 - 168	08/30/24 16:02	09/05/24 18:17	1
13C8 PFOS	104		59 - 155	08/30/24 16:02	09/05/24 18:17	1
13C3-PFBS	108		34 - 200	08/30/24 16:02	09/05/24 18:17	1
13C3-HFPO-DA	118		13 - 170	08/30/24 16:02	09/05/24 18:17	1
13C3-PFHxS	107		48 - 169	08/30/24 16:02	09/05/24 18:17	1

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-3

Lab Sample ID: 240-210254-3

Date Collected: 08/26/24 10:45

Matrix: Water

Date Received: 08/28/24 09:30

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 18:31	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 18:31	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		08/30/24 16:02	09/05/24 18:31	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.7	0.51	ng/L		08/30/24 16:02	09/05/24 18:31	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 18:31	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 18:31	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	105		52 - 153	08/30/24 16:02	09/05/24 18:31	1
13C9 PFNA	103		52 - 168	08/30/24 16:02	09/05/24 18:31	1
13C8 PFOS	106		59 - 155	08/30/24 16:02	09/05/24 18:31	1
13C3-PFBS	111		34 - 200	08/30/24 16:02	09/05/24 18:31	1
13C3-HFPO-DA	116		13 - 170	08/30/24 16:02	09/05/24 18:31	1
13C3-PFHxS	107		48 - 169	08/30/24 16:02	09/05/24 18:31	1

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-4

Lab Sample ID: 240-210254-4

Date Collected: 08/26/24 10:15

Matrix: Water

Date Received: 08/28/24 09:30

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	0.78	J	1.7	0.25	ng/L		08/30/24 16:02	09/05/24 18:46	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 18:46	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		08/30/24 16:02	09/05/24 18:46	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.7	0.51	ng/L		08/30/24 16:02	09/05/24 18:46	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 18:46	1
Perfluorohexanesulfonic acid (PFHxS)	0.19	J	1.7	0.17	ng/L		08/30/24 16:02	09/05/24 18:46	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	104		52 - 153	08/30/24 16:02	09/05/24 18:46	1
13C9 PFNA	104		52 - 168	08/30/24 16:02	09/05/24 18:46	1
13C8 PFOS	108		59 - 155	08/30/24 16:02	09/05/24 18:46	1
13C3-PFBS	117		34 - 200	08/30/24 16:02	09/05/24 18:46	1
13C3-HFPO-DA	118		13 - 170	08/30/24 16:02	09/05/24 18:46	1
13C3-PFHxS	107		48 - 169	08/30/24 16:02	09/05/24 18:46	1

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-5

Lab Sample ID: 240-210254-5

Date Collected: 08/26/24 09:30

Matrix: Water

Date Received: 08/28/24 09:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.43	ug/L			08/30/24 11:28	1
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			08/30/24 11:28	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			08/30/24 11:28	1
1,1,2-Trichloroethane	ND		1.0	0.48	ug/L			08/30/24 11:28	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			08/30/24 11:28	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			08/30/24 11:28	1
1,2,3-Trichloropropane	ND		1.0	0.52	ug/L			08/30/24 11:28	1
1,2-Dichlorobenzene	ND		1.0	0.48	ug/L			08/30/24 11:28	1
1,2-Dichloroethane	ND		1.0	0.46	ug/L			08/30/24 11:28	1
1,2-Dichloropropane	ND		1.0	0.47	ug/L			08/30/24 11:28	1
1,4-Dichlorobenzene	ND		1.0	0.41	ug/L			08/30/24 11:28	1
2-Butanone (MEK)	ND		10	1.2	ug/L			08/30/24 11:28	1
2-Hexanone	ND		10	1.1	ug/L			08/30/24 11:28	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.99	ug/L			08/30/24 11:28	1
Acetone	ND		10	5.4	ug/L			08/30/24 11:28	1
Acrylonitrile	ND		20	5.5	ug/L			08/30/24 11:28	1
Benzene	ND		1.0	0.42	ug/L			08/30/24 11:28	1
Bromoform	ND		1.0	0.76	ug/L			08/30/24 11:28	1
Bromomethane	ND		1.0	0.42	ug/L			08/30/24 11:28	1
Carbon disulfide	ND		1.0	0.59	ug/L			08/30/24 11:28	1
Carbon tetrachloride	ND		1.0	0.26	ug/L			08/30/24 11:28	1
Chlorobenzene	ND		1.0	0.38	ug/L			08/30/24 11:28	1
Chlorodibromomethane	ND		1.0	0.39	ug/L			08/30/24 11:28	1
Chloroethane	ND		1.0	0.83	ug/L			08/30/24 11:28	1
Chloroform	ND		1.0	0.47	ug/L			08/30/24 11:28	1
Chloromethane	ND		1.0	0.63	ug/L			08/30/24 11:28	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			08/30/24 11:28	1
cis-1,3-Dichloropropene	ND		1.0	0.61	ug/L			08/30/24 11:28	1
Dibromomethane	ND		1.0	0.40	ug/L			08/30/24 11:28	1
Chlorobromomethane	ND		1.0	0.54	ug/L			08/30/24 11:28	1
Dichlorobromomethane	ND		1.0	0.38	ug/L			08/30/24 11:28	1
Ethylbenzene	ND	+	1.0	0.42	ug/L			08/30/24 11:28	1
Iodomethane	ND		1.0	0.69	ug/L			08/30/24 11:28	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			08/30/24 11:28	1
Methylene Chloride	ND		5.0	2.6	ug/L			08/30/24 11:28	1
Styrene	ND		1.0	0.45	ug/L			08/30/24 11:28	1
Tetrachloroethene	ND		1.0	0.44	ug/L			08/30/24 11:28	1
Toluene	ND		1.0	0.44	ug/L			08/30/24 11:28	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			08/30/24 11:28	1
trans-1,3-Dichloropropene	ND		1.0	0.67	ug/L			08/30/24 11:28	1
trans-1,4-Dichloro-2-butene	ND		2.5	1.3	ug/L			08/30/24 11:28	1
Trichloroethene	ND		1.0	0.44	ug/L			08/30/24 11:28	1
Trichlorofluoromethane	ND		1.0	0.45	ug/L			08/30/24 11:28	1
Vinyl acetate	ND	+	2.0	0.61	ug/L			08/30/24 11:28	1
Vinyl chloride	ND		1.0	0.45	ug/L			08/30/24 11:28	1
Xylenes, Total	ND	+	2.0	0.42	ug/L			08/30/24 11:28	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	101		78 - 122		08/30/24 11:28	1
Dibromofluoromethane (Surr)	101		73 - 120		08/30/24 11:28	1

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Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-5

Lab Sample ID: 240-210254-5

Date Collected: 08/26/24 09:30

Matrix: Water

Date Received: 08/28/24 09:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	85		56 - 136		08/30/24 11:28	1
1,2-Dichloroethane-d4 (Surr)	111		62 - 137		08/30/24 11:28	1

Method: SW846 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.019	0.0058	ug/L		08/29/24 12:41	08/29/24 20:11	1
1,2-Dibromo-3-Chloropropane	ND		0.019	0.0077	ug/L		08/29/24 12:41	08/29/24 20:11	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	84		60 - 140	08/29/24 12:41	08/29/24 20:11	1

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	0.39	J	1.7	0.25	ng/L		08/30/24 16:02	09/05/24 19:02	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 19:02	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.42	ng/L		08/30/24 16:02	09/05/24 19:02	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.7	0.50	ng/L		08/30/24 16:02	09/05/24 19:02	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 19:02	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 19:02	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	105		52 - 153	08/30/24 16:02	09/05/24 19:02	1
13C9 PFNA	98		52 - 168	08/30/24 16:02	09/05/24 19:02	1
13C8 PFOS	101		59 - 155	08/30/24 16:02	09/05/24 19:02	1
13C3-PFBS	110		34 - 200	08/30/24 16:02	09/05/24 19:02	1
13C3-HFPO-DA	116		13 - 170	08/30/24 16:02	09/05/24 19:02	1
13C3-PFHxS	105		48 - 169	08/30/24 16:02	09/05/24 19:02	1

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.053	ug/L		08/29/24 14:00	08/30/24 14:15	1
Arsenic	ND		5.0	0.75	ug/L		08/29/24 14:00	08/30/24 14:15	1
Barium	15		5.0	0.77	ug/L		08/29/24 14:00	08/30/24 14:15	1
Beryllium	ND		1.0	0.27	ug/L		08/29/24 14:00	08/30/24 14:15	1
Calcium	5500		1000	250	ug/L		08/29/24 14:00	08/30/24 14:15	1
Cadmium	0.15	J	1.0	0.077	ug/L		08/29/24 14:00	08/30/24 14:15	1
Cobalt	1.2		1.0	0.086	ug/L		08/29/24 14:00	08/30/24 14:15	1
Chromium	2.5	J	5.0	1.2	ug/L		08/29/24 14:00	08/30/24 14:15	1
Copper	ND		2.0	1.7	ug/L		08/29/24 14:00	08/30/24 14:15	1
Iron	ND		100	47	ug/L		08/29/24 14:00	08/30/24 14:15	1
Potassium	2400		1000	220	ug/L		08/29/24 14:00	08/30/24 14:15	1
Magnesium	2800		1000	61	ug/L		08/29/24 14:00	08/30/24 14:15	1
Manganese	51		5.0	3.5	ug/L		08/29/24 14:00	08/30/24 14:15	1
Sodium	2900		1000	880	ug/L		08/29/24 14:00	08/30/24 14:15	1
Nickel	2.1		2.0	1.5	ug/L		08/29/24 14:00	08/30/24 14:15	1
Lead	ND		1.0	0.45	ug/L		08/29/24 14:00	08/30/24 14:15	1
Antimony	ND		2.0	0.57	ug/L		08/29/24 14:00	08/30/24 14:15	1
Selenium	ND		5.0	0.89	ug/L		08/29/24 14:00	08/30/24 14:15	1
Vanadium	ND		5.0	0.82	ug/L		08/29/24 14:00	08/30/24 14:15	1
Zinc	29		20	15	ug/L		08/29/24 14:00	08/30/24 14:15	1

Eurofins Cleveland

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-5

Lab Sample ID: 240-210254-5

Date Collected: 08/26/24 09:30

Matrix: Water

Date Received: 08/28/24 09:30

Method: SW846 6020B - Metals (ICP/MS) - Total Recoverable (Continued)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Thallium	ND		1.0	0.51	ug/L		08/29/24 14:00	08/30/24 14:15	1

Method: SW846 7470A - Mercury (CVAA)

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Mercury	ND		0.20	0.13	ug/L		08/29/24 14:00	08/30/24 11:20	1

Method: SM 2340B - Total Hardness (as CaCO3) by calculation - Total Recoverable

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Hardness as calcium carbonate	25		6.6	6.6	mg/L			09/04/24 07:18	1

General Chemistry

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Turbidity (EPA 180.1)	0.55	H	0.50	0.15	NTU			08/28/24 14:04	1
Alkalinity (SM 2320B-2011)	7.3		5.0	2.6	mg/L			09/06/24 03:03	1
Specific Conductance (SM 2510B-2011)	85		1.0	0.61	umhos/cm			09/03/24 16:07	1
Resistivity (SM 2510B-2011)	12000	^2	1.0	0.61	ohm cm			09/03/24 16:07	1
Total Dissolved Solids (SM 2540 C-2011)	70		10	7.8	mg/L			08/29/24 10:04	1
Chloride (EPA 300.0)	6.0		1.0	0.13	mg/L			08/30/24 00:53	1
Nitrate as N (EPA 300.0)	4.4	H	0.10	0.015	mg/L			08/30/24 00:53	1
Sulfate (EPA 300.0)	1.4		1.0	0.35	mg/L			08/30/24 00:53	1
Ammonia (SM 4500 NH3 H)	ND		0.20	0.076	mg/L			09/09/24 14:06	1
Chemical Oxygen Demand (SM 5220D-2011)	ND		10	1.8	mg/L			09/04/24 09:21	1
pH (SW846 9040C)	6.1	HF	0.1	0.1	SU			09/09/24 16:48	1

Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-210254-6

Date Collected: 08/26/24 00:00

Matrix: Water

Date Received: 08/28/24 09:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	ND		1.0	0.43	ug/L			08/30/24 11:03	1
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			08/30/24 11:03	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			08/30/24 11:03	1
1,1,2-Trichloroethane	ND		1.0	0.48	ug/L			08/30/24 11:03	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			08/30/24 11:03	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			08/30/24 11:03	1
1,2,3-Trichloropropane	ND		1.0	0.52	ug/L			08/30/24 11:03	1
1,2-Dichlorobenzene	ND		1.0	0.48	ug/L			08/30/24 11:03	1
1,2-Dichloroethane	ND		1.0	0.46	ug/L			08/30/24 11:03	1
1,2-Dichloropropane	ND		1.0	0.47	ug/L			08/30/24 11:03	1
1,4-Dichlorobenzene	ND		1.0	0.41	ug/L			08/30/24 11:03	1
2-Butanone (MEK)	ND		10	1.2	ug/L			08/30/24 11:03	1
2-Hexanone	ND		10	1.1	ug/L			08/30/24 11:03	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.99	ug/L			08/30/24 11:03	1
Acetone	ND		10	5.4	ug/L			08/30/24 11:03	1
Acrylonitrile	ND		20	5.5	ug/L			08/30/24 11:03	1
Benzene	ND		1.0	0.42	ug/L			08/30/24 11:03	1
Bromoform	ND		1.0	0.76	ug/L			08/30/24 11:03	1
Bromomethane	ND		1.0	0.42	ug/L			08/30/24 11:03	1
Carbon disulfide	ND		1.0	0.59	ug/L			08/30/24 11:03	1
Carbon tetrachloride	ND		1.0	0.26	ug/L			08/30/24 11:03	1
Chlorobenzene	ND		1.0	0.38	ug/L			08/30/24 11:03	1
Chlorodibromomethane	ND		1.0	0.39	ug/L			08/30/24 11:03	1
Chloroethane	ND		1.0	0.83	ug/L			08/30/24 11:03	1
Chloroform	ND		1.0	0.47	ug/L			08/30/24 11:03	1
Chloromethane	ND		1.0	0.63	ug/L			08/30/24 11:03	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			08/30/24 11:03	1
cis-1,3-Dichloropropene	ND		1.0	0.61	ug/L			08/30/24 11:03	1
Dibromomethane	ND		1.0	0.40	ug/L			08/30/24 11:03	1
Chlorobromomethane	ND		1.0	0.54	ug/L			08/30/24 11:03	1
Dichlorobromomethane	ND		1.0	0.38	ug/L			08/30/24 11:03	1
Ethylbenzene	ND	*+	1.0	0.42	ug/L			08/30/24 11:03	1
Iodomethane	ND		1.0	0.69	ug/L			08/30/24 11:03	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			08/30/24 11:03	1
Methylene Chloride	ND		5.0	2.6	ug/L			08/30/24 11:03	1
Styrene	ND		1.0	0.45	ug/L			08/30/24 11:03	1
Tetrachloroethene	ND		1.0	0.44	ug/L			08/30/24 11:03	1
Toluene	ND		1.0	0.44	ug/L			08/30/24 11:03	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			08/30/24 11:03	1
trans-1,3-Dichloropropene	ND		1.0	0.67	ug/L			08/30/24 11:03	1
trans-1,4-Dichloro-2-butene	ND		2.5	1.3	ug/L			08/30/24 11:03	1
Trichloroethene	ND		1.0	0.44	ug/L			08/30/24 11:03	1
Trichlorofluoromethane	ND		1.0	0.45	ug/L			08/30/24 11:03	1
Vinyl acetate	ND	*+	2.0	0.61	ug/L			08/30/24 11:03	1
Vinyl chloride	ND		1.0	0.45	ug/L			08/30/24 11:03	1
Xylenes, Total	ND	*+	2.0	0.42	ug/L			08/30/24 11:03	1

Surrogate	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
Toluene-d8 (Surr)	104		78 - 122		08/30/24 11:03	1
Dibromofluoromethane (Surr)	105		73 - 120		08/30/24 11:03	1

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Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-210254-6

Date Collected: 08/26/24 00:00

Matrix: Water

Date Received: 08/28/24 09:30

Method: SW846 8260D - Volatile Organic Compounds by GC/MS (Continued)

<i>Surrogate</i>	<i>%Recovery</i>	<i>Qualifier</i>	<i>Limits</i>	<i>Prepared</i>	<i>Analyzed</i>	<i>Dil Fac</i>
4-Bromofluorobenzene (Surr)	91		56 - 136		08/30/24 11:03	1
1,2-Dichloroethane-d4 (Surr)	114		62 - 137		08/30/24 11:03	1

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Client Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: FIELD BLANK

Lab Sample ID: 240-210254-7

Date Collected: 08/26/24 09:15

Matrix: Water

Date Received: 08/28/24 09:30

Method: EPA 537 IDA - EPA 537 Isotope Dilution

Analyte	Result	Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Perfluorooctanoic acid (PFOA)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 19:17	1
Perfluorononanoic acid (PFNA)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 19:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		1.7	0.41	ng/L		08/30/24 16:02	09/05/24 19:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		1.7	0.50	ng/L		08/30/24 16:02	09/05/24 19:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		1.7	0.25	ng/L		08/30/24 16:02	09/05/24 19:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		1.7	0.17	ng/L		08/30/24 16:02	09/05/24 19:17	1

Isotope Dilution	%Recovery	Qualifier	Limits	Prepared	Analyzed	Dil Fac
13C8 PFOA	107		52 - 153	08/30/24 16:02	09/05/24 19:17	1
13C9 PFNA	105		52 - 168	08/30/24 16:02	09/05/24 19:17	1
13C8 PFOS	108		59 - 155	08/30/24 16:02	09/05/24 19:17	1
13C3-PFBS	103		34 - 200	08/30/24 16:02	09/05/24 19:17	1
13C3-HFPO-DA	124		13 - 170	08/30/24 16:02	09/05/24 19:17	1
13C3-PFHxS	106		48 - 169	08/30/24 16:02	09/05/24 19:17	1

Surrogate Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL (78-122)	DBFM (73-120)	BFB (56-136)	DCA (62-137)
240-210254-5	MW-5	101	101	85	111
240-210254-6	TRIP BLANK	104	105	91	114
LCS 240-625346/4	Lab Control Sample	106	106	104	100
MB 240-625346/6	Method Blank	100	103	88	112

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Method: 8260D - Volatile Organic Compounds by GC/MS

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TOL (10-150)	DBFM (10-150)	BFB (10-150)	DCA (10-150)
MRL 240-625346/15	Lab Control Sample	104	103	100	112

Surrogate Legend

TOL = Toluene-d8 (Surr)

DBFM = Dibromofluoromethane (Surr)

BFB = 4-Bromofluorobenzene (Surr)

DCA = 1,2-Dichloroethane-d4 (Surr)

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Matrix: Water

Prep Type: Total/NA

Percent Surrogate Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	TCEA1 (60-140)
240-210254-5	MW-5	84
LCS 240-625290/2-A	Lab Control Sample	92
MB 240-625290/1-A	Method Blank	91

Surrogate Legend

TCEA = 1,1,1,2-Tetrachloroethane

QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 8260D - Volatile Organic Compounds by GC/MS

Lab Sample ID: MB 240-625346/6

Matrix: Water

Analysis Batch: 625346

Client Sample ID: Method Blank

Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
1,1,1,2-Tetrachloroethane	ND		1.0	0.43	ug/L			08/30/24 10:38	1
1,1,1-Trichloroethane	ND		1.0	0.48	ug/L			08/30/24 10:38	1
1,1,2,2-Tetrachloroethane	ND		1.0	0.60	ug/L			08/30/24 10:38	1
1,1,2-Trichloroethane	ND		1.0	0.48	ug/L			08/30/24 10:38	1
1,1-Dichloroethane	ND		1.0	0.47	ug/L			08/30/24 10:38	1
1,1-Dichloroethene	ND		1.0	0.49	ug/L			08/30/24 10:38	1
1,2,3-Trichloropropane	ND		1.0	0.52	ug/L			08/30/24 10:38	1
1,2-Dichlorobenzene	ND		1.0	0.48	ug/L			08/30/24 10:38	1
1,2-Dichloroethane	ND		1.0	0.46	ug/L			08/30/24 10:38	1
1,2-Dichloropropane	ND		1.0	0.47	ug/L			08/30/24 10:38	1
1,4-Dichlorobenzene	ND		1.0	0.41	ug/L			08/30/24 10:38	1
2-Butanone (MEK)	ND		10	1.2	ug/L			08/30/24 10:38	1
2-Hexanone	ND		10	1.1	ug/L			08/30/24 10:38	1
4-Methyl-2-pentanone (MIBK)	ND		10	0.99	ug/L			08/30/24 10:38	1
Acetone	ND		10	5.4	ug/L			08/30/24 10:38	1
Acrylonitrile	ND		20	5.5	ug/L			08/30/24 10:38	1
Benzene	ND		1.0	0.42	ug/L			08/30/24 10:38	1
Bromoform	ND		1.0	0.76	ug/L			08/30/24 10:38	1
Bromomethane	ND		1.0	0.42	ug/L			08/30/24 10:38	1
Carbon disulfide	ND		1.0	0.59	ug/L			08/30/24 10:38	1
Carbon tetrachloride	ND		1.0	0.26	ug/L			08/30/24 10:38	1
Chlorobenzene	ND		1.0	0.38	ug/L			08/30/24 10:38	1
Chlorodibromomethane	ND		1.0	0.39	ug/L			08/30/24 10:38	1
Chloroethane	ND		1.0	0.83	ug/L			08/30/24 10:38	1
Chloroform	ND		1.0	0.47	ug/L			08/30/24 10:38	1
Chloromethane	ND		1.0	0.63	ug/L			08/30/24 10:38	1
cis-1,2-Dichloroethene	ND		1.0	0.46	ug/L			08/30/24 10:38	1
cis-1,3-Dichloropropene	ND		1.0	0.61	ug/L			08/30/24 10:38	1
Dibromomethane	ND		1.0	0.40	ug/L			08/30/24 10:38	1
Chlorobromomethane	ND		1.0	0.54	ug/L			08/30/24 10:38	1
Dichlorobromomethane	ND		1.0	0.38	ug/L			08/30/24 10:38	1
Ethylbenzene	ND		1.0	0.42	ug/L			08/30/24 10:38	1
Iodomethane	ND		1.0	0.69	ug/L			08/30/24 10:38	1
Methyl tert-butyl ether	ND		1.0	0.47	ug/L			08/30/24 10:38	1
Methylene Chloride	ND		5.0	2.6	ug/L			08/30/24 10:38	1
Styrene	ND		1.0	0.45	ug/L			08/30/24 10:38	1
Tetrachloroethene	ND		1.0	0.44	ug/L			08/30/24 10:38	1
Toluene	ND		1.0	0.44	ug/L			08/30/24 10:38	1
trans-1,2-Dichloroethene	ND		1.0	0.51	ug/L			08/30/24 10:38	1
trans-1,3-Dichloropropene	ND		1.0	0.67	ug/L			08/30/24 10:38	1
trans-1,4-Dichloro-2-butene	ND		2.5	1.3	ug/L			08/30/24 10:38	1
Trichloroethene	ND		1.0	0.44	ug/L			08/30/24 10:38	1
Trichlorofluoromethane	ND		1.0	0.45	ug/L			08/30/24 10:38	1
Vinyl acetate	ND		2.0	0.61	ug/L			08/30/24 10:38	1
Vinyl chloride	ND		1.0	0.45	ug/L			08/30/24 10:38	1
Xylenes, Total	ND		2.0	0.42	ug/L			08/30/24 10:38	1

Eurofins Cleveland

QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: MB 240-625346/6

Matrix: Water

Analysis Batch: 625346

Client Sample ID: Method Blank

Prep Type: Total/NA

Surrogate	MB MB		Limits	Prepared	Analyzed	Dil Fac
	%Recovery	Qualifier				
Toluene-d8 (Surr)	100		78 - 122		08/30/24 10:38	1
Dibromofluoromethane (Surr)	103		73 - 120		08/30/24 10:38	1
4-Bromofluorobenzene (Surr)	88		56 - 136		08/30/24 10:38	1
1,2-Dichloroethane-d4 (Surr)	112		62 - 137		08/30/24 10:38	1

Lab Sample ID: LCS 240-625346/4

Matrix: Water

Analysis Batch: 625346

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
1,1,1,1-Trichloroethane	25.0	26.7		ug/L		107	64 - 131
1,1,1,2,2-Tetrachloroethane	25.0	26.1		ug/L		104	58 - 157
1,1,2-Trichloroethane	25.0	26.4		ug/L		106	70 - 138
1,1-Dichloroethane	25.0	26.2		ug/L		105	72 - 127
1,1-Dichloroethane	25.0	25.7		ug/L		103	63 - 134
1,2,3-Trichloropropane	25.0	24.3		ug/L		97	57 - 150
1,2-Dichlorobenzene	25.0	28.5		ug/L		114	78 - 120
1,2-Dichloroethane	25.0	25.2		ug/L		101	66 - 128
1,2-Dichloropropane	25.0	25.5		ug/L		102	75 - 133
1,4-Dichlorobenzene	25.0	25.5		ug/L		102	80 - 120
2-Butanone (MEK)	50.0	49.7		ug/L		99	54 - 156
2-Hexanone	50.0	46.9		ug/L		94	43 - 167
4-Methyl-2-pentanone (MIBK)	50.0	43.5		ug/L		87	46 - 158
Acetone	50.0	48.5		ug/L		97	50 - 149
Acrylonitrile	25.0	25.7		ug/L		103	51 - 161
Benzene	25.0	25.8		ug/L		103	77 - 123
Bromoform	25.0	31.1		ug/L		124	57 - 129
Bromomethane	12.5	11.6		ug/L		93	36 - 142
Carbon disulfide	25.0	26.0		ug/L		104	43 - 140
Carbon tetrachloride	25.0	28.1		ug/L		113	55 - 137
Chlorobenzene	25.0	26.5		ug/L		106	80 - 121
Chlorodibromomethane	25.0	28.8		ug/L		115	70 - 124
Chloroethane	12.5	11.9		ug/L		95	38 - 152
Chloroform	25.0	25.3		ug/L		101	74 - 122
Chloromethane	12.5	10.3		ug/L		82	47 - 143
cis-1,2-Dichloroethene	25.0	26.5		ug/L		106	77 - 123
cis-1,3-Dichloropropene	25.0	21.7		ug/L		87	64 - 130
Dibromomethane	25.0	26.1		ug/L		104	67 - 131
Chlorobromomethane	25.0	26.5		ug/L		106	71 - 121
Dichlorobromomethane	25.0	25.8		ug/L		103	69 - 126
Ethylbenzene	25.0	30.4	*+	ug/L		122	80 - 121
Iodomethane	25.0	27.6		ug/L		111	39 - 136
Methyl tert-butyl ether	25.0	22.2		ug/L		89	65 - 126
Methylene Chloride	25.0	27.0		ug/L		108	71 - 125
Styrene	25.0	27.1		ug/L		109	80 - 135
Tetrachloroethene	25.0	29.5		ug/L		118	76 - 123
Toluene	25.0	26.6		ug/L		107	80 - 123

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 8260D - Volatile Organic Compounds by GC/MS (Continued)

Lab Sample ID: LCS 240-625346/4

Matrix: Water

Analysis Batch: 625346

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
trans-1,2-Dichloroethene	25.0	26.9		ug/L		107	75 - 124
trans-1,3-Dichloropropene	25.0	31.1		ug/L		124	57 - 129
trans-1,4-Dichloro-2-butene	25.0	26.1		ug/L		104	14 - 173
Trichloroethene	25.0	26.8		ug/L		107	70 - 122
Trichlorofluoromethane	12.5	12.8		ug/L		102	30 - 170
Vinyl acetate	25.0	52.0	*+	ug/L		208	44 - 145
Vinyl chloride	12.5	12.6		ug/L		101	60 - 144
Xylenes, Total	50.0	63.5	*+	ug/L		127	80 - 121

Surrogate	LCS %Recovery	LCS Qualifier	Limits
Toluene-d8 (Surr)	106		78 - 122
Dibromofluoromethane (Surr)	106		73 - 120
4-Bromofluorobenzene (Surr)	104		56 - 136
1,2-Dichloroethane-d4 (Surr)	100		62 - 137

Lab Sample ID: MRL 240-625346/15

Matrix: Water

Analysis Batch: 625346

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Surrogate	MRL %Recovery	MRL Qualifier	Limits
Toluene-d8 (Surr)	104		10 - 150
Dibromofluoromethane (Surr)	103		10 - 150
4-Bromofluorobenzene (Surr)	100		10 - 150
1,2-Dichloroethane-d4 (Surr)	112		10 - 150

Method: 8011 - EDB, DBCP, and 1,2,3-TCP (GC)

Lab Sample ID: MB 240-625290/1-A

Matrix: Water

Analysis Batch: 625312

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 625290

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ethylene Dibromide	ND		0.020	0.0060	ug/L		08/29/24 12:41	08/29/24 16:25	1
1,2-Dibromo-3-Chloropropane	ND		0.020	0.0080	ug/L		08/29/24 12:41	08/29/24 16:25	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
1,1,1,2-Tetrachloroethane	91		60 - 140	08/29/24 12:41	08/29/24 16:25	1

Lab Sample ID: LCS 240-625290/2-A

Matrix: Water

Analysis Batch: 625312

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 625290

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ethylene Dibromide	0.100	0.100		ug/L		100	60 - 140
1,2-Dibromo-3-Chloropropane	0.100	0.0872		ug/L		87	60 - 140

Surrogate	LCS %Recovery	LCS Qualifier	Limits
1,1,1,2-Tetrachloroethane	92		60 - 140

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 537 IDA - EPA 537 Isotope Dilution

Lab Sample ID: MB 410-546589/1-A
Matrix: Water
Analysis Batch: 548069

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 546589

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Perfluorooctanoic acid (PFOA)	ND		2.0	0.30	ng/L		08/30/24 16:02	09/05/24 17:17	1
Perfluorononanoic acid (PFNA)	ND		2.0	0.20	ng/L		08/30/24 16:02	09/05/24 17:17	1
Perfluorooctanesulfonic acid (PFOS)	ND		2.0	0.50	ng/L		08/30/24 16:02	09/05/24 17:17	1
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	ND		2.0	0.60	ng/L		08/30/24 16:02	09/05/24 17:17	1
Perfluorobutanesulfonic acid (PFBS)	ND		2.0	0.30	ng/L		08/30/24 16:02	09/05/24 17:17	1
Perfluorohexanesulfonic acid (PFHxS)	ND		2.0	0.20	ng/L		08/30/24 16:02	09/05/24 17:17	1
MB MB									
Isotope Dilution	%Recovery	Qualifier	Limits				Prepared	Analyzed	Dil Fac
13C8 PFOA	101		52 - 153				08/30/24 16:02	09/05/24 17:17	1
13C9 PFNA	102		52 - 168				08/30/24 16:02	09/05/24 17:17	1
13C8 PFOS	103		59 - 155				08/30/24 16:02	09/05/24 17:17	1
13C3-PFBS	111		34 - 200				08/30/24 16:02	09/05/24 17:17	1
13C3-HFPO-DA	114		13 - 170				08/30/24 16:02	09/05/24 17:17	1
13C3-PFHxS	108		48 - 169				08/30/24 16:02	09/05/24 17:17	1

Lab Sample ID: LCS 410-546589/2-A
Matrix: Water
Analysis Batch: 548069

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 546589

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits	
Perfluorooctanoic acid (PFOA)	25.6	21.0		ng/L		82	58 - 132	
Perfluorononanoic acid (PFNA)	25.6	19.9		ng/L		78	63 - 133	
Perfluorooctanesulfonic acid (PFOS)	23.7	17.5		ng/L		74	62 - 130	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	25.6	17.6		ng/L		69	53 - 131	
Perfluorobutanesulfonic acid (PFBS)	22.7	17.1		ng/L		75	64 - 132	
Perfluorohexanesulfonic acid (PFHxS)	23.3	18.2		ng/L		78	62 - 130	
LCS LCS								
Isotope Dilution	%Recovery	Qualifier	Limits					
13C8 PFOA	100		52 - 153					
13C9 PFNA	97		52 - 168					
13C8 PFOS	103		59 - 155					
13C3-PFBS	106		34 - 200					
13C3-HFPO-DA	109		13 - 170					
13C3-PFHxS	104		48 - 169					

Lab Sample ID: LCSD 410-546589/3-A
Matrix: Water
Analysis Batch: 548069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits		RPD	Limit
Perfluorooctanoic acid (PFOA)	25.6	19.6		ng/L		77	58 - 132	7	30	
Perfluorononanoic acid (PFNA)	25.6	20.2		ng/L		79	63 - 133	2	30	
Perfluorooctanesulfonic acid (PFOS)	23.7	17.5		ng/L		74	62 - 130	0	30	
Hexafluoropropylene Oxide Dimer Acid (HFPO-DA)	25.6	17.8		ng/L		70	53 - 131	1	30	

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 537 IDA - EPA 537 Isotope Dilution (Continued)

Lab Sample ID: LCSD 410-546589/3-A
Matrix: Water
Analysis Batch: 548069

Client Sample ID: Lab Control Sample Dup
Prep Type: Total/NA
Prep Batch: 546589

Analyte	Spike Added	LCSD Result	LCSD Qualifier	Unit	D	%Rec	%Rec Limits	RPD	RPD Limit
Perfluorobutanesulfonic acid (PFBS)	22.7	17.8		ng/L		79	64 - 132	4	30
Perfluorohexanesulfonic acid (PFHxS)	23.3	18.3		ng/L		78	62 - 130	1	30

Isotope Dilution	LCSD %Recovery	LCSD Qualifier	LCSD Limits
13C8 PFOA	103		52 - 153
13C9 PFNA	96		52 - 168
13C8 PFOS	102		59 - 155
13C3-PFBS	106		34 - 200
13C3-HFPO-DA	112		13 - 170
13C3-PFHxS	104		48 - 169

Method: 6020B - Metals (ICP/MS)

Lab Sample ID: MB 240-625212/1-A
Matrix: Water
Analysis Batch: 625522

Client Sample ID: Method Blank
Prep Type: Total Recoverable
Prep Batch: 625212

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Silver	ND		1.0	0.053	ug/L		08/29/24 14:00	08/30/24 12:36	1
Arsenic	ND		5.0	0.75	ug/L		08/29/24 14:00	08/30/24 12:36	1
Barium	ND		5.0	0.77	ug/L		08/29/24 14:00	08/30/24 12:36	1
Beryllium	ND		1.0	0.27	ug/L		08/29/24 14:00	08/30/24 12:36	1
Calcium	ND		1000	250	ug/L		08/29/24 14:00	08/30/24 12:36	1
Cadmium	ND		1.0	0.077	ug/L		08/29/24 14:00	08/30/24 12:36	1
Cobalt	ND		1.0	0.086	ug/L		08/29/24 14:00	08/30/24 12:36	1
Chromium	ND		5.0	1.2	ug/L		08/29/24 14:00	08/30/24 12:36	1
Copper	ND		2.0	1.7	ug/L		08/29/24 14:00	08/30/24 12:36	1
Iron	ND		100	47	ug/L		08/29/24 14:00	08/30/24 12:36	1
Potassium	ND		1000	220	ug/L		08/29/24 14:00	08/30/24 12:36	1
Magnesium	ND		1000	61	ug/L		08/29/24 14:00	08/30/24 12:36	1
Manganese	ND		5.0	3.5	ug/L		08/29/24 14:00	08/30/24 12:36	1
Sodium	ND		1000	880	ug/L		08/29/24 14:00	08/30/24 12:36	1
Nickel	ND		2.0	1.5	ug/L		08/29/24 14:00	08/30/24 12:36	1
Lead	ND		1.0	0.45	ug/L		08/29/24 14:00	08/30/24 12:36	1
Antimony	ND		2.0	0.57	ug/L		08/29/24 14:00	08/30/24 12:36	1
Selenium	ND		5.0	0.89	ug/L		08/29/24 14:00	08/30/24 12:36	1
Vanadium	ND		5.0	0.82	ug/L		08/29/24 14:00	08/30/24 12:36	1
Zinc	ND		20	15	ug/L		08/29/24 14:00	08/30/24 12:36	1
Thallium	ND		1.0	0.51	ug/L		08/29/24 14:00	08/30/24 12:36	1

Lab Sample ID: LCS 240-625212/2-A
Matrix: Water
Analysis Batch: 625522

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 625212

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Silver	100	96.2		ug/L		96	80 - 120
Arsenic	1000	957		ug/L		96	80 - 120
Barium	1000	913		ug/L		91	80 - 120

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 6020B - Metals (ICP/MS) (Continued)

Lab Sample ID: LCS 240-625212/2-A
Matrix: Water
Analysis Batch: 625522

Client Sample ID: Lab Control Sample
Prep Type: Total Recoverable
Prep Batch: 625212

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Beryllium	500	461		ug/L		92	80 - 120
Calcium	25000	24100		ug/L		97	80 - 120
Cadmium	500	467		ug/L		93	80 - 120
Cobalt	500	510		ug/L		102	80 - 120
Chromium	500	490		ug/L		98	80 - 120
Copper	500	478		ug/L		96	80 - 120
Iron	5000	4780		ug/L		96	80 - 120
Potassium	25000	24100		ug/L		96	80 - 120
Magnesium	25000	23600		ug/L		94	80 - 120
Manganese	500	445		ug/L		89	80 - 120
Sodium	25000	24100		ug/L		97	80 - 120
Nickel	500	479		ug/L		96	80 - 120
Lead	500	530		ug/L		106	80 - 120
Antimony	100	94.9		ug/L		95	80 - 120
Selenium	1000	911		ug/L		91	80 - 120
Vanadium	500	478		ug/L		96	80 - 120
Zinc	500	472		ug/L		94	80 - 120
Thallium	1000	1040		ug/L		104	80 - 120

Method: 7470A - Mercury (CVAA)

Lab Sample ID: MB 240-625224/1-A
Matrix: Water
Analysis Batch: 625447

Client Sample ID: Method Blank
Prep Type: Total/NA
Prep Batch: 625224

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Mercury	ND		0.20	0.13	ug/L		08/29/24 14:00	08/30/24 11:03	1

Lab Sample ID: LCS 240-625224/2-A
Matrix: Water
Analysis Batch: 625447

Client Sample ID: Lab Control Sample
Prep Type: Total/NA
Prep Batch: 625224

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Mercury	5.00	5.01		ug/L		100	80 - 120

Method: 180.1 - Turbidity, Nephelometric

Lab Sample ID: MB 240-625137/3
Matrix: Water
Analysis Batch: 625137

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Turbidity	ND		0.50	0.15	NTU			08/28/24 14:04	1

Lab Sample ID: LCS 240-625137/4
Matrix: Water
Analysis Batch: 625137

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike	LCS	LCS	Unit	D	%Rec	%Rec
	Added	Result	Qualifier				
Turbidity	3.72	4.0		NTU		107	90 - 110

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 180.1 - Turbidity, Nephelometric (Continued)

Lab Sample ID: 240-210254-5 DU
Matrix: Water
Analysis Batch: 625137

Client Sample ID: MW-5
Prep Type: Total/NA

Analyte	Sample	Sample	DU	DU	Unit	D	RPD	Limit
	Result	Qualifier	Result	Qualifier				
Turbidity	0.55	H	0.50		NTU		13	20

Method: 2320B-2011 - Alkalinity, Total

Lab Sample ID: MB 240-626212/56
Matrix: Water
Analysis Batch: 626212

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	ND		5.0	2.6	mg/L			09/05/24 23:51	1

Lab Sample ID: MB 240-626212/83
Matrix: Water
Analysis Batch: 626212

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Alkalinity	ND		5.0	2.6	mg/L			09/06/24 02:05	1

Lab Sample ID: LCS 240-626212/82
Matrix: Water
Analysis Batch: 626212

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Alkalinity	280	279		mg/L		100	86 - 123

Method: 2510B-2011 - Conductivity, Specific Conductance

Lab Sample ID: MB 240-625644/27
Matrix: Water
Analysis Batch: 625644

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Specific Conductance	ND		1.0	0.61	umhos/cm			09/03/24 16:00	1
Resistivity	3450000		1.0	0.61	ohm cm			09/03/24 16:00	1

Lab Sample ID: MB 240-625644/3
Matrix: Water
Analysis Batch: 625644

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB	MB	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
	Result	Qualifier							
Specific Conductance	ND		1.0	0.61	umhos/cm			09/03/24 15:35	1
Resistivity	4170000		1.0	0.61	ohm cm			09/03/24 15:35	1

Lab Sample ID: LCS 240-625644/28
Matrix: Water
Analysis Batch: 625644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS	LCS	Unit	D	%Rec	%Rec Limits
		Result	Qualifier				
Specific Conductance	1410	1400		umhos/cm		99	87 - 116

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 2510B-2011 - Conductivity, Specific Conductance (Continued)

Lab Sample ID: LCS 240-625644/4
Matrix: Water
Analysis Batch: 625644

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Specific Conductance	1410	1410		umhos/cm		100	87 - 116

Method: 2540 C-2011 - Total Dissolved Solids (Dried at 180 °C)

Lab Sample ID: MB 240-625240/1
Matrix: Water
Analysis Batch: 625240

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Total Dissolved Solids	ND		10	7.8	mg/L			08/29/24 10:04	1

Lab Sample ID: LCS 240-625240/2
Matrix: Water
Analysis Batch: 625240

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Total Dissolved Solids	495	500		mg/L		101	80 - 120

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 240-625157/3
Matrix: Water
Analysis Batch: 625157

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		1.0	0.13	mg/L			08/29/24 08:01	1
Sulfate	ND		1.0	0.35	mg/L			08/29/24 08:01	1

Lab Sample ID: LCS 240-625157/4
Matrix: Water
Analysis Batch: 625157

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	50.0	51.7		mg/L		103	90 - 110
Sulfate	50.0	51.7		mg/L		103	90 - 110

Lab Sample ID: MB 240-625158/3
Matrix: Water
Analysis Batch: 625158

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Nitrate as N	ND		0.10	0.015	mg/L			08/29/24 08:01	1

Lab Sample ID: LCS 240-625158/4
Matrix: Water
Analysis Batch: 625158

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Nitrate as N	2.50	2.50		mg/L		100	90 - 110

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QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 4500 NH3 H - Ammonia

Lab Sample ID: MB 240-626373/14
Matrix: Water
Analysis Batch: 626373

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Ammonia	ND		0.20	0.076	mg/L			09/09/24 13:24	1

Lab Sample ID: LCS 240-626373/15
Matrix: Water
Analysis Batch: 626373

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Ammonia	8.50	8.00		mg/L		94	90 - 110

Method: 5220D-2011 - Chemical Oxygen Demand

Lab Sample ID: MB 240-625719/9
Matrix: Water
Analysis Batch: 625719

Client Sample ID: Method Blank
Prep Type: Total/NA

Analyte	MB Result	MB Qualifier	RL	MDL	Unit	D	Prepared	Analyzed	Dil Fac
Chemical Oxygen Demand	ND		10	1.8	mg/L			09/04/24 09:21	1

Lab Sample ID: LCS 240-625719/10
Matrix: Water
Analysis Batch: 625719

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chemical Oxygen Demand	41.2	45.0		mg/L		109	90 - 110

Method: 9040C - pH

Lab Sample ID: LCS 240-625663/48
Matrix: Water
Analysis Batch: 625663

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.14	9.1		SU		100	97 - 103

Lab Sample ID: LCS 240-626390/26
Matrix: Water
Analysis Batch: 626390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.14	9.1		SU		100	97 - 103

Lab Sample ID: LCS 240-626390/3
Matrix: Water
Analysis Batch: 626390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.14	9.1		SU		100	97 - 103

QC Sample Results

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 9040C - pH (Continued)

Lab Sample ID: LCS 240-626390/49

Matrix: Water

Analysis Batch: 626390

Client Sample ID: Lab Control Sample
Prep Type: Total/NA

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
pH	9.14	9.1		SU		100	97 - 103

- 1
- 2
- 3
- 4
- 5
- 6
- 7
- 8
- 9
- 10
- 11
- 12
- 13
- 14
- 15
- 16

QC Association Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

GC/MS VOA

Analysis Batch: 625346

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	8260D	
240-210254-6	TRIP BLANK	Total/NA	Water	8260D	
MB 240-625346/6	Method Blank	Total/NA	Water	8260D	
LCS 240-625346/4	Lab Control Sample	Total/NA	Water	8260D	
MRL 240-625346/15	Lab Control Sample	Total/NA	Water	8260D	

GC Semi VOA

Prep Batch: 625290

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	8011	
MB 240-625290/1-A	Method Blank	Total/NA	Water	8011	
LCS 240-625290/2-A	Lab Control Sample	Total/NA	Water	8011	

Analysis Batch: 625312

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	8011	625290
MB 240-625290/1-A	Method Blank	Total/NA	Water	8011	625290
LCS 240-625290/2-A	Lab Control Sample	Total/NA	Water	8011	625290

LCMS

Prep Batch: 546589

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-1	MW-1	Total/NA	Water	SPE	
240-210254-2	MW-2	Total/NA	Water	SPE	
240-210254-3	MW-3	Total/NA	Water	SPE	
240-210254-4	MW-4	Total/NA	Water	SPE	
240-210254-5	MW-5	Total/NA	Water	SPE	
240-210254-7	FIELD BLANK	Total/NA	Water	SPE	
MB 410-546589/1-A	Method Blank	Total/NA	Water	SPE	
LCS 410-546589/2-A	Lab Control Sample	Total/NA	Water	SPE	
LCSD 410-546589/3-A	Lab Control Sample Dup	Total/NA	Water	SPE	

Analysis Batch: 548069

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-1	MW-1	Total/NA	Water	537 IDA	546589
240-210254-2	MW-2	Total/NA	Water	537 IDA	546589
240-210254-3	MW-3	Total/NA	Water	537 IDA	546589
240-210254-4	MW-4	Total/NA	Water	537 IDA	546589
240-210254-5	MW-5	Total/NA	Water	537 IDA	546589
240-210254-7	FIELD BLANK	Total/NA	Water	537 IDA	546589
MB 410-546589/1-A	Method Blank	Total/NA	Water	537 IDA	546589
LCS 410-546589/2-A	Lab Control Sample	Total/NA	Water	537 IDA	546589
LCSD 410-546589/3-A	Lab Control Sample Dup	Total/NA	Water	537 IDA	546589

Metals

Prep Batch: 625212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total Recoverable	Water	3005A	
MB 240-625212/1-A	Method Blank	Total Recoverable	Water	3005A	

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QC Association Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Metals (Continued)

Prep Batch: 625212 (Continued)

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-625212/2-A	Lab Control Sample	Total Recoverable	Water	3005A	

Prep Batch: 625224

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	7470A	
MB 240-625224/1-A	Method Blank	Total/NA	Water	7470A	
LCS 240-625224/2-A	Lab Control Sample	Total/NA	Water	7470A	

Analysis Batch: 625447

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	7470A	625224
MB 240-625224/1-A	Method Blank	Total/NA	Water	7470A	625224
LCS 240-625224/2-A	Lab Control Sample	Total/NA	Water	7470A	625224

Analysis Batch: 625522

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total Recoverable	Water	6020B	625212
MB 240-625212/1-A	Method Blank	Total Recoverable	Water	6020B	625212
LCS 240-625212/2-A	Lab Control Sample	Total Recoverable	Water	6020B	625212

Analysis Batch: 625683

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total Recoverable	Water	SM 2340B	

General Chemistry

Analysis Batch: 625137

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	180.1	
MB 240-625137/3	Method Blank	Total/NA	Water	180.1	
LCS 240-625137/4	Lab Control Sample	Total/NA	Water	180.1	
240-210254-5 DU	MW-5	Total/NA	Water	180.1	

Analysis Batch: 625157

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	300.0	
MB 240-625157/3	Method Blank	Total/NA	Water	300.0	
LCS 240-625157/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 625158

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	300.0	
MB 240-625158/3	Method Blank	Total/NA	Water	300.0	
LCS 240-625158/4	Lab Control Sample	Total/NA	Water	300.0	

Analysis Batch: 625240

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	2540 C-2011	
MB 240-625240/1	Method Blank	Total/NA	Water	2540 C-2011	
LCS 240-625240/2	Lab Control Sample	Total/NA	Water	2540 C-2011	

QC Association Summary

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

General Chemistry

Analysis Batch: 625644

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	2510B-2011	
MB 240-625644/27	Method Blank	Total/NA	Water	2510B-2011	
MB 240-625644/3	Method Blank	Total/NA	Water	2510B-2011	
LCS 240-625644/28	Lab Control Sample	Total/NA	Water	2510B-2011	
LCS 240-625644/4	Lab Control Sample	Total/NA	Water	2510B-2011	

Analysis Batch: 625663

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
LCS 240-625663/48	Lab Control Sample	Total/NA	Water	9040C	

Analysis Batch: 625719

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	5220D-2011	
MB 240-625719/9	Method Blank	Total/NA	Water	5220D-2011	
LCS 240-625719/10	Lab Control Sample	Total/NA	Water	5220D-2011	

Analysis Batch: 626212

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	2320B-2011	
MB 240-626212/56	Method Blank	Total/NA	Water	2320B-2011	
MB 240-626212/83	Method Blank	Total/NA	Water	2320B-2011	
LCS 240-626212/82	Lab Control Sample	Total/NA	Water	2320B-2011	

Analysis Batch: 626373

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	4500 NH3 H	
MB 240-626373/14	Method Blank	Total/NA	Water	4500 NH3 H	
LCS 240-626373/15	Lab Control Sample	Total/NA	Water	4500 NH3 H	

Analysis Batch: 626390

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
240-210254-5	MW-5	Total/NA	Water	9040C	
LCS 240-626390/26	Lab Control Sample	Total/NA	Water	9040C	
LCS 240-626390/3	Lab Control Sample	Total/NA	Water	9040C	
LCS 240-626390/49	Lab Control Sample	Total/NA	Water	9040C	

Lab Chronicle

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-1

Lab Sample ID: 240-210254-1

Date Collected: 08/26/24 11:20

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SPE			546589	V3FW	ELLE	08/30/24 16:02
Total/NA	Analysis	537 IDA		1	548069	JVK6	ELLE	09/05/24 18:02

Client Sample ID: MW-2

Lab Sample ID: 240-210254-2

Date Collected: 08/26/24 11:45

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SPE			546589	V3FW	ELLE	08/30/24 16:02
Total/NA	Analysis	537 IDA		1	548069	JVK6	ELLE	09/05/24 18:17

Client Sample ID: MW-3

Lab Sample ID: 240-210254-3

Date Collected: 08/26/24 10:45

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SPE			546589	V3FW	ELLE	08/30/24 16:02
Total/NA	Analysis	537 IDA		1	548069	JVK6	ELLE	09/05/24 18:31

Client Sample ID: MW-4

Lab Sample ID: 240-210254-4

Date Collected: 08/26/24 10:15

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SPE			546589	V3FW	ELLE	08/30/24 16:02
Total/NA	Analysis	537 IDA		1	548069	JVK6	ELLE	09/05/24 18:46

Client Sample ID: MW-5

Lab Sample ID: 240-210254-5

Date Collected: 08/26/24 09:30

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Batch Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	625346	MS	EET CLE	08/30/24 11:28
Total/NA	Prep	8011			625290	JBN	EET CLE	08/29/24 12:41
Total/NA	Analysis	8011		1	625312	JBN	EET CLE	08/29/24 20:11
Total/NA	Prep	SPE			546589	V3FW	ELLE	08/30/24 16:02
Total/NA	Analysis	537 IDA		1	548069	JVK6	ELLE	09/05/24 19:02
Total Recoverable	Prep	3005A			625212	S4FJ	EET CLE	08/29/24 14:00
Total Recoverable	Analysis	6020B		1	625522	RKT	EET CLE	08/30/24 14:15
Total/NA	Prep	7470A			625224	S4FJ	EET CLE	08/29/24 14:00
Total/NA	Analysis	7470A		1	625447	TQ6W	EET CLE	08/30/24 11:20
Total Recoverable	Analysis	SM 2340B		1	625683	KLC	EET CLE	09/04/24 07:18
Total/NA	Analysis	180.1		1	625137	C5SV	EET CLE	08/28/24 14:04
Total/NA	Analysis	2320B-2011		1	626212	JMR	EET CLE	09/06/24 03:03
Total/NA	Analysis	2510B-2011		1	625644	JWW	EET CLE	09/03/24 16:07

Lab Chronicle

Client: Earth Data Inc
Project/Site: Dulin Landfill

Job ID: 240-210254-1

Client Sample ID: MW-5

Lab Sample ID: 240-210254-5

Date Collected: 08/26/24 09:30

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	2540 C-2011		1	625240	AAP	EET CLE	08/29/24 10:04
Total/NA	Analysis	300.0		1	625157	JMR	EET CLE	08/30/24 00:53
Total/NA	Analysis	300.0		1	625158	JMR	EET CLE	08/30/24 00:53
Total/NA	Analysis	4500 NH3 H		1	626373	AJ	EET CLE	09/09/24 14:06
Total/NA	Analysis	5220D-2011		1	625719	QUY8	EET CLE	09/04/24 09:21
Total/NA	Analysis	9040C		1	626390	BLW	EET CLE	09/09/24 16:48

Client Sample ID: TRIP BLANK

Lab Sample ID: 240-210254-6

Date Collected: 08/26/24 00:00

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Analysis	8260D		1	625346	MS	EET CLE	08/30/24 11:03

Client Sample ID: FIELD BLANK

Lab Sample ID: 240-210254-7

Date Collected: 08/26/24 09:15

Matrix: Water

Date Received: 08/28/24 09:30

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	SPE			546589	V3FW	ELLE	08/30/24 16:02
Total/NA	Analysis	537 IDA		1	548069	JVK6	ELLE	09/05/24 19:17

Laboratory References:

EET CLE = Eurofins Cleveland, 180 S. Van Buren Avenue, Barberton, OH 44203, TEL (330)497-9396

ELLE = Eurofins Lancaster Laboratories Environment Testing, LLC, 2425 New Holland Pike, Lancaster, PA 17601, TEL (717)656-2300

Accreditation/Certification Summary

Client: Earth Data Inc
 Project/Site: Dulin Landfill

Job ID: 240-210254-1

Laboratory: Eurofins Cleveland

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
California	State	2927	02-28-25
Georgia	State	4062	02-27-25
Illinois	NELAP	200004	08-31-25
Iowa	State	421	06-01-25
Kentucky (UST)	State	112225	02-27-25
Kentucky (WW)	State	KY98016	12-30-24
Minnesota	NELAP	039-999-348	12-31-24
New Jersey	NELAP	OH001	07-03-25
New York	NELAP	10975	04-02-25
Ohio VAP	State	ORELAP 4062	02-27-25
Oregon	NELAP	4062	02-27-25
Pennsylvania	NELAP	68-00340	08-31-25
Texas	NELAP	T104704517-22-19	08-31-25
USDA	US Federal Programs	P330-18-00281	01-05-27
Virginia	NELAP	460175	09-14-24
West Virginia DEP	State	210	12-31-24

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
A2LA	Dept. of Defense ELAP	0001.01	11-30-24
A2LA	ISO/IEC 17025	0001.01	11-30-24
Alabama	State	43200	01-31-25
Alaska	State	PA00009	06-30-25
Alaska (UST)	State	17-027	02-28-25
Arizona	State	AZ0780	03-12-25
Arkansas DEQ	State	88-00660	08-09-25
California	State	2792	11-30-24
Colorado	State	PA00009	06-30-25
Connecticut	State	PH-0746	06-30-25
DE Haz. Subst. Cleanup Act (HSCA)	State	019-006 (PA cert)	01-31-25
Delaware (DW)	State	N/A	01-31-25
Florida	NELAP	E87997	06-30-25
Georgia (DW)	State	C048	01-31-25
Hawaii	State	N/A	01-31-25
Illinois	NELAP	200027	01-31-25
Iowa	State	361	03-01-26
Kansas	NELAP	E-10151	10-31-24
Kentucky (DW)	State	KY90088	12-31-24
Kentucky (UST)	State	0001.01	11-30-24
Kentucky (WW)	State	KY90088	12-31-24
Louisiana (All)	NELAP	02055	06-30-25
Maine	State	2019012	03-12-25
Maryland	State	100	06-30-25
Massachusetts	State	M-PA009	06-30-25
Michigan	State	9930	01-31-25
Minnesota	NELAP	042-999-487	12-31-24
Mississippi	State	023	01-31-25
Missouri	State	450	01-31-25

Accreditation/Certification Summary

Client: Earth Data Inc
 Project/Site: Dulin Landfill

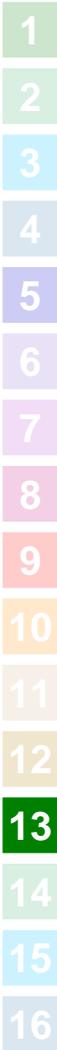
Job ID: 240-210254-1

Laboratory: Eurofins Lancaster Laboratories Environment Testing, LLC (Continued)

All accreditations/certifications held by this laboratory are listed. Not all accreditations/certifications are applicable to this report.

Authority	Program	Identification Number	Expiration Date
Montana (DW)	State	0098	01-01-25
Nebraska	State	NE-OS-32-17	01-31-25
New Hampshire	NELAP	2730	01-10-25
New Jersey	NELAP	PA011	06-30-25
New York	NELAP	10670	04-01-25
North Carolina (DW)	State	42705	07-31-25
North Carolina (WW/SW)	State	521	12-31-25
North Dakota	State	R-205	01-31-24 *
Oklahoma	NELAP	9804	08-31-24 *
Oregon	NELAP	PA200001	09-11-24
Pennsylvania	NELAP	36-00037	01-31-25
Quebec Ministry of Environment and Fight against Climate Change	PALA	507	09-16-24
Rhode Island	State	LAO00338	12-30-24
South Carolina	State	89002	01-31-25
Tennessee	State	02838	01-31-25
Texas	NELAP	T104704194-23-46	08-31-25
USDA	US Federal Programs	525-22-298-19481	10-25-25
Vermont	State	VT - 36037	10-28-24
Virginia	NELAP	460182	06-14-25
Washington	State	C457	04-11-25
West Virginia (DW)	State	9906 C	01-31-25
West Virginia DEP	State	055	07-31-25
Wyoming	State	8TMS-L	01-31-25
Wyoming (UST)	A2LA	0001.01	11-30-24

* Accreditation/Certification renewal pending - accreditation/certification considered valid.



1.4
1.3

Client Information		Sampler: SW, JS		Lab PM: DelMonico, Michael		Carrier Tracking No(s):		COC No: 240-123268-42960.1	
Client Contact: Scott Wolf		Phone:		E-Mail: Michael.DelMonico@et.eurofinsus.com		State of Origin:		Page: Page 1 of 1	
Company: Earth Data Inc				PWSID:		Analysis Requested			
Address: 131 Comet Drive		Due Date Requested:		Field Filtered Sample (Yes or No) 2320B, 8040C 2340C - Local Method 6020A, 7470A 5220D, SIM4500NH3_D 8011, 8260C EDB DBCP 180-1, 2510B, 2640C, Calcd, 300, 300.0, 28D 8260C - (MOD) Custom Sublist Project List PFC_IDA - (MOD) PFNA, PFOA, PFOS		TAT Requested (days): Standard		Preservation Codes: N - None D - HNO3 S - H2SO4 A - HCL	
City: Centreville		Compliance Project: <input type="checkbox"/> Yes <input type="checkbox"/> No				Other:			
State, Zip: MD, 21617		PO #: 4697-J				Total Number of containers:			
Phone: 410-758-8160		WO #:				Special Instructions/Note:			
Email: swolf@earthdatainc.com		Project #: 24020914				SSOW#:			
Project Name: Dulin Landfill		Site: Kent County, MD							
Sample Identification		Sample Date		Sample Time		Sample Type (C=Comp, G=grab)		Matrix (W=water, Sediment, Oil, BT=Tissue, A=Air)	
						Preservation Code:			
MW-1		8-26-24		1120		G		Water	
MW-2		8-26-24		1145		G		Water	
MW-3		8-26-24		1045		G		Water	
MW-4		8-26-24		1015		G		Water	
MW-5		8-26-24		0930		G		Water	
Trip Blank								Water	
Field Blank		8-26-24		0915				Water	
								Water	
								Water	
								Water	
								Water	
Possible Hazard Identification					Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)				
<input type="checkbox"/> Non-Hazard <input type="checkbox"/> Flammable <input type="checkbox"/> Skin Irritant <input type="checkbox"/> Poison B <input type="checkbox"/> Unknown <input type="checkbox"/> Radiological					<input type="checkbox"/> Return To Client <input checked="" type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months				
Deliverable Requested: I, II, III, IV, Other (specify)					Special Instructions/QC Requirements:				
Empty Kit Relinquished by:		Date:		Time:		Method of Shipment:			
Relinquished by: [Signature]		Date/Time: 8/27/24 7:30am		Company: EDR		Received by: C. Weaver		Date/Time: 8-27-24 0945	
Relinquished by: C. Weaver		Date/Time: 8-27-24 1700		Company: BSC		Received by: KATHARINE MARTIN		Date/Time: 8/28/24 930	
Relinquished by:		Date/Time:		Company:		Received by:		Date/Time:	
Custody Seals Intact: <input type="checkbox"/> Yes <input type="checkbox"/> No		Custody Seal No.:		Cooler Temperature(s) °C and Other Remarks:					



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Eurofins - Cleveland Sample Receipt Form/Narrative Login # : _____
 Barberton Facility

Client Earth Data Site Name _____ Cooler unpacked by: EM
 Cooler Received on 8/28/24 Opened on 8/28/24

FedEx: 1st Grd EXP UPS FAS Waypoint Client Drop Off Eurofins Courier Other _____
 Receipt After-hours. Drop-off Date/Time _____ Storage Location _____

Eurofins Cooler # EC Foam Box Client Cooler Box Other _____
 Packing material used. Bubble Wrap Foam Plastic Bag None Other _____
 COOLANT Wet Ice Blue Ice Dry Ice Water None _____
 1 Cooler temperature upon receipt See Multiple Cooler Form
 IR GUN # 22 (CF - 0 °C) Observed Cooler Temp. 1.4 °C Corrected Cooler Temp 13 °C

2. Were tamper/custody seals on the outside of the cooler(s)? If Yes Quantity 2 Yes No NA
 -Were the seals on the outside of the cooler(s) signed & dated? Yes No NA
 -Were tamper/custody seals on the bottle(s) or bottle kits (LLHg/Methg)? Yes No NA
 -Were tamper/custody seals intact and uncompromised? Yes No NA
 3 Shippers' packing slip attached to the cooler(s)? Yes No NA
 4. Did custody papers accompany the sample(s)? Yes No NA
 5 Were the custody papers relinquished & signed in the appropriate place? Yes No NA
 6 Was/were the person(s) who collected the samples clearly identified on the COC? Yes No NA
 7 Did all bottles arrive in good condition (Unbroken)? Yes No NA
 8 Could all bottle labels (ID/Date/Time) be reconciled with the COC? Yes No NA
 9 For each sample, does the COC specify preservatives (Y/N), # of containers (Y/N), and sample type of grab/comp (Y/N)?
 10 Were correct bottle(s) used for the test(s) indicated? Yes No NA
 11 Sufficient quantity received to perform indicated analyses? Yes No NA
 12. Are these work share samples and all listed on the COC? Yes No NA
 If yes, Questions 13-17 have been checked at the originating laboratory

Tests that are not checked for pH by Receiving:
 VOAs
 Oil and Grease
 TOC

13 Were all preserved sample(s) at the correct pH upon receipt? Yes No NA pH Strip Lot# HC442471
 14. Were VOAs on the COC? Yes No NA
 15 Were air bubbles >6 mm in any VOA vials? Yes No NA
 16 Was a VOA trip blank present in the cooler(s)? Trip Blank Lot # 63624 Yes No NA
 17 Was a LL Hg or Me Hg trip blank present? Yes No NA

Contacted PM _____ Date _____ by _____ via Verbal Voice Mail Other _____
 Concerning _____

18. CHAIN OF CUSTODY & SAMPLE DISCREPANCIES additional next page Samples processed by: _____

19. SAMPLE CONDITION
 Sample(s) _____ were received after the recommended holding time had expired.
 Sample(s) _____ were received in a broken container
 Sample(s) _____ were received with bubble >6 mm in diameter (Notify PM)

20. SAMPLE PRESERVATION
 Sample(s) _____ were further preserved in the laboratory
 Time preserved _____ Preservative(s) added/Lot number(s) _____
 VOA Sample Preservation - Date/Time VOAs Frozen _____



Temperature readings

<u>Client Sample ID</u>	<u>Lab ID</u>	<u>Container Type</u>	<u>Container</u> <u>pH</u>	<u>Preservation</u> <u>Temp</u>	<u>Preservation</u> <u>Added</u>	<u>Preservation</u> <u>Lot Number</u>
MW-1	240-210254-A-1	Plastic 250ml - unpreserved				
MW-1	240-210254-B-1	Plastic 250ml - unpreserved				
MW-2	240-210254-A-2	Plastic 250ml - unpreserved				
MW-2	240-210254-B-2	Plastic 250ml - unpreserved				
MW-3	240-210254-A-3	Plastic 250ml - unpreserved				
MW-3	240-210254-B-3	Plastic 250ml - unpreserved				
MW-4	240-210254-A-4	Plastic 250ml - unpreserved				
MW-4	240-210254-B-4	Plastic 250ml - unpreserved				
MW-5	240-210254-A-5	Voa Vial 40ml - Hydrochloric Acid				
MW-5	240-210254-B-5	Voa Vial 40ml - Hydrochloric Acid				
MW-5	240-210254-C-5	Voa Vial 40ml - Hydrochloric Acid				
MW-5	240-210254-D-5	Voa Vial 40ml - Hydrochloric Acid				
MW-5	240-210254-E-5	Voa Vial 40ml - Hydrochloric Acid				
MW-5	240-210254-F-5	Voa Vial 40ml - Hydrochloric Acid				
MW-5	240-210254-G-5	Plastic 250ml - unpreserved				
MW-5	240-210254-H-5	Plastic 250ml - unpreserved				
MW-5	240-210254-I-5	Plastic 250ml - unpreserved				
MW-5	240-210254-J-5	Plastic 250ml - with Nitric Acid	<2			
MW-5	240-210254-K-5	Plastic 500ml - unpreserved				
MW-5	240-210254-L-5	Plastic 500ml - with Sulfuric Acid	<2			
MW-5	240-210254-M-5	Plastic 500ml - with Nitric Acid	<2			
TRIP BLANK	240-210254-A-6	Voa Vial 40ml - Hydrochloric Acid				
TRIP BLANK	240-210254-B-6	Voa Vial 40ml - Hydrochloric Acid				
TRIP BLANK	240-210254-C-6	Voa Vial 40ml - Hydrochloric Acid				
FIELD BLANK	240-210254-A-7	Plastic 250ml - unpreserved				
FIELD BLANK	240-210254-B-7	Plastic 250ml - unpreserved				

Eurofins · Cleveland

180 S. Van Buren Avenue
 Barberton, OH 44203
 Phone: 330-497-9396 Fax: 330-497-0772

Chain of Custody Record



eurofins | Environment Testing

Client Information (Sub Contract Lab)		Sampler		Lab PM: DeiMonico, Michael		Carrier Tracking No(s)		COC No: 240-189860.1			
Client Contact: Shipping/Receiving		Phone:		E-Mail: Michael.DeiMonico@et.eurofinsus.com		State of Origin: Maryland		Page: Page 1 of 1			
Company: Eurofins Lancaster Laboratories Environm				Accreditations Required (See note).				Job #: 240-210254-1			
Address: 2425 New Holland Pike,		Due Date Requested: 9/11/2024		Analysis Requested						Preservation Codes: -	
City: Lancaster		TAT Requested (days):									
State, Zip: PA, 17601		PO #:									
Phone: 717-656-2300(Tel)		WO #:									
Email:		Project #: 24020914									
Project Name: Dulin Landfill		SSOW#:		Field Filtered Sample (Yes or No)		Perform MS/MSD (Yes or No)		Total Number of Containers			
Site:											
Sample Identification - Client ID (Lab ID)		Sample Date	Sample Time	Sample Type (C=Comp, G=grab)	Matrix (W=water, S=solid, D=dust/sol, BT=Tissue, AA=Air)	Field Filtered Sample (Yes or No)	Perform MS/MSD (Yes or No)	PFC_IDA/PFAS_W_Prep (MOD) PFNA, PFDA, PFOS	PRE_SCREEN_PFAS/PFAS_PreScn_W_P	Special Instructions/Note:	
MW-1 (240-210254-1)		8/26/24	11:20 Eastern	G	Water		X	X			
MW-2 (240-210254-2)		8/26/24	11:45 Eastern	G	Water		X	X			
MW-3 (240-210254-3)		8/26/24	10:45 Eastern	G	Water		X	X			
MW-4 (240-210254-4)		8/26/24	10:15 Eastern	G	Water		X	X			
MW-5 (240-210254-5)		8/26/24	09:30 Eastern	G	Water		X	X			
FIELD BLANK (240-210254-7)		8/26/24	09:15 Eastern	G	Water		X	X			
<p>Note: Since laboratory accreditations are subject to change, Eurofins Environment Testing North Central, LLC places the ownership of method, analyte & accreditation compliance upon our subcontract laboratories. This sample shipment is forwarded under chain-of-custody. If the laboratory does not currently maintain accreditation in the State of Origin listed above for analysis/tests/matrix being analyzed, the samples must be shipped back to the Eurofins Environment Testing North Central, LLC laboratory or other instructions will be provided. Any changes to accreditation status should be brought to Eurofins Environment Testing North Central, LLC attention immediately. If all requested accreditations are current to date, return the signed Chain of Custody attesting to said compliance to Eurofins Environment Testing North Central, LLC</p>											
Possible Hazard Identification						Sample Disposal (A fee may be assessed if samples are retained longer than 1 month)					
Unconfirmed						<input type="checkbox"/> Return To Client <input type="checkbox"/> Disposal By Lab <input type="checkbox"/> Archive For _____ Months					
Deliverable Requested: I, II, III, IV, Other (specify)			Primary Deliverable Rank: 2			Special Instructions/QC Requirements:					
Empty Kit Relinquished by:			Date:		Time:		Method of Shipment:				
Retinquished by: JESSICA RIGDON			Date/Time: 8-28-24 1300		Company: EETNC		Received by:		Date/Time:		
Retinquished by:			Date/Time:		Company:		Received by:		Date/Time:		
Retinquished by:			Date/Time:		Company:		Received by:		Date/Time: 8/29/24 0955		
Custody Seals Intact: Δ Yes Δ No		Custody Seal No.:		Cooler Temp (if req) °C and Other Remarks: C: 2.6							



Login Sample Receipt Checklist

Client: Earth Data Inc

Job Number: 240-210254-1

Login Number: 210254

List Number: 2

Creator: Arroyo, Haley

List Source: Eurofins Lancaster Laboratories Environment Testing, LLC

List Creation: 08/29/24 02:26 PM

Question	Answer	Comment
The cooler's custody seal is intact.	N/A	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature acceptable,where thermal pres is required(</=6C, not frozen).	True	
Cooler Temperature is recorded.	True	
WV:Container Temp acceptable,where thermal pres is required (</=6C, not frozen).	N/A	
WV: Container Temperature is recorded.	N/A	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
There are no discrepancies between the containers received and the COC.	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
There is sufficient vol. for all requested analyses.	True	
Is the Field Sampler's name present on COC?	False	Received project as a subcontract.
Sample custody seals are intact.	N/A	
VOA sample vials do not have headspace >6mm in diameter (none, if from WV)?	N/A	



Isotope Dilution Summary

Client: Earth Data Inc
 Project/Site: Dulin Landfill

Job ID: 240-210254-1

Method: 537 IDA - EPA 537 Isotope Dilution

Matrix: Water

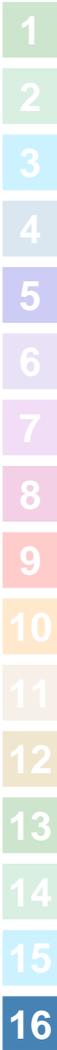
Prep Type: Total/NA

Percent Isotope Dilution Recovery (Acceptance Limits)

Lab Sample ID	Client Sample ID	C8PFOA	C9PFNA	C8PFOS	C3PFBS	HFPODA	C3PFHS
		(52-153)	(52-168)	(59-155)	(34-200)	(13-170)	(48-169)
240-210254-1	MW-1	99	96	101	112	114	103
240-210254-2	MW-2	103	100	104	108	118	107
240-210254-3	MW-3	105	103	106	111	116	107
240-210254-4	MW-4	104	104	108	117	118	107
240-210254-5	MW-5	105	98	101	110	116	105
240-210254-7	FIELD BLANK	107	105	108	103	124	106
LCS 410-546589/2-A	Lab Control Sample	100	97	103	106	109	104
LCSD 410-546589/3-A	Lab Control Sample Dup	103	96	102	106	112	104
MB 410-546589/1-A	Method Blank	101	102	103	111	114	108

Surrogate Legend

- C8PFOA = 13C8 PFOA
- C9PFNA = 13C9 PFNA
- C8PFOS = 13C8 PFOS
- C3PFBS = 13C3-PFBS
- HFPODA = 13C3-HFPO-DA
- C3PFHS = 13C3-PFHxS



APPENDIX D

Quarterly Gas Monitoring Field Reports (Gas Wells, Soil Vapor Points and Gas Vents Monitoring)

FIELD NOTES

EDI W.O. # 4697I
DATE: February 26, 2024

PROJECT: Kent Co. Landfill - Dulin
LOCATION: Chestertown, Maryland

EDI Personnel: S. Wolf

Time: 9:15am-1:00pm

Weather: Clear 60s°F

Earth Data Inc. personnel were onsite to sample the soil gas wells, gas vapor points and gas vents at the landfill. Gas vapor readings were taken from each of the four gas wells (GW-1 through GW-4). Readings were also taken from the three onsite vents (V-1, V-2, and V-3), and eight onsite soil vapor monitoring points (SV-1, 2, 3, 4, 5, 12, 13 and 14). The % LEL and % O₂ were measured using a QRAE® 3 Gas Surveyor and summarized below:

	<u>%LEL</u>	<u>%O₂</u>
GW 1	0	20.9
GW 2	0	20.1
GW 3	0	19.7
GW 4	0	20.9
SV 1	0	20.9
SV 2	0	19.6
SV 3	0	20.3
SV 4	0	20.2
SV 5	0	20.2
SV 12	0	19.4
SV 13	0	18.9
SV 14	0	19.9
V 1	100	19.1
V 2	5	19.3
V 3	44	17.6

Signed: _____

Scott Wolf

FIELD NOTES

EDI W.O. # 46971
DATE: May 20, 2024

PROJECT: Kent Co. Landfill - Dulin
LOCATION: Chestertown, Maryland

EDI Personnel: S. Wolf

Time: 9:30-11:00am

Weather: , Clear 70s°F

Earth Data Inc. personnel were onsite to sample the soil gas wells, gas vapor points and gas vents at the landfill. Gas vapor readings were taken from each of the four gas wells (GW-1 through GW-4). Readings were also taken from the three onsite vents (V-1, V-2, and V-3), and eight onsite soil vapor monitoring points (SV-1, 2, 3, 4, 5, 12, 13 and 14). The % LEL and % O₂ were measured using a QRAE® 3 Gas Surveyor and summarized below:

	<u>%LEL</u>	<u>%O₂</u>
GW 1	0	20.3
GW 2	0	20.9
GW 3	0	20.2
GW 4	0	20.0
SV 1	0	20.9
SV 2	0	19.9
SV 3	0	20.2
SV 4	0	20.1
SV 5	0	20.2
SV 12	0	20.1
SV 13	0	18.9
SV 14	0	20.0
V 1	100	19.2
V 2	0	20.9
V 3	0	20.2

Signed: _____

Scott Wolf

FIELD NOTES

EDI W.O. # 4697J
DATE: August 26, 2024

PROJECT: Kent Co. Landfill - Dulin
LOCATION: Chestertown, Maryland

EDI Personnel: S. Wolf, J. Speary

Time: 8:30:am-1:00pm

Weather: Clear 80s°F

Earth Data Inc. personnel were onsite to sample the soil gas wells, gas vapor points and gas vents at the landfill. Gas vapor readings were taken from each of the four gas wells (GW-1 through GW-4). Readings were also taken from the three onsite vents (V-1, V-2, and V-3), and eight onsite soil vapor monitoring points (SV-1, 2, 3, 4, 5, 12, 13 and 14). The % LEL and % O₂ were measured using a QRAE® 3 Gas Surveyor and summarized below:

	<u>%LEL</u>	<u>%O₂</u>
GW 1	0	19.4
GW 2	0	19.9
GW 3	0	20.9
GW 4	0	19.7
SV 1	0	20.9
SV 2	0	20.1
SV 3	0	20.1
SV 4	0	20.1
SV 5	0	20.0
SV 12	0	20.9
SV 13	0	19.9
SV 14	0	19.9
V 1	100	17.7
V 2	0	19.8
V 3	100	20.9

Signed: _____

Scott Wolf

FIELD NOTES

EDI W.O. # 4697J
DATE: November 18, 2024

PROJECT: Kent Co. Landfill - Dulin
LOCATION: Chestertown, Maryland

EDI Personnel: S. Wolf

Time: 8:00-12:30pm

Weather: Cool 50°F

Earth Data Inc. personnel were onsite to sample the soil gas wells, gas vapor points and gas vents at the landfill. Gas vapor readings were taken from each of the four gas wells (GW-1 through GW-4). Readings were also taken from the three onsite vents (V-1, V-2, and V-3), and eight onsite soil vapor monitoring points (SV-1, 2, 3, 4, 5, 12, 13 and 14). The % LEL and % O₂ were measured using a QRAE® 3 Gas Surveyor and summarized below:

	<u>%LEL</u>	<u>%O₂</u>
GW 1	0	20.9
GW 2	0	20.9
GW 3	0	20.9
GW 4	0	20.9
SV 1	0	20.9
SV 2	0	20.9
SV 3	0	20.5
SV 4	0	20.5
SV 5	0	20.5
SV 12	0	20.9
SV 13	0	19.3
SV 14	0	20.9
V 1	100	20.9
V 2	0	20.9
V 3	100	20.9

Signed: _____

Scott Wolf

APPENDIX E

Historical Water Quality Data Tables (VOCs, Indicator Parameters, and Total Metals)

MW-1 VOC Analytical Results

VOC Parameter	GW Standard*	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007
1,1,1,2-Tetrachloroethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	NS	NS	NS	NS
1,1,1-Trichloroethane (ug/l)	200	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	e4	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	NS	NS	NS	NS
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<10
1,2-Dibromoethane (EDB) (ug/l)	0.05	NS	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,2-Dichlorobenzene (ug/l)	600	NS	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	e1	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	NA	<50	<5	<5	<5	<50	<5	<5	<10
2-Hexanone (MBK) (ug/l)		<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	NA	<50	<5	<5	<5	<10	<5	<5	<10
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	NA	<50	<5	<5	<5	<10	<5	<5	<5
Acetone (ug/l)	1400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	eb8	<50	<50	<50	<50	<50	<50	NA	<50	<25	<25	<25	<10	<5	<5	<10
Acrylonitrile (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS	NS
Benzene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Bromochloromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	NS	NS	NS	NS
Bromodichloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Bromoform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	<10	<10	<10	<10
Carbon tetrachloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Chloroform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Chloromethane (ug/l)	19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Dibromomethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	NS	NS	NS	NS
Ethylbenzene (ug/l)	700	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene (ug/l)	10000	12.5	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	NA	<5	<10	<10	<10	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	eb2	eb2	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<5	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Styrene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Toluene (ug/l)	1000	12	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	NS	NS	NS	<5	5.2	<5	<5	<5	NA	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl acetate (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl chloride (ug/l)	2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	NA	<5	<5	<5	<5	<1	<1	<1	<1

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers

e = estimated value, less than quantitative limit; b = artifact of laboratory calibration, found in laboratory blank; NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled

J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-1 VOC Analytical Results

VOC Parameter	GW Standard*	22-Aug	26-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2019	2020
1,1,1,2-Tetrachloroethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichloropropane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<0.04	<0.04	
1,2-Dibromoethane (EDB) (ug/l)	0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.04	<0.04	<0.04	
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2-Butanone (MEK) (ug/l)	560	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	
2-Hexanone (MBK) (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Acetone (ug/l)	1400	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	
Acrylonitrile (ug/l)		NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5										
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane (ug/l)		NS	NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform (ug/l)	80	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon Disulfide (ug/l)	81	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromomethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Iodomethane (Methyl Iodide) (ug/L)		NS	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1										
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,4-dichloro-2-butene (ug/l)		NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5										
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trichlorofluoromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	
Vinyl acetate (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	

EARTH DATA INCORPORATED

MW-1 VOC Analytical Results

VOC Parameter	GW Standard*	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2022	2022	2023	2023	2024	2024
1,1,1,2-Tetrachloroethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<0.02	<0.02	<0.018	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dibromoethane (EDB) (ug/l)	0.05	<0.02	<0.02	<0.018	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone (MBK) (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5
Acetone (ug/l)	1400	<5	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		<20	<20	<20	<20	<20	<20	<20	<20
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Vinyl acetate (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1

EARTH DATA INCORPORATED

MW-2 VOC Analytical Results

VOC Parameter	GW Standard*	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	18-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007
1,1,1,2-Tetrachloroethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	
1,1,1-Trichloroethane (ug/l)	200	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,1,2-Trichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,1-Dichloroethane (ug/l)	2.8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,1-Dichloroethene (ug/l)	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,2,3-Trichloropropane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<10
1,2-Dibromoethane (EDB) (ug/l)	0.05	NS	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,2-Dichlorobenzene (ug/l)	600	NS	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,2-Dichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,2-Dichloropropane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
1,4-Dichlorobenzene (ug/l)	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
2-Butanone (MEK) (ug/l)	560	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<5	<5	<5	<50	<5	<5	<10
2-Hexanone (MBK) (ug/l)		<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<5	<5	<5	<10	<5	<5	<10
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	<50	<5	<5	<5	<10	<5	<5	<5
Acetone (ug/l)	1400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	eb2	<50	<50	<50	<50	<50	<50	<50	<50	<25	<25	<25	<10	<5	<5	<10
Acrylonitrile (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Bromochloromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	
Bromodichloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Bromoform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Bromomethane (ug/l)	0.75	<10	<10	<10	<10	<10	<10	NS	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Carbon Disulfide (ug/l)	81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<10	<10	<10	<10	
Carbon tetrachloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Chlorobenzene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Chloroethane (ug/l)	2100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Chloroform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Chloromethane (ug/l)	19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
cis-1,2-Dichloroethene (ug/l)	70	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Dibromochloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Dibromomethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	
Ethylbenzene (ug/l)	700	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Iodomethane (Methyl Iodide) (ug/L)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene (ug/l)	10000	<5	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	<10	<10	<10	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	eb2	eb2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
o-Xylene (ug/l)	10000	<5	NS	NS	NS	<5	NS	<5	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1
Styrene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Tetrachloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Toluene (ug/l)	1000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
trans-1,2-Dichloroethene (ug/l)	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	
Trichlorofluoromethane (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	NS	NS	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl acetate (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl chloride (ug/l)	2	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
e = estimated value, less than quantitative limit; b = artifact of laboratory calibration, found in laboratory blank; NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-2 VOC Analytical Results

VOC Parameter	GW Standard*	22-Aug	27-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020
1,1,1,2-Tetrachloroethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<0.04	<0.04	<0.04
1,2-Dibromoethane (EDB) (ug/l)	0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.04	<0.04	<0.04
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5
2-Hexanone (MBK) (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone (ug/l)	1400	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5
Acrylonitrile (ug/l)		NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5										
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		NS	NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	<1
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		NS	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1										
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5										
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1
Vinyl acetate (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

EARTH DATA INCORPORATED

MW-2 VOC Analytical Results

VOC Parameter	GW Standard*	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2022	2022	2023	2023	2024	2024
1,1,1,2-Tetrachloroethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<0.02	<0.02	<0.019	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dibromoethane (EDB) (ug/l)	0.05	<0.02	<0.02	<0.019	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone (MBK) (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5
Acetone (ug/l)	1400	<5	<5	<5	11.9	11.9	<5	<5	<5
Acrylonitrile (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		<20	<20	<20	<20	<20	<20	<20	<20
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Vinyl acetate (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1

EARTH DATA INCORPORATED

MW-3 VOC Analytical Results

VOC Parameter	GW Standard*	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Oct	19-Jun	15-Nov	18-Jun	29-Oct	17-Jun	7-Oct	27-Feb	23-Aug	21-Feb	22-Aug	27-Feb	20-Aug	11-Aug
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2006	2006	2007	2007	2008	2008	2009
1,1,1,2-Tetrachloroethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	NS						
1,1,1-Trichloroethane (ug/l)	200	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	NS						
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<10	<10	<10	<10	<10
1,2-Dibromoethane (EDB) (ug/l)	0.05	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (ug/l)	600	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	DRY	<5	<5	<10	<10	<10	<10	<10
2-Hexanone (MBK) (ug/l)		<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	DRY	<5	<5	<10	<10	<10	<10	<10
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	DRY	<5	<5	<5	<5	<5	<5	<5
Acetone (ug/l)	1400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	<50	<50	<50	DRY	<5	<5	<10	<10	<10	<10	<10
Acrylonitrile (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Benzene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	NS	NS	NS	NS	NS	<1	<1
Bromodichloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<5	<5	<5
Bromomethane (ug/l)	0.75	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	<10	<10	<10	<10	<10	<10	<10
Carbon tetrachloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
cis 1,2-Dichloroethene (ug/l)	70	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	NS						
Ethylbenzene (ug/l)	700	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
m&p-Xylene (ug/l)	10000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	DRY	<2	<2	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	eb2	eb3	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Trichloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<5	<5	<5	<5
Vinyl acetate (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Vinyl chloride (ug/l)	2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	DRY	<1	<1	<1	<1	<1	<1	<1

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
e = estimated value, less than quantitative limit; b = artifact of laboratory calibration, found in laboratory blank; NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-3 VOC Analytical Results

VOC Parameter	GW Standard*	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug	23-Feb	31-Aug	28-Feb	29-Aug	
		2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021	2022	2022
1,1,1,2-Tetrachloroethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1							
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichloropropane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1							
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<0.04	<0.04	<0.04	<0.02	<0.02	<0.019	<0.02
1,2-Dibromoethane (EDB) (ug/l)	0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.04	<0.04	<0.04	<0.02	<0.02	<0.019	<0.02	
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2-Butanone (MEK) (ug/l)	560	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	
2-Hexanone (MBK) (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Acetone (ug/l)	1400	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	
Acrylonitrile (ug/l)		NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5							
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	1	<1	<1	
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon Disulfide (ug/l)	81	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	<1	<1	<1	<1	<1	
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromomethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1								
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Iodomethane (Methyl Iodide) (ug/L)		NS	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<20	<20	<20	<20								
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,4-dichloro-2-butene (ug/l)		NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1								
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trichlorofluoromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1	<1	
Vinyl acetate (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1							
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	

EARTH DATA INCORPORATED

MW-3 VOC Analytical Results

VOC Parameter	GW Standard*	27-Feb	28-Aug	26-Feb	26-Aug
		2023	2023	2024	2024
1,1,1,2-Tetrachloroethane (ug/l)		<1	<1	<1	<1
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<0.019	<0.019	<0.021	<0.021
1,2-Dibromoethane (EDB) (ug/l)	0.05	<0.019	<0.019	<0.021	<0.021
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<5	<5	<5	<5
2-Hexanone (MBK) (ug/l)		<5	<5	<5	<5
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5
Acetone (ug/l)	1400	11.6	<5	<5	<5
Acrylonitrile (ug/l)		<5	<5	<5	<5
Benzene (ug/l)	5	<1	<1	<1	<1
Bromochloromethane (ug/l)		<1	<1	<1	<1
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1
Bromoform (ug/l)	80	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	<1	<1	<1	<1
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<1	<1	<1	<1
Chloroform (ug/l)	80	<1	<1	<1	<1
Chloromethane (ug/l)	19	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1
Dibromomethane (ug/l)		<1	<1	<1	<1
Ethylbenzene (ug/l)	700	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		<20	<20	<20	<20
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<1	<1	<1	<1
Styrene (ug/l)	100	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1
Toluene (ug/l)	1000	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		<1	<1	<1	<1
Trichloroethene (ug/l)	5	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<1	<1	<1	<1
Vinyl acetate (ug/l)		<1	<1	<1	<1
Vinyl chloride (ug/l)	2	<1	<1	<1	<1

EARTH DATA INCORPORATED

MW-4 VOC Analytical Results

VOC Parameter	GW Standard*	6-Mar	15-May	22-May	31-May	10-Oct	3-Jun	21-Nov	3-Jun	6-Oct	26-Oct	28-Jun	28-Sep	21-Jun	15-Nov	18-Jun	29-Oct	18-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb	22-Aug
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007	2007
1,1,1,2-Tetrachloroethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS	
1,1,1-Trichloroethane (ug/l)	200	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<10	<5	<5	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<5	<5	<5	<10	<5	<5	<10	<10	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<1	<1	<1	<10	<10
1,2-Dibromoethane (EDB) (ug/l)	0.05	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,2-Dichlorobenzene (ug/l)	600	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<20	<5	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	NS	<50	<50	<50	<5	<5	<5	<50	<5	<5	<10	<10
2-Hexanone (MBK) (ug/l)		<20	<5	<20	<20	<20	<20	<20	<20	<50	<50	<50	<50	<50	<50	NS	<50	<50	<50	<5	<5	<5	<10	<5	<5	<10	<10
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<5	<50	<50	NS	<50	<50	<50	<5	<5	<5	<10	<5	<5	<5	<5
Acetone (ug/l)	1400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<50	<50	<25	<50	<50	NS	<50	<50	<50	<25	<25	<25	<10	<10	<10	<10	<10
Acrylonitrile (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Benzene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS
Bromodichloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<10	<5	<5	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	NS	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<10	<10	<10	<10	<10
Carbon tetrachloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<10	<5	<5	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	NS	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<10	<5	<5	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	NS	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	NS	NS	NS	NS	NS
Ethylbenzene (ug/l)	700	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
m&p-Xylene (ug/l)	10000	<5	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	<5	<5	<10	<10	<10	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	eb2	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<5	<20	<5	<5	<5	<20	<20	<20	<20	<50	<50	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<5	NS	NS	NS	<5	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Trichloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<10	<5	<5	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	NS	NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Vinyl acetate (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vinyl chloride (ug/l)	2	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	NS	<5	<5	<5	<5	<5	<1	<1	<1	<1	<1

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
e = estimated value, less than quantitative limit; b = artifact of laboratory calibration, found in laboratory blank; NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-4 VOC Analytical Results

VOC Parameter	GW Standard*	27-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug	23-Feb	
		2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020	2021	
1,1,1,2-Tetrachloroethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1											
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,2,3-Trichloropropane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1											
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<0.04	<0.04	<0.04	<0.02	
1,2-Dibromoethane (EDB) (ug/l)	0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.04	<0.04	<0.04	<0.02	
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1		
2-Butanone (MEK) (ug/l)	560	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	
2-Hexanone (MBK) (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Acetone (ug/l)	1400	<10	<10	21	21	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5
Acrylonitrile (ug/l)		NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5										
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromochloromethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Bromoform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Carbon Disulfide (ug/l)	81	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	<1	<1	
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis 1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Dibromomethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Iodomethane (Methyl Iodide) (ug/L)		NS	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1	<20										
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
trans-1,4-dichloro-2-butene (ug/l)		NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1										
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Trichlorofluoromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1	<1	
Vinyl acetate (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	

EARTH DATA INCORPORATED

MW-4 VOC Analytical Results

VOC Parameter	GW Standard*	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2022	2022	2023	2023	2024	2024
1,1,1,2-Tetrachloroethane (ug/l)		<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<0.02	<0.019	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dibromoethane (EDB) (ug/l)	0.05	<0.02	<0.019	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<5	<5	<5	<5	<5	<5	<5
2-Hexanone (MBK) (ug/l)		<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5
Acetone (ug/l)	1400	<5	<5	<5	<5	<5	<5	<5
Acrylonitrile (ug/l)		<5	<5	<5	<5	<5	<5	<5
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		<1	<1	<1	<1	<1	<1	<1
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		<20	<20	<20	<20	<20	<20	<20
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		<1	<1	<1	<1	<1	<1	<1
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1
Vinyl acetate (ug/l)		<1	<1	<1	<1	<1	<1	<1
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1

EARTH DATA INCORPORATED

MW-5 VOC Analytical Results

VOC Parameter	GW Standard*	6-Mar	15-May	23-May	31-May	11-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	21-Jun	15-Nov	20-Jun	31-Oct	19-Jun	10-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007
1,1,1,2-Tetrachloroethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	NS	NS	NS	NS
1,1,1-Trichloroethane (ug/l)	200	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	NS	NS	NS	NS
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<10
1,2-Dibromoethane (EDB) (ug/l)	0.05	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,2-Dichlorobenzene (ug/l)	600	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<100	<50	<50	<50	<50	<50	<50	<50	DRY	<5	<5	<5	<50	<5	<5	<10
2-Hexanone (MBK) (ug/l)		<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<100	<50	<50	<50	<50	<50	<50	<50	DRY	<5	<5	<5	<10	<5	<5	<10
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<100	<50	<50	<50	<50	<50	<50	<50	DRY	<5	<5	<5	<10	<5	<5	<10
Acetone (ug/l)	1400	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<100	<50	<50	<50	<50	<50	<50	<50	DRY	<25	<25	<25	<10	<10	<10	<10
Acrylonitrile (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Benzene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Bromochloromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	NS	NS	NS	NS
Bromodichloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Bromoform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS	NS	NS	<10	<10	<10	<10
Carbon tetrachloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Chloroform (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Chloromethane (ug/l)	19	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Dibromomethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	NS	NS	NS	NS
Ethylbenzene (ug/l)	700	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
m&p-Xylene (ug/l)	10000	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<10	<10	<10	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
o-Xylene (ug/l)	10000	NS	NS	NS	NS	<5	NS	NS	NS	NS	NS	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Styrene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Toluene (ug/l)	1000	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Trichloroethene (ug/l)	5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<5	<5	<5	<5
Vinyl acetate (ug/l)		NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Vinyl chloride (ug/l)	2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	DRY	<5	<5	<5	<1	<1	<1	<1

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
e = estimated value, less than quantitative limit; b = artifact of laboratory calibration, found in laboratory blank; NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-5 VOC Analytical Results

VOC Parameter	GW Standard*	22-Aug	26-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020
1,1,1,2-Tetrachloroethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1											
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2,3-Trichloropropane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1											
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<0.039	<0.04	<0.04
1,2-Dibromoethane (EDB) (ug/l)	0.05	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<0.039	<0.04	<0.04
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2-Butanone (MEK) (ug/l)	560	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5
2-Hexanone (MBK) (ug/l)		<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Acetone (ug/l)	1400	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5
Acrylonitrile (ug/l)		NS	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<5	<5										
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		NS	NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<1	<1
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		NS	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<20	<1	<1										
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		NS	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5										
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<1	<1
Vinyl acetate (ug/l)		NS	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1										
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1

EARTH DATA INCORPORATED

MW-5 VOC Analytical Results

VOC Parameter	GW Standard*	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2022	2022	2023	2023	2024	2024
1,1,1,2-Tetrachloroethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
1,1,1-Trichloroethane (ug/l)	200	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2,2-Tetrachloroethane (ug/l)	0.076	<1	<1	<1	<1	<1	<1	<1	<1
1,1,2-Trichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethane (ug/l)	2.8	<1	<1	<1	<1	<1	<1	<1	<1
1,1-Dichloroethene (ug/l)	7	<1	<1	<1	<1	<1	<1	<1	<1
1,2,3-Trichloropropane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dibromo-3-Chloropropane (ug/l)	0.2	<0.02	<0.02	<0.019	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dibromoethane (EDB) (ug/l)	0.05	<0.02	<0.02	<0.019	<0.02	<0.019	<0.019	<0.021	<0.021
1,2-Dichlorobenzene (ug/l)	600	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloroethane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,2-Dichloropropane (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
1,4-Dichlorobenzene (ug/l)	75	<1	<1	<1	<1	<1	<1	<1	<1
2-Butanone (MEK) (ug/l)	560	<5	<5	<5	<5	<5	<5	<5	<5
2-Hexanone (MBK) (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5
4-Methyl-2-Pentanone (MIBK) (ug/l)	630	<5	<5	<5	<5	<5	<5	<5	<5
Acetone (ug/l)	1400	<5	<5	<5	<5	11.7	<5	<5	<5
Acrylonitrile (ug/l)		<5	<5	<5	<5	<5	<5	<5	<5
Benzene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Bromochloromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Bromodichloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Bromoform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Bromomethane (ug/l)	0.75	<1	<1	<1	<1	<1	<1	<1	<1
Carbon Disulfide (ug/l)	81	<1	<1	<1	<1	<1	<1	<1	<1
Carbon tetrachloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Chlorobenzene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
Chloroethane (ug/l)	2100	<1	<1	<1	<1	<1	<1	<1	<1
Chloroform (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Chloromethane (ug/l)	19	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,2-Dichloroethene (ug/l)	70	<1	<1	<1	<1	<1	<1	<1	<1
cis-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1
Dibromochloromethane (ug/l)	80	<1	<1	<1	<1	<1	<1	<1	<1
Dibromomethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Ethylbenzene (ug/l)	700	<1	<1	<1	<1	<1	<1	<1	<1
Iodomethane (Methyl Iodide) (ug/L)		<20	<20	<20	<20	<20	<20	<20	<20
m&p-Xylene (ug/l)	10000	<2	<2	<2	<2	<2	<2	<2	<2
Methylene chloride (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Methyl-tert-Butyl Ether (MTBE) (ug/l)	20	<1	<1	<1	<1	<1	<1	<1	<1
o-Xylene (ug/l)	10000	<1	<1	<1	<1	<1	<1	<1	<1
Styrene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
Tetrachloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Toluene (ug/l)	1000	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,2-Dichloroethene (ug/l)	100	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,3-Dichloropropene (ug/l)	0.44	<1	<1	<1	<1	<1	<1	<1	<1
trans-1,4-dichloro-2-butene (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Trichloroethene (ug/l)	5	<1	<1	<1	<1	<1	<1	<1	<1
Trichlorofluoromethane (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Vinyl acetate (ug/l)		<1	<1	<1	<1	<1	<1	<1	<1
Vinyl chloride (ug/l)	2	<1	<1	<1	<1	<1	<1	<1	<1

EARTH DATA INCORPORATED

MW-1 Indicator Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007
Alkalinity (mg/l)	-	4	4	4	5	5	22	6	9	3	5	6	7	7	11	5	5	4	NA	4	43	4	3	<5	<5	<1	<5
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.5	0.2	0.2	NA	<0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	10	10	10	10	10	10	10	30	10	10	10	10	10	10	10	10	10	NA	<10	<10	<10	<10	<20	<20	<20	<20
Chloride (mg/l)	250	11	11	11	9	10	58	12	97	10	12	10	10	10	10	10	10	10	NA	<10	<10	<10	<10	7	8.1	6.5	7.5
Dissolved Solids (mg/l)	500	61	84	78	122	52	364	70	492	58	68	47	65	44	76	39	54	19	NA	24	117	40	47	51	57	51	73
Hardness (mg/l)	-	19	17	13	35	30	165	18	186	15	28	67	27	29	18	27	33	14	NA	11	54	11	10	17	20	16	17
Nitrate (mg/l)	10	4.9	4.9	5.1	12.2	3.8	6.5	5.8	8.5	4.8	5.7	3.7	4.3	3.7	3.9	3	3.7	3.1	NA	2.9	6.4	3.2	3.6	4.5	5.9	5	5.7
pH (S.U.)	6.0 - 8.5	5.8	5.2	4.9	4.9	5.1	5.1	7.4	6.5	7.3	6.3	6.4	5.1	5.7	5.5	6	5.8	5.9	NA	5.4	5.8	5.7	5.8	5.1	5	5.6	5.7
Specific Conductance (us/cm)	-	56	106	61	63	59	81	72	59	61	70	57	59	NS	53	47	36	51	NA	46	109	47	47	87	95.7	87.6	83
Sulfate (mg/l)	250	2	3.7	2	2	2	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	10	10	NA	<10	19.9	<10	<10	<1	<1	<1	<1
Turbidity (NTU)	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	2	10.3	<1	0.7

MW-1 Metals Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Arsenic (mg/l)	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Barium (mg/l)	2	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	30	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.05	<0.05	0.026	0.028	0.23	0.026
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Cadmium (mg/l)	0.005	<0.1	<0.05	<0.005	<0.005	<0.05	<0.05	<0.05	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.003
Calcium (mg/l)		3.9	3.7	3.6	7	3.5	7.3	5.5	4.1	3.6	4.9	3.6	4.01	3.96	3.66	3.12	13.5	2.84	NA	2.81	19.6	2.98	3.36	4.2	4.8	4	4.4
Chromium (mg/l)	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Copper (mg/l)	1.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	<0.14	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Iron (mg/l)	1.4	1.5	7.59	0.85	0.11	4.42	0.76	0.28	<0.5	<0.5	<0.5	1.39	1	0.91	<0.5	1.35	3.75	0.79	NA	<1	4.87	<0.5	<0.5	<0.1	0.64	0.21	0.042
Lead (mg/l)	0.015	<0.5	<0.5	<0.05	0.006	<0.5	<0.25	<0.25	<0.25	<0.25	<5	<0.25	<0.25	<0.25	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Magnesium (mg/l)		1.5	2	1.6	3.1	1.5	3	2.1	3	1.3	1.9	1.5	1.59	1.61	1.45	1.33	6.04	1.16	NA	1.09	7.51	1.19	1.3	1.7	2	1.5	1.4
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Mercury (mg/l)	0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002	<0.002	<0.002	<1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	NA	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Potassium (mg/l)		2.2	3.6	2.16	2.39	3	2.2	3.3	2.2	2	2.4	1.7	2.5	<1	1.82	1.88	3.27	1.16	NA	1.73	4.68	1.63	1.8	2	2.1	1.8	1.7
Selenium (mg/l)	0.05	<0.05	<0.01	<0.01	<0.05	<0.025	<0.05	<0.05	<0.05	<0.05	<5	<0.059	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Sodium (mg/l)		5.8	5.5	6	5.7	4.9	9.2	6.9	6.4	5.3	7.2	5.2	5.14	5.12	5.41	4.56	13	4.72	NA	4.44	5.82	4.45	5.06	5.3	5.7	5	4.2
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS							
Zinc (mg/l)	0.6	<0.5	<0.5	<0.5	<0.1	<0.05	0.23	<0.1	0.23	<0.5	15	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
 NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
 J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-1 Indicator Analytical Results

Parameter	GW* Standard	22-Aug	26-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2019	2020
Alkalinity (mg/l)	-	<5	<5	5	<5	<5	3.5	5	4	3	4	5	4	2	2.7	2.8	2.6	3.1	3.2	1.4	1.1	1.6	1	1.2	1.1	<1	2.2
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	<10	<20	<20	<10	<5	5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	6	<5	J5
Chloride (mg/l)	250	7.1	8.8	7.2	7.5	8.2	7.6	8.3	8.6	8.5	8.2	11	9.6	10	8.9	11	10	11	12	12	13	13	13	14	15	14	14
Dissolved Solids (mg/l)	500	73	81	81	64	60	100	110	60	67	91	64	100	90	89	68	92	73	120	110	140	110	170	130	130	140	110
Hardness (mg/l)	-	18	NS	17	19	21	20	29	21	24	24	29	28	35	33	36	38	40	41	49	47	47	48	81	60	86	57
Nitrate (mg/l)	10	5.5	6.3	5.8	6.1	6.5	6.9	6.1	6.6	6.3	6.5	8.3	8.2	9.3	8.2	9.6	10	11	13	13	14	15	16	16	18	17	17
pH (S.U.)	6.0 - 8.5	5.9	4.9	5	5	5	5.4	4.9	5.3	6.4	4.8	5.6	5.4	5.9	5.5	5.4	5.2	5.3	5.2	6.5	5.3	5.5	5.3	5.5	5.6	5.6	5.2
Specific Conductance (us/cm)	-	85.9	101	83	84.3	96.6	93	105	81	130	95	120	120	130	130	130	140	160	170	160	160	180	180	180	190	210	210
Sulfate (mg/l)	250	<0.1	<0.1	0.1	<0.2	1.2	<0.2	2	0.3	1.6	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Turbidity (NTU)	5	3.3	3.1	1.4	4.8	41	0.9	71	1.5	0.74	1.2	0.73	0.57	0.76	0.87	0.6	0.63	1.1	0.75	1.1	<0.5	<0.5	1	<0.5	0.97	0.73	1.2

MW-1 Metals Analytical Results

Parameter	GW* Standard	22-Aug	26-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug	
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2019	2020	2020
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Arsenic (mg/l)	0.01	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.026	0.032	0.028	0.028	0.031	0.029	0.038	0.03	0.032	0.03	0.042	0.038	0.055	0.046	0.05	0.056	0.0509	0.0652	0.0618	0.0678	0.0701	0.0688	0.0735	0.0749	0.0735	0.0764	
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Cadmium (mg/l)	0.005	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Calcium (mg/l)		4.5	4.8	4	4.5	4.8	4.7	7.2	5	6	6.3	7.2	6.8	8.9	8.1	8.6	9	10.2	9.78	12.2	11	11.5	12	24	15.9	25.6	14.2	
Chromium (mg/l)	0.1	<0.005	<0.005	<0.005	<0.005	0.0097	0.0018	0.0088	0.0018	0.0018	0.0018	0.0014	0.0017	0.002	0.0017	0.0017	0.0017	0.0021	0.0015	0.0015	0.0015	0.0018	0.0015	0.0016	0.0014	0.0016	0.0015	
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	J0.00078	J0.00082	J0.00072		
Copper (mg/l)	1.3	<0.005	<0.005	<0.005	<0.005	0.0012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Iron (mg/l)	1.4	<0.1	0.16	<0.1	0.28	1.8	<0.1	1.6	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	J0.0234	J0.0234	J0.0551	
Lead (mg/l)	0.015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	J0.00095	<0.001	<0.001	
Magnesium (mg/l)		1.7	2.2	1.7	1.8	2.1	2.1	2.8	2.1	2.2	2.1	2.8	2.6	3.2	3	3.6	3.7	3.62	3.93	4.5	4.68	4.5	4.43	5.11	5.02	5.31	5.27	
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0093	0.012	0.011	0.012	0.014	0.0129	0.0148	0.0142	0.0159	0.0169	0.0162	0.0181	0.0171	0.0174	0.0161	
Mercury (mg/l)	0.002	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0025	0.0031	0.003	0.0013	0.0036	0.0039	0.0037	0.0042	0.0045	0.0044	0.0045	0.0051	0.0054	0.0052	0.0049	
Potassium (mg/l)		1.9	2.2	1.9	2	2.4	2	2.6	2.1	2.2	2.2	2.4	2.3	2.7	2.5	2.7	2.6	2.69	2.76	2.88	3.35	3.13	3.05	3.34	3.18	3.52	3.4	
Selenium (mg/l)	0.05	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Sodium (mg/l)		5.4	6	5.5	5.6	5.9	5.8	7.4	6.5	6.5	6.9	7.6	6.3	7.5	7.7	7.2	8.6	8.34	10	11.3	8.71	10.4	9.92	11.5	9.85	11.5	10.5	
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	J0.00018	
Zinc (mg/l)	0.6	<0.05	<0.02	<0.02	<0.02	0.028	<0.02	<0.02	<0.02	0.021	0.023	0.022	<0.02	0.03	0.026	0.029	0.024	0.0263	0.0276	0.0282	0.0303	0.0348	0.0277	0.0269	0.0303	0.0351	0.0261	

Parameter	GW* Standard	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2022	2022	2023	2023	2024	2024
Alkalinity (mg/l)	-	1.5	<1	<1	<1	<1	<1	<1	<1
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	<20	<20	<20	<20	<20	<20
Chloride (mg/l)	250	16	17	17	18	18	17	17	18
Dissolved Solids (mg/l)	500	140	180	200	200	100	200	140	180
Hardness (mg/l)	-	61	56	63	180	60	68	61	69
Nitrate (mg/l)	10	18	19	19	20	21	21	16	20
pH (S.U.)	6.0 - 8.5	5.3	5.3	5.4	5.2	7.7	5.2	6.3	5.8
Specific Conductance (us/cm)	-	200	210	210	200	270	220	240	240
Sulfate (mg/l)	250	<5	<5	<5	<5	<5	<5	1	<1
Turbidity (NTU)	5	1.1	1.2	1	1	0.75	1.4	2	0.7

Parameter	GW* Standard	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2022	2022	2023	2023	2024	2024
Antimony (mg/l)	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/l)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.0822	0.0687	0.0872	0.0863	0.095	0.0846	0.0913	0.0885
Beryllium (mg/l)	0.004	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Cadmium (mg/l)	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/l)		15.1	13.4	15.2	51.8	14.7	16.4	14.8	17.3
Chromium (mg/l)	0.1	0.0015	0.0017	0.0015	0.0014	0.0015	0.0015	0.0016	0.0024
Cobalt (mg/l)	0.073	J0.00089	J0.00091	J0.00096	J0.00087	J0.00098	J0.00095	J0.001	0.0011
Copper (mg/l)	1.3	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (mg/l)	1.4	0.0624	J0.0822	J0.0456	J0.0483	<0.1	<0.1	J0.0812	<0.1
Lead (mg/l)	0.015	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Magnesium (mg/l)		5.53	6.07	6.12	5.63	6.08	5.89	6.23	6.33
Manganese (mg/l)	0.043	0.0197	0.0193	0.021	0.0194	0.02	0.0202	0.0213	0.0235
Mercury (mg/l)	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	0.0056	0.0056	<0.001	0.0053	0.0037	0.0061	0.0061	0.0068
Potassium (mg/l)		3.39	3.69	3.8	3.51	3.56	3.57	3.64	3.73
Selenium (mg/l)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/l)		12.1	11.7	12.7	12.9	12.5	13.6	12	15.1
Thallium (mg/l)	0.002	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium (mg/l)	0.0086	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (mg/l)	0.6	0.0361	0.037	0.0364	0.0361	0.0288	0.0359	0.0355	0.0416

EARTH DATA INCORPORATED

MW-2 Indicator Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2006
Alkalinity (mg/l)	-	4	4	4	4	4	6	5	4	3	4	104	7	7	5	5	6	3	NS	4	42	4	3	<5	<5	<5	<5
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.02	<0.2	0.3	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	10	10	10	10	10	10	10	10	10	10	10	10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<20	<20	<20	<20
Chloride (mg/l)	250	11	10	10	16	9	11	11	11	10	13	82	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	7.7	8.1	7.9	8
Dissolved Solids (mg/l)	500	103	116	122	138	106	102	72	62	74	142	492	46	50	54	42	56	80	99	78	118	104	100	99	102	119	108
Hardness (mg/l)	-	39	34	33	35	44	36	16	24	15	38	18	20	20	20	18	27	54	33	39	54	33	37	39	39	37	35
Nitrate (mg/l)	10	12	11.4	11.8	11	11.4	7.2	5.8	4.6	4.8	14.2	3.7	4.3	3.8	3.9	3.1	4.1	13	13.4	9.8	6.4	11.5	10.3	12.1	10.7	11.2	9.3
pH (S.U.)	6.0 - 8.5	5.7	4.9	4.9	5.3	4.9	4.9	7.1	7.8	7.5	5.9	6.3	5.2	5.6	5.3	6.4	6	6.1	5.5	5.6	5.9	5.6	5.7	5.1	4.8	5.4	5.1
Specific Conductance (us/cm)	-	107	102	100	105	112	127	128	119	123	126	123	113	NS	117	118	109	119	111	112	123	118	102	148	139	138	131
Sulfate (mg/l)	250	2	2	2	2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	10	10	<10	<10	19.9	<10	<10	<1	<1	<1	3.8
Turbidity (NTU)	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	1.5	2.4	<1	3

MW-2 Metals Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2006
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Arsenic (mg/l)	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Barium (mg/l)	2	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	35	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	0.03	0.027	0.026	0.027
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Cadmium (mg/l)	0.005	<0.1	<0.05	<0.005	<0.005	<0.05	<0.05	<0.05	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.003
Calcium (mg/l)		18.6	10.9	8.2	11.4	9.5	5.8	12.9	16.1	3.9	11	3.4	4.4	4.37	3.71	3.22	18.3	9.15	9.63	8.48	19.6	9.62	9.68	9.4	9.4	9	8.9
Chromium (mg/l)	0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Copper (mg/l)	1.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	0.14	<0.1	<0.1	6.45	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Iron (mg/l)	1.4	<0.5	0.25	2.93	<0.05	3.16	1.65	<0.1	<0.5	<0.5	<0.5	0.73	3.1	0.65	<0.5	<0.5	2.5	<0.5	<0.5	<1	3.74	<0.5	<0.5	<0.1	0.21	<0.1	0.075
Lead (mg/l)	0.015	<0.5	<0.5	<0.05	<0.005	<0.5	<0.25	<0.25	<0.25	<0.25	<5	<0.25	<0.25	<0.25	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Magnesium (mg/l)		3.6	4.2	4	4.8	3.6	2.2	5	5.9	1.4	4.4	1.3	1.79	1.73	1.41	1.23	8	3.79	3.64	3.78	7.45	3.82	3.94	3.8	3.8	3.4	3.2
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Mercury (mg/l)	0.002	<0.002	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002	<0.002	<0.002	<1	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Potassium (mg/l)		4.4	2.7	2.88	2.5	3.1	2.4	4	3.03	1.8	2.6	1.4	2.03	1.49	1.79	1.69	3.6	2.17	2.32	2.12	4.48	2.31	2.53	2.5	2.3	2.1	2
Selenium (mg/l)	0.05	<0.05	<0.01	<0.01	<0.05	<0.025	<0.05	<0.05	<0.05	<0.05	<5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Sodium (mg/l)		5.7	5.7	7.5	8.9	5.2	7.2	6.6	7.6	5.4	6.7	4.8	5.34	5.43	5.2	4.48	16.3	6.86	6.45	6.27	5.76	6.23	6.61	5.8	5.5	5.1	3.9
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Zinc (mg/l)	0.6	<0.5	<0.5	0.13	<0.1	<0.05	<0.1	<0.1	<0.5	<0.5	26	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
 NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
 J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-2 Indicator Analytical Results

Parameter	GW* Standard	22-Aug	27-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2016	2017	2017	2018	2018	2019	2019	2020
Alkalinity (mg/l)	-	<5	<5	<5	<5	<5	3.5	3	4	3	5	5	4	4	3.6	6.2	3.3	4.5	3.9	1.5	1.6	2.7	2.2	2.2	1.1	1.2	1.9
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	<10	<20	<20	<10	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Chloride (mg/l)	250	7.7	7.4	7.2	7.7	6.2	8.2	7	10	7.5	8.6	7.6	7.1	5.4	6.6	<5	7.3	6	6.9	7.3	7.2	8.7	8.4	8.1	11	11	13
Dissolved Solids (mg/l)	500	116	90	117	120	60	120	94	80	74	73	58	87	59	74	35	67	41	67	63	80	98	70	77	110	79	84
Hardness (mg/l)	-	40	NS	33	35	31	39	37	37	29	34	28	30	30	28	39	29	25	29	29	30	31	30	31	40	36	41
Nitrate (mg/l)	10	10	10	10	10	8.8	12	8.6	8.8	6.9	7.3	6.2	7	4.7	5.4	2.4	6.6	5.6	7.1	6.6	6.9	8	7.8	7.7	11	8.3	8.3
pH (S.U.)	6.0 - 8.5	5.1	5.1	5	4.7	5.1	5	4.6	5	6.3	5	5.8	5.3	5.6	5.5	5.3	5.2	5.4	5.2	5.7	5.3	5.4	5.4	5.7	5.7	5.6	5.4
Specific Conductance (us/cm)	-	127	130	129	113	116	134	125	110	110	100	90	100	77	95	99	100	95	96	88	89	100	99	100	120	120	120
Sulfate (mg/l)	250	0.1	1.3	0.7	<2	3	0.3	0.7	0.4	2	<1	<5	<5	<5	<5	20	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Turbidity (NTU)	5	0.3	0.3	0.6	1.3	0.4	0.4	53	0.9	0.36	0.52	0.62	0.26	0.43	1.2	3.5	0.37	0.56	0.38	<0.5	<0.5	<0.5	<0.5	<0.5	0.57	10.31	10.31

MW-2 Metals Analytical Results

Parameter	GW* Standard	22-Aug	27-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2016	2017	2017	2018	2018	2019	2019	2020
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/l)	0.01	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.027	0.025	0.027	0.025	0.021	0.028	0.025	0.026	0.02	0.024	0.018	0.02	0.023	0.019	0.043	0.022	0.0179	0.0215	0.0202	0.0209	0.0214	0.0214	0.0221	0.0264	0.0249	0.0297
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Cadmium (mg/l)	0.005	<0.003	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/l)	10	7.9	7.9	8.8	7.5	10	9.2	9.5	7.5	8.5	7	7.5	7.8	7	9.3	7.3	6.4	7.05	7.54	7.28	7.57	7.64	7.41	10.7	8.61	10.4	
Chromium (mg/l)	0.1	<0.005	<0.005	<0.005	<0.005	0.0012	<0.001	0.0088	0.001	0.0011	0.0011	0.0011	0.0011	0.0018	0.0011	0.002	<0.001	0.0017	0.0012	0.0011	0.0011	0.0012	0.0012	0.0012	0.0011	0.0013	0.001
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Copper (mg/l)	1.3	<0.005	<0.005	<0.005	<0.005	0.0011	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0044	0.0024	<0.001
Iron (mg/l)	1.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	1.8	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.19	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	10.0243	<0.1
Lead (mg/l)	0.015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (mg/l)	3.5	3.3	3.2	3.1	3	3.4	3.4	3.2	2.6	3	2.5	2.7	2.6	2.5	3.9	2.7	2.23	2.69	2.57	2.81	2.93	2.64	3.11	2.29	3.29	3.51	3.72
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0074	0.0078	0.0072	0.018	0.0082	0.008	0.0077	0.0069	0.0075	0.0089	0.0078	0.0106	0.0093	0.0102	0.0113
Mercury (mg/l)	0.002	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0019	0.0016	0.0018	<0.001	0.0019	0.0021	0.0015	0.0017	0.0017	0.0017	0.0017	0.0018	0.0028	0.0023	0.0021
Potassium (mg/l)	2.2	2.1	2.2	2	1.9	2.2	2.4	2.2	2	2	1.8	1.8	1.9	1.7	1.7	1.8	1.73	1.95	1.86	2.05	2.02	1.89	2.1	2.01	2.31	2.3	
Selenium (mg/l)	0.05	<0.005	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/l)	4.8	4.6	4.7	4.6	4.1	5.3	4.7	5.1	4.5	4.9	4.4	3.9	3	3.3	3.3	3.4	2.88	4.32	3.6	2.76	4.23	3.97	3.93	4.27	4.6	4.81	
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	10.00019	<0.001
Zinc (mg/l)	0.6	<0.05	<0.02	<0.02	<0.02	0.022	0.021	<0.02	<0.02	<0.02	0.023	<0.02	<0.02	0.055	<0.02	0.022	<0.02	0.0216	<0.02	0.0202	<0.02	0.0202	<0.02	<0.02	0.0227	0.0249	10.0164

Parameter	GW* Standard	23-Feb	31-Aug	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2021	2021	2022	2022	2023	2023	2024	2024
Alkalinity (mg/l)	-	2	1.3	7	2.7	2.4	1.6	<1	1.3	<1	<1
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	<20	<20	<20	<20	<20	<20	<20	J11
Chloride (mg/l)	250	10	15	J2.4	15	13	14	12	11	11	14
Dissolved Solids (mg/l)	500	74	120	68	140	110	130	85	65	68	110
Hardness (mg/l)	-	35	40	35	45	40	170	39	37	36	45
Nitrate (mg/l)	10	7.4	9.8	3.7	6.9	9.2	9.5	9.4	9.1	7.9	9.2
pH (S.U.)	6.0 - 8.5	5.4	5.3	5.6	5.4	5.5	5.2	5.3	5.2	5.3	5.2
Specific Conductance (us/cm)	-	100	130	100	140	130	110	110	120	120	140
Sulfate (mg/l)	250	<5	<5	20	11	<5	<5	<5	<5	0.34	<1
Turbidity (NTU)	5	J0.5	0.55	2.3	1.5	0.55	<0.5	8.3	1.2	0.95	J0.4

Parameter	GW* Standard	23-Feb	31-Aug	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2021	2021	2022	2022	2023	2023	2024	2024
Antimony (mg/l)	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/l)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	J0.00064	J0.00034	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.0242	0.0253	0.0544	0.0567	0.0272	0.0495	0.03	0.0251	0.0266	0.0294
Beryllium (mg/l)	0.004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00055	<0.001	<0.001	<0.001
Cadmium (mg/l)	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/l)		8.82	8.85	9.44	7.97	10.2	46.9	9.85	9.44	8.95	11.2
Chromium (mg/l)	0.1	0.0012	0.0015	0.001	0.002	J0.001	J0.00081	0.0058	0.0011	0.0011	0.0011
Cobalt (mg/l)	0.073	J0.00067	J0.00084	J0.00032	J0.00081	J0.00078	J0.00031	0.0011	J0.00068	J0.0007	J0.0009
Copper (mg/l)	1.3	0.0041	<0.001	<0.001	<0.001	<0.001	0.024	0.0013	<0.001	<0.001	<0.001
Iron (mg/l)	1.4	0.1	<0.1	0.118	J0.062	<0.1	0.547	0.893	<0.1	<0.1	<0.1
Lead (mg/l)	0.015	J0.00073	<0.001	<0.001	<0.001	<0.001	0.0054	0.0014	<0.001	<0.001	<0.001
Magnesium (mg/l)		3.23	4.15	3.2	6.18	3.58	12.5	3.58	3.29	3.39	4.04
Manganese (mg/l)	0.043	0.0114	0.0102	0.0199	0.031	0.0105	0.0276	0.0139	0.0088	0.0094	0.0118
Mercury (mg/l)	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	0.0021	0.0025	0.0012	0.0038	<0.001	0.0027	J0.00057	0.0021	0.0021	0.0024
Potassium (mg/l)		2.12	2.47	2.82	2.14	2.3	23.9	2.32	2.17	2.23	2.42
Selenium (mg/l)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/l)		3.85	4.78	3.24	4.91	4.23	50.9	4.18	4.15	3.85	4.12
Thallium (mg/l)	0.002	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium (mg/l)	0.0086	<0.001	<0.001	J0.00053	J0.00043	<0.001	J0.00095	0.0035	<0.001	<0.001	<0.001
Zinc (mg/l)	0.6	0.0271	0.0258	0.042	0.0379	0.022	0.0936	J0.0165	0.0226	J0.0198	0.0305

EARTH DATA INCORPORATED

MW-3 Indicator Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	27-Feb	23-Aug	21-Feb	22-Aug	27-Feb	20-Aug	11-Aug
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2006	2006	2007	2007	2008	2008	2009
Alkalinity (mg/l)	-	4	4	4	3	4	5	6	4	6	5	6	6	10	5	4	6	82	NS	DRY	<5	<5	<5	5.5	<5	<5	<5
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.7	<0.2	DRY	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	<10	14	<10	DRY	<20	<20	<20	<20	<20	<10	<20
Chloride (mg/l)	250	24	17	16	26	15	11	11	13	76	14	<10	<10	<10	<10	<10	<10	40	<10	DRY	6.5	8.6	8.2	8.2	6.5	8.9	9.4
Dissolved Solids (mg/l)	500	150	134	136	332	134	154	104	130	23	131	48	98	48	60	42	64	260	223	DRY	115	78	114	91	110	88	110
Hardness (mg/l)	-	35	40	37	142	57	56	18	48	23	32	16	43	23	68	16	25	152	18	DRY	59	41	44	38	NS	34	42
Nitrate (mg/l)	10	9.2	11.4	11.4	18.3	14.5	13.8	9	12	4.9	11.8	3.7	12.6	3.7	3.8	3.1	4.3	15.2	4.5	DRY	10.5	6.9	8.6	5.3	9.2	6.1	7.7
pH (S.U.)	6.0 - 8.5	5.7	4.9	4.9	4.7	4.9	5	7.2	7.6	7.4	6.2	6.4	5	5.7	5.6	5.8	5.8	5.8	5.5	DRY	4.8	5.1	5	4.8	4.8	5	4.6
Specific Conductance (us/cm)	-	106	106	113	114	119	123	109	117	125	109	121	110	NS	110	76	102	47	115	DRY	193	144	154	133	160	133	119
Sulfate (mg/l)	250	<2	<2	5.1	132	2	NS	NS	NS	NS	NS	NS	NS	NS	NS	10	10	65.6	71.3	DRY	20.9	17.8	17.9	15	26	18	13
Turbidity (NTU)	5	NS	78	5.9	25	105	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	3.4	<1	2	2.5	67	3.6	46

MW-3 Metals Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	27-Feb	23-Aug	21-Feb	22-Aug	27-Feb	20-Aug	11-Aug
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2006	2006	2007	2007	2008	2008	2009
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Arsenic (mg/l)	0.01	<0.05	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05	<0.05	<5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	DRY	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Barium (mg/l)	2	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	33	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	DRY	0.064	0.053	0.053	0.043	0.061	0.049	0.055
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Cadmium (mg/l)	0.005	<0.1	<0.05	<0.005	0.0005	<0.05	<0.05	<0.1	<0.1	<0.1	<5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	DRY	<0.005	<0.005	<0.003	<0.003	<0.003	<0.003	<0.003
Calcium (mg/l)		14	<0.05	7.9	15.8	10.6	11.2	10.4	15.4	3.5	8.5	3.8	<0.1	<0.1	<0.1	55.8	3.5	<0.1	3.59	DRY	13	9.8	11	8.6	11	6.8	8.4
Chromium (mg/l)	0.1	0.29	0.5	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	8.5	<0.1	<0.1	<0.1	<0.1	<0.12	<0.1	<0.1	<0.1	DRY	<0.005	<0.005	<0.005	<0.005	0.015	<0.005	0.014
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Copper (mg/l)	1.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.5	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	DRY	<0.005	<0.005	<0.005	0.05	<0.005	0.078	<0.005
Iron (mg/l)	1.4	59.6	7.34	1.33	0.79	6.06	0.36	<0.1	<0.5	<0.5	<0.5	5.85	1	4.86	<0.5	19.6	2.04	11.5	<0.5	DRY	0.29	0.3	0.11	0.14	3.4	<0.1	3.3
Lead (mg/l)	0.015	<0.5	0.5	<0.05	0.012	<0.5	0.25	<0.25	<0.25	<0.25	<5	<0.25	<0.25	<0.25	<0.1	<0.1	<0.1	<0.1	<0.1	DRY	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Magnesium (mg/l)		7.7	4.4	3.9	9	5.1	4.4	4.4	5.7	1.4	3.5	1.7	4.07	5.34	3.9	22.6	1.76	16	1.3	DRY	6.4	4.1	4.2	4.1	6.3	4.2	5.2
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Mercury (mg/l)	0.002	<0.0002	<0.0005	<0.0005	<0.005	<0.005	<0.1	<0.002	<0.1	<0.1	<5	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	DRY	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Potassium (mg/l)		17.8	4.5	2.22	1.8	4.5	1.8	3.7	2.57	2.1	1.8	2.6	2.47	3.93	2.4	7.62	2.12	6.83	1.74	DRY	2.1	2.8	1.9	1.6	2.2	1.6	2.1
Selenium (mg/l)	0.05	<0.05	<0.01	<0.1	<0.05	<0.025	<0.05	<0.05	<0.05	<0.05	<5	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	DRY	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Sodium (mg/l)		6.7	6.7	7.9	20.9	6.8	6.3	6.7	7.2	5.4	<5	4.6	6.6	8.6	6.9	22.6	5.36	25	5.01	DRY	4.3	4.4	3.7	4.4	4.4	4	4.1
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Zinc (mg/l)	0.6	<0.5	<0.5	0.69	0.23	<0.05	0.81	<0.01	<0.5	<0.5	26	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	DRY	<0.05	<0.05	<0.05	0.082	0.036	0.022	0.02

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
 NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
 J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-3 Indicator Analytical Results

Parameter	GW* Standard	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug	23-Feb	31-Aug	28-Feb	29-Aug
		2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021	2022	2022
Alkalinity (mg/l)	-	<5	6	6	4	6	6	6	6	6	6.3	3.6	5.9	5.6	5.6	1.8	3.4	3	11	4.4	2.5	3.1	3.6	7	2.7	3.5	2.2
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<10	<5	<5	<5	<5	<5	<5	<5	6	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	J5	<20	<20	<20	J11
Chloride (mg/l)	250	2.4	4.3	2.9	7.5	6.3	6.9	<5	5.2	<5	<5	6.6	<5	<5	5.7	12	<5	<5	6.8	<5	14	8.4	6.8	J2.4	15	11	12
Dissolved Solids (mg/l)	500	130	89	87	110	92	59	90	80	170	71	10	61	40	110	92	130	100	110	83	87	110	45	68	140	98	100
Hardness (mg/l)	-	73	30	56	38	40	40	52	36	51	30	29	33	45	44	26	49	55	47	40	42	42	40	35	45	48	41
Nitrate (mg/l)	10	18	2.5	8	4.8	4.1	3.7	7.7	3.9	8.3	2.5	5.3	2.4	5.9	7.4	5.8	10	12	9	6.5	5.2	4.8	5.8	3.7	6.9	6.5	6.9
pH (S.U.)	6.0 - 8.5	5	5	4.8	5	6.4	4.7	5.9	5.3	5.6	5.5	5.3	5.2	5.3	5.2	5.5	5.2	5.3	5.3	5.9	5.4	5.6	5.3	5.6	5.4	5.5	5.2
Specific Conductance (us/cm)	-	89.1	101	152	110	120	110	130	110	140	100	84	100	130	140	130	140	140	140	120	130	130	120	100	140	130	110
Sulfate (mg/l)	250	19	20	16	17	22	19	15	14	18	11	<5	15	20	15	13	16	17	14	17	12	20	15	20	11	16	11
Turbidity (NTU)	5	2.2	6.4	3.7	40	4.9	46	36	4.9	100	5.4	0.35	4.8	2.7	2.2	17	3	17	2.1	1.6	1.2	1.8	1.7	2.3	1.5	2.3	2.7

MW-3 Metals Analytical Results

Parameter	GW* Standard	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug	23-Feb	31-Aug	28-Feb	29-Aug
		2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020	2021	2021	2022	2022
Antimony (mg/l)	0.006	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005						
Arsenic (mg/l)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	0.0021	<0.001	<0.001	0.0028	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.072	0.036	0.049	0.041	0.046	0.055	0.061	0.044	0.079	0.041	0.02	0.05	0.0471	0.0735	0.052	0.0713	0.0775	0.0703	0.0551	0.0521	0.0503	0.0715	0.0544	0.0567	0.064	0.0279
Beryllium (mg/l)	0.004	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Cadmium (mg/l)	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/l)		18	7.2	13	8.5	9.5	8	11	7.7	11	7	7.3	7.4	10.9	10.3	10.5	10.5	12.9	10.9	9.73	10.2	9.33	9.91	9.44	7.97	9.74	9.54
Chromium (mg/l)	0.1	0.001	0.0023	0.002	0.0089	0.0024	0.023	0.0091	0.0039	0.029	0.0028	0.0013	0.0028	0.0015	0.0016	0.005	0.0019	0.005	0.0019	<0.001	0.0014	0.0015	J0.00094	0.001	0.002	0.0018	J0.00097
Cobalt (mg/l)	0.073	NS	<0.001	0.0013	<0.001	<0.001	<0.001	<0.001	<0.001	0.0012	<0.001	<0.001	<0.001	<0.001	J0.00059	J0.0006	J0.00071	J0.00032	J0.00081	J0.00092	J0.00073						
Copper (mg/l)	1.3	<0.001	<0.001	<0.001	0.012	<0.001	0.0018	0.0013	<0.001	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0021	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (mg/l)	1.4	<0.1	0.24	0.24	1.6	0.32	5	2.2	0.58	7.3	0.53	<0.1	0.34	0.116	0.164	0.973	0.225	1.04	0.184	<0.1	J0.0354	J0.0917	J0.0518	0.118	J0.062	0.123	<0.1
Lead (mg/l)	0.015	<0.001	<0.001	<0.001	0.0026	<0.001	0.0018	<0.001	<0.001	0.0018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (mg/l)		6.8	2.8	5.8	4	3.9	4.9	6	4.1	5.7	3.1	2.7	3.6	4.42	4.47	6.44	5.58	5.59	4.72	3.78	4.09	4.58	3.83	3.2	6.18	5.94	3.59
Manganese (mg/l)	0.043	NS	0.024	0.046	0.017	0.0081	0.026	0.0222	0.0355	0.0335	0.0322	0.0289	0.0262	0.0202	0.023	0.0237	0.0322	0.0199	0.031	0.0322	0.0096						
Mercury (mg/l)	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	NS	0.0021	0.0033	0.0013	<0.001	0.0016	0.0015	0.0016	0.0032	0.0024	0.002	0.0021	0.001	0.002	0.0019	0.0017	0.0012	0.0038	<0.001	0.0021						
Potassium (mg/l)		2.5	1.8	1.7	2.1	2.1	2.1	1.9	1.6	2.8	2	2	2.7	1.71	2.89	1.74	2.77	2.28	2.58	2.2	2	2.03	3.31	2.82	2.14	2.3	2.28
Selenium (mg/l)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Sodium (mg/l)		4.2	3.4	3.7	4.2	3.9	4.1	3.8	3.6	3.6	3.4	3.6	3.8	3.16	4.13	3.74	3.3	3.4	4.15	3.34	4.02	3.01	3.86	3.24	4.91	3.81	3.95
Thallium (mg/l)	0.002	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0015	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
Vanadium (mg/l)	0.0086	NS	0.0019	0.027	0.0017	<0.001	0.0013	<0.001	<0.001	0.0031	<0.001	0.0036	<0.001	<0.001	J0.00031	J0.00048	J0.00039	J0.00053	J0.00043	J0.00048	<0.001						
Zinc (mg/l)	0.6	0.032	<0.02	<0.02	0.077	0.024	0.042	0.035	<0.02	0.033	0.022	0.023	0.038	0.0223	0.0311	0.0306	0.0258	0.0378	0.0272	0.0566	0.0343	0.0329	0.0363	0.042	0.0379	0.0335	0.024

Parameter	GW* Standard	27-Feb 2023	28-Aug 2023	26-Feb 2024	26-Aug 2024
Alkalinity (mg/l)	-	2.4	1.6	3.2	J1
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	<20	J8.6
Chloride (mg/l)	250	9.5	9.9	6.6	8.5
Dissolved Solids (mg/l)	500	55	110	78	87
Hardness (mg/l)	-	40	42	37	38
Nitrate (mg/l)	10	6.3	6.8	5.2	4.4
pH (S.U.)	6.0 - 8.5	5.2	5.1	5.3	5.4
Specific Conductance (us/cm)	-	100	130	110	110
Sulfate (mg/l)	250	14	9.9	14	13
Turbidity (NTU)	5	12	32	11	2.2

Parameter	GW* Standard	27-Feb 2023	28-Aug 2023	26-Feb 2024	26-Aug 2024
Antimony (mg/l)	0.006	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/l)	0.01	J0.00039	J0.00087	J0.00045	<0.001
Barium (mg/l)	2	0.0581	0.0578	0.0554	0.0477
Beryllium (mg/l)	0.004	0.00035	<0.001	<0.001	<0.001
Cadmium (mg/l)	0.005	<0.001	<0.001	<0.001	<0.001
Calcium (mg/l)		7.72	7.36	8.04	7.46
Chromium (mg/l)	0.1	0.0048	0.0109	0.0061	0.0022
Cobalt (mg/l)	0.073	0.0012	0.0013	J0.0005	J0.00081
Copper (mg/l)	1.3	<0.001	<0.001	<0.001	<0.001
Iron (mg/l)	1.4	0.777	2.22	0.776	J0.0824
Lead (mg/l)	0.015	0.001	<0.001	<0.001	<0.001
Magnesium (mg/l)		5.42	5.82	4.63	4.65
Manganese (mg/l)	0.043	0.0303	0.0364	0.022	0.0215
Mercury (mg/l)	0.002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	0.0015	0.005	0.0089	0.0028
Potassium (mg/l)		1.7	2.01	1.81	1.86
Selenium (mg/l)	0.05	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	<0.001	<0.001	<0.001	<0.001
Sodium (mg/l)		3.37	3.85	3.09	3.48
Thallium (mg/l)	0.002	0.001	<0.001	<0.001	<0.001
Vanadium (mg/l)	0.0086	0.0027	0.0069	0.0028	<0.001
Zinc (mg/l)	0.6	0.0229	0.033	0.027	0.0339

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MW-4 Indicator Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb	22-Aug
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007	2007
Alkalinity (mg/l)	-	5	6	6	5	5	5	5	4	2	3	4	168	4	3	43	NA	c	3	42	4	7	<5	<5	<5	<5	<5
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	0.3	NA	<0.2	err	0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<10	<10	<10	10	<10	<10	<10	<10	10	<10	<10	13	<10	<10	<10	NA	<10	<10	<10	<10	<10	<20	<20	<20	<20	<20
Chloride (mg/l)	250	19	17	14	15	14	7	14	15	15	14	15	29	18	18	1	NA	2.5	26	<10	27	29	29.9	32.9	23.9	28	25
Dissolved Solids (mg/l)	500	85	104	106	108	98	78	114	144	128	156	166	304	205	205	166	NA	297	86	112	254	268	255	217	136	215	266
Hardness (mg/l)	-	25	26	16	29	32	22	36	41	46	59	61	184	150	150	80	NA	132	141	50	134	39	97	86	70	68	91
Nitrate (mg/l)	10	7.5	8.2	7.8	7.8	7.9	5.6	11	12.2	13.6	16.5	19	4.4	19.5	19.5	6.2	NA	31	34.8	6.3	31.3	26.8	21.9	17.6	13.4	18.1	19
pH (S.U.)	6.0 - 8.5	5.1	5.1	5	5.1	4.9	5.3	6.4	8.1	7.7	5.8	5.3	5.5	5.4	6.1	5.9	NA	5.4	5.5	5.7	5.9	5.7	5	4.8	5.4	4.9	4.7
Specific Conductance (us/cm)	-	610	920	920	93	100	62	90	94	99	174	173	NS	179	214	193	NA	175	330	157	186	149	316	283	227	256	283
Sulfate (mg/l)	250	<2	2.6	2.7	2	2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS	<10	19.4	<10	<10	<1	<1	<1	<1	0.5
Turbidity (NTU)	5	NS	1100	NS	3.5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS	NS	NS	NS	NS	3.2	10.9	10.8	0.7	2

MW-4 Metals Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	3-Jun	20-Nov	3-Jun	6-Oct	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb	22-Aug
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007	2007
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Arsenic (mg/l)	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.005	0.0051	<0.005	<0.005
Barium (mg/l)	2	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	0.5	<0.5	<0.05	<0.05	0.074	0.062	0.058	0.051	0.061
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Cadmium (mg/l)	0.005	<0.1	<0.05	<0.0005	<0.05	<0.05	<0.05	<0.05	<0.1	0.1	<0.1	<0.1	<0.1	0.01	<0.5	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.003	<0.003
Calcium (mg/l)		10.6	6.1	4.8	10.7	15.7	4.1	8.1	11.6	11.2	16.4	18.1	52.1	17.4	222	16.9	NA	31.4	38.1	19.6	26.1	33.8	26	23	18	20	25
Chromium (mg/l)	0.1	<0.23	<0.05	0.07	0.08	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	0.1	<0.1	<0.1	<0.1	<0.005	<0.005	0.065	<0.005	<0.005
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Copper (mg/l)	1.3	<0.1	<0.05	<0.05	<0.05	<0.05	0.07	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005	<0.005
Iron (mg/l)	1.4	88.5	6.88	30.47	33.95	5.11	1.98	0.1	3.17	<0.5	<0.5	4.62	6.6	2.02	2	1.35	NA	6.64	33.4	5.74	1.7	0.55	0.19	1.6	32	0.093	<0.1
Lead (mg/l)	0.015	<0.5	<0.5	<0.5	0.027	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.1	<0.1	<0.1	NA	<0.1	<0.1	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005	<0.005
Magnesium (mg/l)		6.1	2.6	2.7	6	5.7	1.3	2.1	3.2	2.9	4.2	5.06	17.5	4.91	6.23	7.75	NA	8.89	11.7	7.58	7.36	7.63	7.7	7	5.9	4.7	6.7
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Mercury (mg/l)	0.002	<0.1	<0.0005	<0.0005	<0.0005	<0.0005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	<0.1	<0.1	<0.0002	<0.002	NA	<0.002	<0.002	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001	<0.001
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Potassium (mg/l)		15.6	4	6.43	6.6	3.7	1.5	3.5	3.18	2.7	2.5	2.94	7.38	3.35	3.34	3.46	NA	4.47	8.02	4.89	4.42	4.98	3.4	3.3	5.6	2.5	3.1
Selenium (mg/l)	0.05	<0.05	<0.01	<0.01	<0.05	<0.0005	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.1	<0.05	NA	<0.05	<0.05	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005	<0.005
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Sodium (mg/l)		7.9	7.3	8.9	14.9	8.3	5.8	8.1	11.9	10.6	9.4	9.1	18.5	9.69	10.6	16.2	NA	8.63	7.58	5.92	9.39	7.72	9	11	12	10	10
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NA	NS									
Zinc (mg/l)	0.6	<0.5	<0.5	0.1	<0.1	<0.05	0.07	<0.1	<0.05	0.5	<0.5	0.5	<0.5	<0.5	<0.5	<0.5	NA	<0.5	<0.5	<0.5	<0.5	<0.5	<0.05	<0.05	0.095	<0.05	<0.05

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
 NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
 J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-4 Indicator Analytical Results

Parameter	GW* Standard	27-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug	23-Feb
		2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020	2021
Alkalinity (mg/l)	-	<5	7	113	<5	6.5	6	9	9	8	5	8	3	5.2	5.4	5.4	4.9	5.8	2.8	3.7	2.5	2.2	1.1	3.2	2	2.8	2.8
Ammonia (mg/l)	-	<0.2	0.38	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	26	<20	<20	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5	<5	<5	<5	<5	<5	<5	<5	<20
Chloride (mg/l)	250	24	25	21	12	23	19	23	22	20	16	17	12	16	17	15	11	13	13	12	10	11	10	14	11	11	10
Dissolved Solids (mg/l)	500	190	272	200	81	230	120	160	150	170	110	160	96	140	96	130	79	110	92	110	94	110	99	82	72	80	83
Hardness (mg/l)	-	NS	73	67	38	82	70	68	73	73	50	55	44	52	52	51	40	42	45	38	38	39	37	41	41	41	38
Nitrate (mg/l)	10	18	19	18	14	21	16	16	16	14	9.6	12	11	10	9.7	8.9	8.5	9.7	7.7	8.6	11	9.7	10	7.1	7.8	8.3	8.9
pH (S.U.)	6.0 - 8.5	4.6	4.9	4.6	5	4.8	4.6	5.3	6.5	4.7	6	5.1	5.4	5.2	5	4.9	5.1	5	6.2	5.1	5.2	5.2	5.5	5.4	5.4	5.2	5.2
Specific Conductance (us/cm)	-	240	280	194	173	267	243	210	250	210	160	180	150	180	160	170	150	150	130	120	130	130	130	120	120	120	120
Sulfate (mg/l)	250	<0.1	0.4	<0.2	0.3	<0.2	<0.2	0.4	<1	<1	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5
Turbidity (NTU)	5	1.7	1700	31	2	2.3	2.9	1.8	1.5	2.9	4.5	0.5	0.47	1.3	0.66	0.37	1	0.47	1.6	<0.5	0.71	0.77	<0.5	0.65	0.46	150	0.9

MW-4 Metals Analytical Results

Parameter	GW* Standard	27-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug	23-Feb
		2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020	2021
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/l)	0.01	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.051	0.094	0.056	0.028	0.078	0.066	0.066	0.065	0.068	0.041	0.051	0.038	0.051	0.05	0.053	0.0307	0.0399	0.041	0.0359	0.0299	0.0308	0.0278	0.0362	0.0318	0.0345	0.0294
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	J0.00025	J0.00031	J0.0004	J0.00043
Cadmium (mg/l)	0.005	<0.003	<0.003	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	J0.00021	<0.001
Calcium (mg/l)		19	19	18	10	22	19	20	20	20	14	15	12	14	14	14	11.1	11.5	11.9	10.5	10.3	10.7	9.68	11.8	11.2	11.6	10.3
Chromium (mg/l)	0.1	<0.005	0.005	<0.005	0.0016	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0011	0.0016	J0.00082	J0.00079	0.0015	0.0013
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0037	0.0013	0.0043	0.0037	0.0048	0.0016	0.0021	0.0025	0.0017	<0.001	0.0012	<0.001	0.0024	0.0011	J0.00083	J0.00084
Copper (mg/l)	1.3	0.013	0.056	<0.005	0.0025	0.0025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.0034	J0.00085	0.0101	<0.001
Iron (mg/l)	1.4	0.12	0.44	1.7	0.11	<0.1	<0.1	<0.1	<0.1	<0.1	0.15	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.168	<0.1	<0.1	J0.0464	J0.0328	0.161	0.0516
Lead (mg/l)	0.015	<0.005	0.0075	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Magnesium (mg/l)		5.2	5.9	5.1	3.2	6.4	5.3	4.7	5.6	5.6	3.6	4.2	3.4	4.1	4.2	3.9	3.03	3.34	3.67	2.87	3.09	2.93	3.05	2.72	3.15	3.01	3.04
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.2	0.064	0.21	0.19	0.22	0.0698	0.0973	0.146	0.0953	0.0411	0.0593	0.0302	0.137	0.0648	0.0332	0.0377
Mercury (mg/l)	0.002	<0.001	<0.001	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0018	0.0022	0.0019	<0.001	0.0019	0.0019	0.0019	0.0015	0.0015	0.002	0.0022	0.0026	0.0019	0.0026	0.0026	0.0022
Potassium (mg/l)		2.8	2.9	2.8	2.2	2.6	2.8	2.8	2.7	2.7	2.3	2.4	2.4	2.4	2.7	2.6	1.95	2.27	2.23	2.38	2.29	2.16	2.24	1.91	2.37	2.33	2.2
Selenium (mg/l)	0.05	<0.005	<0.005	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/l)		11	9.2	9.5	12	8.5	10	4.8	8.7	8	8.7	6.4	8.2	6.8	6	5.5	5.55	5.91	4.47	4.01	6.03	5.25	5.64	3.26	4.68	5.33	4.87
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	J0.00014	J0.00018	J0.00032	<0.001
Zinc (mg/l)	0.6	0.037	0.07	0.021	0.041	0.028	<0.02	<0.02	0.023	<0.02	<0.02	<0.02	0.029	0.026	0.027	0.026	0.0211	0.0255	<0.02	0.0203	0.0249	0.023	0.0231	0.0213	0.0284	0.0331	0.0286

Parameter	GW* Standard	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2022	2022	2023	2023	2024	2024
Alkalinity (mg/l)	-	5	4.5	2.3	1.8	2.2	<1	2.4
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	<20	<20	<20	<20	<20
Chloride (mg/l)	250	12	12	30	11	11	9.6	11
Dissolved Solids (mg/l)	500	110	85	110	67	110	87	100
Hardness (mg/l)	-	31	32	42	34	36	42	38
Nitrate (mg/l)	10	5.6	6.1	6.5	8	8	9.4	7.6
pH (S.U.)	6.0 - 8.5	5.3	5.5	5.2	5.1	5.2	5.2	5.1
Specific Conductance (us/cm)	-	110	110	150	97	110	130	110
Sulfate (mg/l)	250	<5	<5	<5	<5	<5	1	<1
Turbidity (NTU)	5	1.2	0.75	0.5	0.7	0.75	3.6	1.2

Parameter	GW* Standard	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2022	2022	2023	2023	2024	2024
Antimony (mg/l)	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/l)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.0274	0.0324	0.0649	0.0307	0.0284	0.0329	0.0326
Beryllium (mg/l)	0.004	<0.001	<0.001	0.00048	0.00048	<0.001	<0.001	<0.001
Cadmium (mg/l)	0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/l)		7.78	9.58	7.83	9.68	9.81	11.4	10.4
Chromium (mg/l)	0.1	0.00089	0.00079	0.002	0.001	<0.001	0.0018	0.0018
Cobalt (mg/l)	0.073	0.0015	0.0012	0.00081	0.00075	0.00067	0.00079	0.00089
Copper (mg/l)	1.3	<0.001	<0.001	0.0032	<0.001	<0.001	<0.001	<0.001
Iron (mg/l)	1.4	0.0862	0.0598	0.136	<0.1	<0.1	0.127	0.0817
Lead (mg/l)	0.015	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Magnesium (mg/l)		2.59	2.57	5.24	2.71	2.7	3.35	2.96
Manganese (mg/l)	0.043	0.0917	0.0951	0.0289	0.0465	0.0441	0.0325	0.0739
Mercury (mg/l)	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	0.0013	<0.001	0.0034	<0.001	0.0017	0.0035	0.0021
Potassium (mg/l)		2.05	2.09	2.38	2.01	2.18	2.4	2.27
Selenium (mg/l)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/l)		3.49	3.33	3.75	3.75	3.88	4.47	3.79
Thallium (mg/l)	0.002	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium (mg/l)	0.0086	<0.001	<0.001	0.00051	<0.001	<0.001	<0.001	<0.001
Zinc (mg/l)	0.6	0.0217	0.0191	0.037	0.0141	0.0229	0.0275	0.028

EARTH DATA INCORPORATED

MW-5 Indicator Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	4-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007
Alkalinity (mg/l)	-	2	2	2	2	3	49	8	47	81	165	100	54	160	84	122	38	82	NS	DRY	42	48	39	28	30.5	30	27
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	0.5	<0.2	0.2	0.7	0.8	0.5	0.4	1	1.6	0.5	0.3	0.7	0.5	DRY	0.3	<0.2	<0.2	0.2	0.42	0.21	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<10	<10	<10	<10	<10	39	22	800	61	28	27	208	64	280	26	10	10	<10	DRY	<10	<10	<10	<20	<20	<20	<20
Chloride (mg/l)	250	23	26	25	27	29	134	21	31	86	57	78	15	30	33	42	10	39	<10	DRY	<10	<10	38	8.6	7.3	6.3	7.1
Dissolved Solids (mg/l)	500	426	360	324	356	280	892	162	136	628	448	474	142	308	236	346	162	258	218	DRY	112	112	112	101	91	106	91
Hardness (mg/l)	-	165	143	134	148	133	460	32	34	300	238	256	69	244	30	212	94	166	134	DRY	49	86	123	62	55	47	40
Nitrate (mg/l)	10	17.2	20	19	18.3	16.8	5.6	11.7	<0.2	6.7	10.6	6.3	0.4	4.7	3.9	4	6.6	2.9	5	DRY	6.2	5.8	6.9	7.4	4.4	3.5	4.6
pH (S.U.)	6.0 - 8.5	4.6	4.5	4.9	4.4	4.6	5.2	5.6	7.4	7.2	NS	6.7	6.1	5.9	5.9	6	5.9	5.9	5.6	DRY	5.8	5.9	5.8	5.8	5.5	6	5.5
Specific Conductance (us/cm)	-	572	510	493	265	395	1096	687	325	745	NS	655	426	NS	310	462	223	260	421	DRY	155	184	134	176	155	143	132
Sulfate (mg/l)	250	184.6	139	123	142.9	92	NS	NS	NS	NS	NS	NS	NS	NS	NS	73.4	34.3	64	68.2	DRY	18.9	12.5	<10	6.9	8	8.4	6
Turbidity (NTU)	5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS	NS	NS	0.7	33.1	1.5	0.2

MW-5 Metals Analytical Results

Parameter	GW* Standard	2-Mar	15-May	22-May	31-May	10-Oct	4-Jun	20-Nov	3-Jun	6-Oct	8-Jun	26-Oct	28-Jun	28-Sep	19-Jun	13-Nov	18-Jun	29-Oct	17-Jun	7-Oct	14-Jul	23-Feb	15-Nov	10-Aug	27-Feb	23-Aug	21-Feb
		1995	1995	1995	1995	1995	1996	1996	1997	1997	1998	1998	1999	1999	2000	2000	2001	2001	2002	2002	2003	2004	2004	2005	2006	2006	2007
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Arsenic (mg/l)	0.01	<0.05	<0.01	<0.01	<0.01	<0.01	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	DRY	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Barium (mg/l)	2	<0.5	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	DRY	<0.5	<0.05	<0.05	0.034	0.024	0.023	0.022
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Cadmium (mg/l)	0.005	<0.1	<0.05	<0.0005	<0.0005	<0.05	<0.05	<0.05	0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.5	<0.5	DRY	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.003
Calcium (mg/l)		53.9	27.8	23.6	4.6	29.8	88.9	42.5	6.5	66.2	60.5	60.5	29.5	60.9	38.9	55.6	26.5	43	34.1	DRY	19.8	17.8	17.4	14	13	11	9.5
Chromium (mg/l)	0.1	0.11	0.06	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.39	DRY	<0.1	<0.1	<0.1	0.0066	0.0059	0.016	<0.005
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Copper (mg/l)	1.3	<0.1	<0.05	<0.05	<0.05	<0.05	<0.1	<0.1	<0.1	<0.1	0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	DRY	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Iron (mg/l)	1.4	23.5	14.7	8.83	3.48	7.67	0.38	10.3	9.71	7.1	2.3	2.6	13.2	2.05	0.88	3.12	1.68	4.34	84.6	DRY	<0.5	1.1	4.81	<0.1	0.23	2.8	0.015
Lead (mg/l)	0.015	0.05	<0.5	0.065	0.024	<0.5	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25	<0.1	<0.1	<0.1	<0.1	<0.1	DRY	<0.1	<0.1	<0.1	<0.005	<0.005	<0.005	<0.005
Magnesium (mg/l)		14.3	14.8	14.1	2.8	15.8	38.7	21.6	3.8	29.4	24.6	38.7	9.93	18.7	13.6	21.5	7.58	16.1	17.4	DRY	7.34	7.13	7.15	6.5	5.3	4.5	3.8
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Mercury (mg/l)	0.002	<0.0002	<0.0005	<0.0005	<0.0005	<0.0005	<0.0002	<0.002	<0.002	<0.002	<0.002	<0.002	NS	<0.002	<0.002	<0.002	<0.002	<0.002	<0.002	DRY	<0.002	<0.002	<0.002	<0.001	<0.001	<0.001	<0.001
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Potassium (mg/l)		10.7	10.5	6.72	3.6	9.5	6.4	11.6	1.8	9.1	5.8	6.4	3.68	7.71	5.51	5.34	3.42	5.61	19.4	DRY	3.89	3.22	4.48	3.2	3.1	3.2	2.4
Selenium (mg/l)	0.05	<0.05	<0.01	<0.01	<0.05	<0.025	<0.25	<0.05	<0.05	<0.05	<0.05	<0.05	NS	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	DRY	<0.05	<0.05	<0.05	<0.005	<0.005	<0.005	<0.005
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Sodium (mg/l)		4.94	32.9	35.8	8.8	29.4	107.7	5.82	23.9	23.9	48	48	14.5	7.71	11.2	22.6	17.6	25.5	22.2	DRY	5.89	4.26	4.73	4	3.6	3.3	2.8
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	DRY	NS						
Zinc (mg/l)	0.6	0.19	<0.5	0.19	<0.1	0.16	0.5	0.17	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	DRY	<0.5	<0.5	<0.5	<0.05	<0.05	<0.05	<0.05

* Groundwater (GW) Standard based on EPA Maximum Contaminant Level, EPA Secondary Drinking Water Standard, or MDE Cleanup Standard for Type I/II Aquifers
 NS = parameter not sampled; ND = result below detection limit; NA = not available or not sampled
 J = Result is an approximate value that is less than the laboratory Reporting Limit (RL) but greater than or equal to the laboratory Method Detection Limit (MDL).

MW-5 Indicator Analytical Results

Parameter	GW* Standard	22-Aug	26-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020
Alkalinity (mg/l)	-	20.5	22.5	20	5	19	18	16	17	13	17	18	13	15	14.9	14.9	12.8	13.3	12	10	14	12	7.7	9.2	11	13	
Ammonia (mg/l)	-	<0.2	<0.2	0.23	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	10	<20	<20	<10	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Chloride (mg/l)	250	7.8	6.3	6.4	4.4	5.3	5.3	4	5.6	4.8	4.2	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	5.6	<5	<5	14.5	5.3	6
Dissolved Solids (mg/l)	500	83	86	87	75	94	93	76	53	90	19	<10	62	39	43	30	29	<10	52	48	79	41	69	46	54	68	81
Hardness (mg/l)	-	46	NS	34	34	38	31	33	30	28	28	27	24	26	21	22	22	20	24	22	25	25	24	23	25	23	28
Nitrate (mg/l)	10	4.4	4.5	4.9	4.3	5.5	4.4	3	3	3.2	2.8	3	2.4	2.5	1.3	1.7	1.3	1.7	3.4	2.8	3.2	3.8	4.1	4.5	4.7	4.4	4.6
pH (S.U.)	6.0 - 8.5	5.7	5.1	5.4	5.2	5.6	5.3	5.3	6.4	6.8	5.2	6.4	5.6	5.8	5.8	5.6	5.6	5.6	5.6	6.6	5.6	5.5	5.7	6	5.9	5.9	5.5
Specific Conductance (us/cm)	-	132	122	113	92.9	119	103	94.3	79	92	80	80	74	71	67	61	64	68	79	72	73	43	76	75	82	80	83
Sulfate (mg/l)	250	5.7	5	5.2	4	4.5	3.4	1.9	3.1	4.1	2.7	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	
Turbidity (NTU)	5	0.9	2.5	6.3	1	1.2	6.1	12	2.8	1.7	2.4	3.1	1.1	1	1.5	1.9	1.7	2.2	2.5	3.8	2.3	1.1	2.4	1	1.7	1.7	0.51

MW-5 Metals Analytical Results

Parameter	GW* Standard	22-Aug	26-Feb	20-Aug	11-Aug	22-Mar	17-Aug	22-Feb	10-Aug	29-Feb	14-Aug	19-Feb	15-Aug	25-Feb	26-Aug	23-Feb	19-Aug	22-Feb	6-Sep	6-Mar	8-Aug	26-Feb	29-Aug	25-Feb	26-Aug	24-Feb	24-Aug
		2007	2008	2008	2009	2010	2010	2011	2011	2012	2012	2013	2013	2014	2014	2015	2015	2016	2016	2017	2017	2018	2018	2019	2019	2020	2020
Antimony (mg/l)	0.006	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	
Arsenic (mg/l)	0.01	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Barium (mg/l)	2	0.022	0.021	0.021	0.017	0.018	0.028	0.061	0.015	0.014	0.015	0.013	0.013	0.015	0.012	0.013	0.011	0.01	0.0128	0.0125	0.0154	0.0138	0.0145	0.0146	0.0151	0.0138	0.0172
Beryllium (mg/l)	0.004	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Cadmium (mg/l)	0.005	<0.003	<0.003	<0.003	<0.003	<0.001	<0.003	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	10.00015
Calcium (mg/l)		11	9.8	7.6	8.3	9.2	4	7.8	7.1	6.7	6.4	6.7	5.7	6.3	4.8	5	5	4.88	5.5	4.88	5.48	5.84	5.66	4.85	6.04	5.06	6.41
Chromium (mg/l)	0.1	0.005	<0.005	0.0054	<0.005	0.0038	<0.005	0.0067	0.0034	0.0038	0.0046	0.0044	0.0039	0.0035	0.0035	0.0044	0.0045	0.0038	0.0046	0.0043	0.004	0.0035	0.0047	0.0034	0.0033	0.0037	0.0029
Cobalt (mg/l)	0.073	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0013	0.0013	0.0013	0.0012	0.0011	0.0012	0.0013	0.0012	0.0013	0.0012	0.0012	0.0012	0.0012	0.0011	
Copper (mg/l)	1.3	<0.005	<0.005	0.0094	<0.005	0.0055	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Iron (mg/l)	1.4	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	0.51	<0.1	<0.1	<0.1	0.16	<0.1	<0.1	<0.1	0.13	0.11	0.109	0.195	0.235	0.203	<0.1	0.295	<0.1	10.0402	0.106	10.0219
Lead (mg/l)	0.015	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Magnesium (mg/l)		4.5	4.2	3.6	3.3	3.6	1.7	3.3	3	2.8	2.9	2.5	2.4	2.4	2.1	2.3	2.2	1.92	2.45	2.4	2.64	2.56	2.5	2.67	2.47	2.61	2.83
Manganese (mg/l)	0.043	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.06	0.084	0.057	0.052	0.052	0.0499	0.0549	0.0521	0.0566	0.0537	0.0564	0.0647	0.0591	0.0569	0.0571
Mercury (mg/l)	0.002	<0.001	<0.001	<0.001	<0.001	<0.0002	<0.001	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	0.0016	0.0017	0.0014	<0.001	0.0013	0.0015	0.0015	0.0017	0.002	0.0019	0.002	0.0021	0.0019	0.002	0.002
Potassium (mg/l)		2.8	2.8	2.2	2.3	2.8	1.9	2.6	2.4	2.3	2.2	2.1	2.1	2.3	2	2.2	1.83	2.27	2.06	2.46	2.32	2.23	2.15	2.04	2.38	2.43	
Selenium (mg/l)	0.05	<0.005	<0.005	<0.005	<0.005	<0.001	<0.005	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Silver (mg/l)	0.0094	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Sodium (mg/l)		3.6	3.6	3.3	3.1	3.5	5.5	3.4	3.6	3.4	3.5	2.9	2.9	2.7	2.3	2.6	2.5	2.18	3.04	2.5	2.78	2.88	2.87	3.16	2.93	3.17	3.57
Thallium (mg/l)	0.002	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	
Vanadium (mg/l)	0.0086	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (mg/l)	0.6	<0.05	0.024	0.038	0.024	0.031	<0.02	0.033	<0.02	0.023	0.026	<0.02	0.021	0.026	0.023	0.026	0.021	0.0203	0.0246	0.0235	0.0266	0.0236	0.0235	0.0211	0.0248	0.0272	0.0204

EARTH DATA INCORPORATED

Parameter	GW* Standard	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2022	2022	2023	2023	2024	2024
Alkalinity (mg/l)	-	7.3	8.2	8.7	7.3	6.6	15	7.4	6
Ammonia (mg/l)	-	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2	<0.2
Chemical Oxygen Demand (COD) (mg/l)	-	<20	<20	<20	<20	<20	<20	<20	19.8
Chloride (mg/l)	250	6	6.5	6.6	14	6.3	5.1	3.6	6.5
Dissolved Solids (mg/l)	500	46	100	60	67	36	25	40	61
Hardness (mg/l)	-	28	26	26	33	22	22	19	27
Nitrate (mg/l)	10	5.6	5	4.2	4.2	4	3.8	2.9	4.6
pH (S.U.)	6.0 - 8.5	5.7	5.6	5.8	5.5	5.5	5.5	5.8	5.4
Specific Conductance (us/cm)	-	93	90	84	89	69	70	67	86
Sulfate (mg/l)	250	<5	<5	<5	<5	11.1	<5	1.3	10.85
Turbidity (NTU)	5	2.4	1.9	21	2.1	0.85	3.9	1.5	1.3

Parameter	GW* Standard	23-Feb	31-Aug	28-Feb	29-Aug	27-Feb	28-Aug	26-Feb	26-Aug
		2021	2021	2022	2022	2023	2023	2024	2024
Antimony (mg/l)	0.006	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005
Arsenic (mg/l)	0.01	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Barium (mg/l)	2	0.0172	0.0151	0.015	0.0289	0.015	0.0126	0.0122	0.0163
Beryllium (mg/l)	0.004	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Cadmium (mg/l)	0.005	10.00018	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Calcium (mg/l)		6.79	5	5.79	8.54	5.2	5.14	4.52	6.11
Chromium (mg/l)	0.1	0.0034	0.0037	0.0034	10.00083	0.003	0.0033	0.0031	0.0029
Cobalt (mg/l)	0.073	0.0016	0.0015	0.0013	10.00087	0.0011	0.0011	10.00087	0.0011
Copper (mg/l)	1.3	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Iron (mg/l)	1.4	0.0877	0.118	10.0827	<0.1	<0.1	10.0839	<0.1	<0.1
Lead (mg/l)	0.015	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Magnesium (mg/l)		3.14	3.01	2.67	2.55	2.42	2.28	2.11	2.94
Manganese (mg/l)	0.043	0.0779	0.0663	0.0629	0.0714	0.0596	0.0541	0.0451	0.0557
Mercury (mg/l)	0.002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002	<0.0002
Nickel (mg/l)	0.039	0.0026	0.0025	<0.001	0.0013	<0.001	0.0017	0.0016	0.0022
Potassium (mg/l)		2.43	2.46	2.36	2.04	2.16	2.33	2.22	2.51
Selenium (mg/l)	0.05	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Silver (mg/l)	0.0094	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Sodium (mg/l)		3.7	3.73	3.38	3.11	2.99	3.07	2.66	3.16
Thallium (mg/l)	0.002	<0.001	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001
Vanadium (mg/l)	0.0086	<0.001	10.0004	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001
Zinc (mg/l)	0.6	0.0292	0.0273	0.0259	0.0212	10.0153	0.0243	0.0202	0.0329

EARTH DATA INCORPORATED

APPENDIX F

Statistical Analysis Report

Mann-Kendall Trend Analysis
Parameter: Dissolved Solids
Location: MW-1
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
84	61	23	1	0
78	61	17	2	0
122	61	61	3	0
52	61	-9	3	1
364	61	303	4	1
70	61	9	5	1
492	61	431	6	1
58	61	-3	6	2
68	61	7	7	2
47	61	-14	7	3
65	61	4	8	3
44	61	-17	8	4
76	61	15	9	4
39	61	-22	9	5
54	61	-7	9	6
19	61	-42	9	7
24	61	-37	9	8
117	61	56	10	8
40	61	-21	10	9
47	61	-14	10	10
51	61	-10	10	11
57	61	-4	10	12
51	61	-10	10	13
73	61	12	11	13
73	61	12	12	13
81	61	20	13	13
81	61	20	14	13
64	61	3	15	13
60	61	-1	15	14
100	61	39	16	14
110	61	49	17	14
60	61	-1	17	15
67	61	6	18	15
91	61	30	19	15
64	61	3	20	15
100	61	39	21	15
90	61	29	22	15
89	61	28	23	15
68	61	7	24	15
92	61	31	25	15
73	61	12	26	15
120	61	59	27	15
110	61	49	28	15
140	61	79	29	15
110	61	49	30	15
170	61	109	31	15
130	61	69	32	15

2/26/2008	1
8/20/2008	1
8/11/2009	1
3/22/2010	1
8/17/2010	1
2/22/2011	1
8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 654

B = 0

C = 66

D = 0

E = 58

F = 0

a = 420906

b = 1.75549e+006

c = 6844

Group Variance = 23347.3

Z-Score = 5.1244

Comparison Level at 95% confidence level = 1.65463 (upward trend)

5.1244 > 1.65463 indicating an upward trend

Mann-Kendall Trend Analysis
Parameter: Dissolved Solids
Location: MW-2
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
116	103	13	1	0
122	103	19	2	0
138	103	35	3	0
106	103	3	4	0
102	103	-1	4	1
72	103	-31	4	2
62	103	-41	4	3
74	103	-29	4	4
142	103	39	5	4
492	103	389	6	4
46	103	-57	6	5
50	103	-53	6	6
54	103	-49	6	7
42	103	-61	6	8
56	103	-47	6	9
80	103	-23	6	10
99	103	-4	6	11
78	103	-25	6	12
118	103	15	7	12
104	103	1	8	12
100	103	-3	8	13
99	103	-4	8	14
102	103	-1	8	15
119	103	16	9	15
108	103	5	10	15
116	103	13	11	15
90	103	-13	11	16
117	103	14	12	16
120	103	17	13	16
60	103	-43	13	17
120	103	17	14	17
94	103	-9	14	18
80	103	-23	14	19
74	103	-29	14	20
73	103	-30	14	21
58	103	-45	14	22
87	103	-16	14	23
59	103	-44	14	24
74	103	-29	14	25
35	103	-68	14	26
67	103	-36	14	27
41	103	-62	14	28
67	103	-36	14	29
63	103	-40	14	30
80	103	-23	14	31
98	103	-5	14	32
70	103	-33	14	33

8/20/2008	1
8/11/2009	1
3/22/2010	1
8/17/2010	1
2/22/2011	1
8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 426

B = 0

C = 42

D = 0

E = 38

F = 0

a = 442500

b = 1.84788e+006

c = 7080

Group Variance = 24559.7

Z-Score = -0.995436

Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)

| -0.995436 | ≤ 1.97737 indicating no evidence of a trend

Mann-Kendall Trend Analysis
Parameter: Dissolved Solids
Location: MW-4
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
104	85	19	1	0
106	85	21	2	0
108	85	23	3	0
98	85	13	4	0
78	85	-7	4	1
114	85	29	5	1
144	85	59	6	1
128	85	43	7	1
156	85	71	8	1
166	85	81	9	1
304	85	219	10	1
205	85	120	11	1
205	85	120	12	1
166	85	81	13	1
297	85	212	14	1
86	85	1	15	1
112	85	27	16	1
254	85	169	17	1
268	85	183	18	1
255	85	170	19	1
217	85	132	20	1
136	85	51	21	1
215	85	130	22	1
266	85	181	23	1
190	85	105	24	1
272	85	187	25	1
200	85	115	26	1
81	85	-4	26	2
230	85	145	27	2
120	85	35	28	2
160	85	75	29	2
150	85	65	30	2
170	85	85	31	2
110	85	25	32	2
160	85	75	33	2
96	85	11	34	2
140	85	55	35	2
96	85	11	36	2
130	85	45	37	2
79	85	-6	37	3
110	85	25	38	3
92	85	7	39	3
110	85	25	40	3
94	85	9	41	3
110	85	25	42	3
99	85	14	43	3
82	85	-3	43	4

8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 888

B = 0

C = 210

D = 0

E = 52

F = 0

a = 400026

b = 1.66622e+006

c = 6612

Group Variance = 22174.3

Z-Score = -3.02195

Comparison Level at 95% confidence level = -1.65463 (downward trend)

-3.02195 < -1.65463 indicating a downward trend

Mann-Kendall Trend Analysis
Parameter: Dissolved Solids
Location: MW-5
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
360	426	-66	0	1
324	426	-102	0	2
356	426	-70	0	3
280	426	-146	0	4
892	426	466	1	4
162	426	-264	1	5
136	426	-290	1	6
628	426	202	2	6
448	426	22	3	6
474	426	48	4	6
142	426	-284	4	7
308	426	-118	4	8
236	426	-190	4	9
346	426	-80	4	10
162	426	-264	4	11
258	426	-168	4	12
218	426	-208	4	13
ND<0 R	426	-426	4	14
112	426	-314	4	15
112	426	-314	4	16
112	426	-314	4	17
101	426	-325	4	18
91	426	-335	4	19
106	426	-320	4	20
91	426	-335	4	21
83	426	-343	4	22
86	426	-340	4	23
87	426	-339	4	24
75	426	-351	4	25
94	426	-332	4	26
93	426	-333	4	27
76	426	-350	4	28
53	426	-373	4	29
90	426	-336	4	30
19	426	-407	4	31
ND<10	426	-416	4	32
62	426	-364	4	33
39	426	-387	4	34
43	426	-383	4	35
30	426	-396	4	36
29	426	-397	4	37
ND<10	426	-416	4	38
52	426	-374	4	39
48	426	-378	4	40
79	426	-347	4	41
41	426	-385	4	42
69	426	-357	4	43

8/17/2010	1
2/22/2011	1
8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 138

B = 0

C = 6

D = 0

E = 14

F = 0

a = 442500

b = 1.84788e+006

c = 7080

Group Variance = 24575.7

Z-Score = -7.02957

Comparison Level at 95% confidence level = -1.65463 (downward trend)

-7.02957 < -1.65463 indicating a downward trend

Mann-Kendall Trend Analysis
Parameter: Dissolved Solids
Location: MW-3
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
134	150	-16	0	1
136	150	-14	0	2
332	150	182	1	2
134	150	-16	1	3
154	150	4	2	3
104	150	-46	2	4
130	150	-20	2	5
23	150	-127	2	6
131	150	-19	2	7
48	150	-102	2	8
98	150	-52	2	9
48	150	-102	2	10
60	150	-90	2	11
42	150	-108	2	12
64	150	-86	2	13
260	150	110	3	13
223	150	73	4	13
ND<0 R	150	-150	4	14
115	150	-35	4	15
78	150	-72	4	16
114	150	-36	4	17
91	150	-59	4	18
110	150	-40	4	19
88	150	-62	4	20
110	150	-40	4	21
130	150	-20	4	22
89	150	-61	4	23
87	150	-63	4	24
110	150	-40	4	25
92	150	-58	4	26
59	150	-91	4	27
90	150	-60	4	28
80	150	-70	4	29
170	150	20	5	29
71	150	-79	5	30
10	150	-140	5	31
61	150	-89	5	32
40	150	-110	5	33
110	150	-40	5	34
92	150	-58	5	35
130	150	-20	5	36
100	150	-50	5	37
110	150	-40	5	38
83	150	-67	5	39
87	150	-63	5	40
110	150	-40	5	41
45	150	-105	5	42

8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 1038

B = 0

C = 222

D = 0

E = 66

F = 0

a = 360360

b = 1.49688e+006

c = 6160

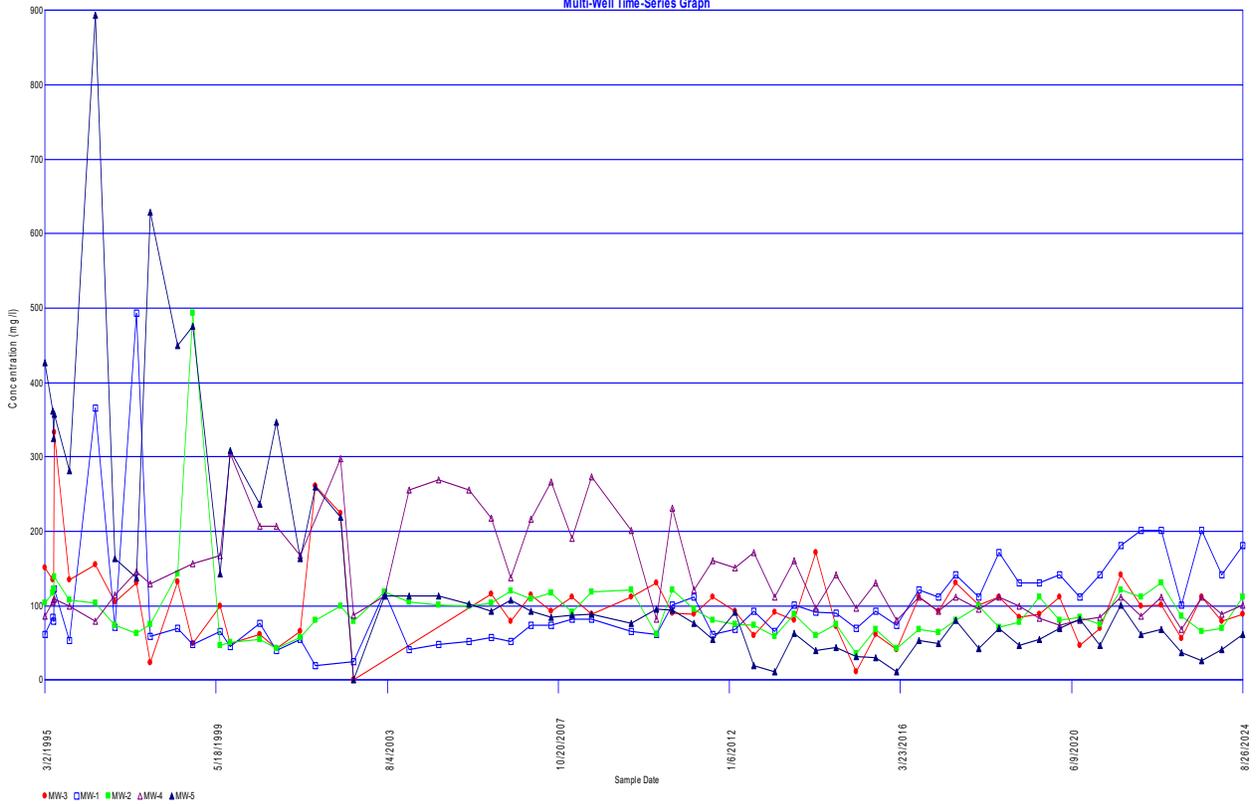
Group Variance = 19962.3

Z-Score = -1.99592

Comparison Level at 95% confidence level = -1.65463 (downward trend)

-1.99592 < -1.65463 indicating a downward trend

Dissolved Solids
Multi-Well Time-Series Graph



Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Dissolved Solids

Location: MW-4

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	150	88
	5/15/1995	134	81
	5/22/1995	136	83
	5/31/1995	332	114
	10/10/1995	134	82
	6/3/1996	154	90
	11/20/1996	104	52
	6/3/1997	130	76
	10/6/1997	23	3
	6/8/1998	131	80
	10/26/1998	48	7
	6/28/1999	98	45
	9/28/1999	48	8
	6/19/2000	60	11
	11/13/2000	42	5
	6/18/2001	64	13
	10/29/2001	260	108
	6/17/2002	223	104
	10/7/2002	ND<0 R	1
	2/27/2006	115	73
	8/23/2006	78	18
	2/21/2007	114	71
	8/22/2007	91	38
	2/27/2008	110	56
	8/20/2008	88	35
	8/11/2009	110	57
	3/22/2010	130	77
	8/17/2010	89	36
	2/22/2011	87	31
	8/10/2011	110	58
	2/29/2012	92	39
	8/14/2012	59	10
	2/19/2013	90	37
	8/15/2013	80	22
	2/25/2014	170	96
	8/26/2014	71	16
	2/23/2015	10	2
	8/19/2015	61	12
	2/22/2016	40	4
	9/6/2016	110	59
	3/6/2017	92	40
	8/8/2017	130	78
	2/26/2018	100	49
	8/29/2018	110	60
	2/25/2019	83	26
	8/26/2019	87	32
	2/24/2020	110	61
	8/24/2020	45	6
	2/23/2021	68	15
	8/31/2021	140	85
	2/28/2022	98	46
	8/29/2022	100	50
	2/27/2023	55	9
	8/28/2023	110	62
	2/26/2024	78	19

	8/26/2024	87	33
MW-4	3/2/1995	85	28
	5/15/1995	104	53
	5/22/1995	106	54
	5/31/1995	108	55
	10/10/1995	98	47
	6/3/1996	78	20
	11/20/1996	114	72
	6/3/1997	144	87
	10/6/1997	128	75
	10/26/1998	156	91
	6/28/1999	166	94
	9/28/1999	304	113
	6/19/2000	205	100
	11/13/2000	205	101
	6/18/2001	166	95
	6/17/2002	297	112
	10/7/2002	86	30
	7/14/2003	112	70
	2/23/2004	254	106
	11/15/2004	268	110
	8/10/2005	255	107
	2/27/2006	217	103
	8/23/2006	136	84
	2/21/2007	215	102
	8/22/2007	266	109
	2/27/2008	190	98
	8/20/2008	272	111
	8/11/2009	200	99
	3/22/2010	81	24
	8/17/2010	230	105
	2/22/2011	120	74
	8/10/2011	160	92
	2/29/2012	150	89
	8/14/2012	170	97
	2/19/2013	110	63
	8/15/2013	160	93
	2/25/2014	96	43
	8/26/2014	140	86
	2/23/2015	96	44
	8/19/2015	130	79
	2/22/2016	79	21
	9/6/2016	110	64
	3/6/2017	92	41
	8/8/2017	110	65
	2/26/2018	94	42
	8/29/2018	110	66
	2/25/2019	99	48
	8/26/2019	82	25
	2/24/2020	72	17
	8/24/2020	80	23
	2/23/2021	83	27
	8/31/2021	110	67
	2/28/2022	85	29
	8/29/2022	110	68
	2/27/2023	67	14
	8/28/2023	110	69
	2/26/2024	87	34
	8/26/2024	100	51

The Wilcoxon Statistic is 2275
 The Expected value is 1624
 The Standard Deviation is 176.428
 The Z Score is 3.68707
 The Standard Deviation adjusted for ties is 176.428

The Z Score adjusted for ties is 3.68707

3.68707 > 2.326 indicating statistical significance at 1% level

3.68707 > 2.326 indicating statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Dissolved Solids

Location: MW-1

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	150	102
	5/15/1995	134	94
	5/22/1995	136	96
	5/31/1995	332	113
	10/10/1995	134	95
	6/3/1996	154	103
	11/20/1996	104	71
	6/3/1997	130	88
	10/6/1997	23	4
	6/8/1998	131	93
	10/26/1998	48	14
	6/28/1999	98	64
	9/28/1999	48	15
	6/19/2000	60	24
	11/13/2000	42	9
	6/18/2001	64	29
	10/29/2001	260	112
	6/17/2002	223	111
	10/7/2002	ND<0 R	1
	2/27/2006	115	84
	8/23/2006	78	43
	2/21/2007	114	83
	8/22/2007	91	59
	2/27/2008	110	72
	8/20/2008	88	54
	8/11/2009	110	73
	3/22/2010	130	89
	8/17/2010	89	55
	2/22/2011	87	51
	8/10/2011	110	74
	2/29/2012	92	61
	8/14/2012	59	23
	2/19/2013	90	57
	8/15/2013	80	46
	2/25/2014	170	104
	8/26/2014	71	38
	2/23/2015	10	2
	8/19/2015	61	27
	2/22/2016	40	7
	9/6/2016	110	75
	3/6/2017	92	62
	8/8/2017	130	90
	2/26/2018	100	66
	8/29/2018	110	76
	2/25/2019	83	49
	8/26/2019	87	52
	2/24/2020	110	77
	8/24/2020	45	11
	2/23/2021	68	34
	8/31/2021	140	97
	2/28/2022	98	65
	8/29/2022	100	67
	2/27/2023	55	20
	8/28/2023	110	78
	2/26/2024	78	44

	8/26/2024	87	53
MW-1	3/2/1995	61	28
	5/15/1995	84	50
	5/22/1995	78	45
	5/31/1995	122	87
	10/10/1995	52	18
	6/3/1996	364	114
	11/20/1996	70	37
	6/3/1997	492	115
	10/6/1997	58	22
	6/8/1998	68	35
	10/26/1998	47	12
	6/28/1999	65	32
	9/28/1999	44	10
	6/19/2000	76	42
	11/13/2000	39	6
	6/18/2001	54	19
	10/29/2001	19	3
	10/7/2002	24	5
	7/14/2003	117	85
	2/23/2004	40	8
	11/15/2004	47	13
	8/10/2005	51	16
	2/27/2006	57	21
	8/23/2006	51	17
	2/21/2007	73	39
	8/22/2007	73	40
	2/26/2008	81	47
	8/20/2008	81	48
	8/11/2009	64	30
	3/22/2010	60	25
	8/17/2010	100	68
	2/22/2011	110	79
	8/10/2011	60	26
	2/29/2012	67	33
	8/14/2012	91	60
	2/19/2013	64	31
	8/15/2013	100	69
	2/25/2014	90	58
	8/26/2014	89	56
	2/23/2015	68	36
	8/19/2015	92	63
	2/22/2016	73	41
	9/6/2016	120	86
	3/6/2017	110	80
	8/8/2017	140	98
	2/26/2018	110	81
	8/29/2018	170	105
	2/25/2019	130	91
	8/26/2019	130	92
	2/24/2020	140	99
	8/24/2020	110	82
	2/23/2021	140	100
	8/31/2021	180	106
	2/28/2022	200	108
	8/29/2022	200	109
	2/27/2023	100	70
	8/28/2023	200	110
	2/26/2024	140	101
	8/26/2024	180	107

The Wilcoxon Statistic is 1544
The Expected value is 1652
The Standard Deviation is 178.714
The Z Score is -0.607116

The Standard Deviation adjusted for ties is 178.714

The Z Score adjusted for ties is -0.607116

-0.607116 < 2.326 indicating no statistical significance at 1% level

-0.607116 < 2.326 indicating no statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Dissolved Solids

Location: MW-2

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	150	110
	5/15/1995	134	104
	5/22/1995	136	106
	5/31/1995	332	115
	10/10/1995	134	105
	6/3/1996	154	111
	11/20/1996	104	74
	6/3/1997	130	99
	10/6/1997	23	3
	6/8/1998	131	103
	10/26/1998	48	11
	6/28/1999	98	63
	9/28/1999	48	12
	6/19/2000	60	20
	11/13/2000	42	7
	6/18/2001	64	25
	10/29/2001	260	114
	6/17/2002	223	113
	10/7/2002	ND<0 R	1
	2/27/2006	115	89
	8/23/2006	78	40
	2/21/2007	114	88
	8/22/2007	91	59
	2/27/2008	110	78
	8/20/2008	88	55
	8/11/2009	110	79
	3/22/2010	130	100
	8/17/2010	89	56
	2/22/2011	87	51
	8/10/2011	110	80
	2/29/2012	92	60
	8/14/2012	59	18
	2/19/2013	90	57
	8/15/2013	80	44
	2/25/2014	170	112
	8/26/2014	71	32
	2/23/2015	10	2
	8/19/2015	61	22
	2/22/2016	40	5
	9/6/2016	110	81
	3/6/2017	92	61
	8/8/2017	130	101
	2/26/2018	100	68
	8/29/2018	110	82
	2/25/2019	83	48
	8/26/2019	87	52
	2/24/2020	110	83
	8/24/2020	45	9
	2/23/2021	68	29
	8/31/2021	140	108
	2/28/2022	98	64
	8/29/2022	100	69
	2/27/2023	55	15
	8/28/2023	110	84
	2/26/2024	78	41

	8/26/2024	87	53
MW-2	3/2/1995	103	73
	5/15/1995	116	90
	5/22/1995	122	98
	5/31/1995	138	107
	10/10/1995	106	76
	6/3/1996	102	71
	11/20/1996	72	33
	6/3/1997	62	23
	10/6/1997	74	35
	6/8/1998	142	109
	10/26/1998	492	116
	6/28/1999	46	10
	9/28/1999	50	13
	6/19/2000	54	14
	11/13/2000	42	8
	6/18/2001	56	16
	10/29/2001	80	45
	6/17/2002	99	66
	10/7/2002	78	42
	7/14/2003	118	93
	2/23/2004	104	75
	11/15/2004	100	70
	8/10/2005	99	67
	2/27/2006	102	72
	8/23/2006	119	94
	2/21/2007	108	77
	8/22/2007	116	91
	2/27/2008	90	58
	8/20/2008	117	92
	8/11/2009	120	95
	3/22/2010	60	21
	8/17/2010	120	96
	2/22/2011	94	62
	8/10/2011	80	46
	2/29/2012	74	36
	8/14/2012	73	34
	2/19/2013	58	17
	8/15/2013	87	54
	2/25/2014	59	19
	8/26/2014	74	37
	2/23/2015	35	4
	8/19/2015	67	27
	2/22/2016	41	6
	9/6/2016	67	28
	3/6/2017	63	24
	8/8/2017	80	47
	2/26/2018	98	65
	8/29/2018	70	31
	2/25/2019	77	39
	8/26/2019	110	85
	2/24/2020	79	43
	8/24/2020	84	49
	2/23/2021	74	38
	8/31/2021	120	97
	2/28/2022	110	86
	8/29/2022	130	102
	2/27/2023	85	50
	8/28/2023	65	26
	2/26/2024	68	30
	8/26/2024	110	87

The Wilcoxon Statistic is 1485
The Expected value is 1680
The Standard Deviation is 180.997

The Z Score is -1.08013

The Standard Deviation adjusted for ties is 180.997

The Z Score adjusted for ties is -1.08013

-1.08013 < 2.326 indicating no statistical significance at 1% level

-1.08013 < 2.326 indicating no statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Dissolved Solids

Location: MW-5

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 4

Non detect rank is 2.5

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	150	95
	5/15/1995	134	89
	5/22/1995	136	91
	5/31/1995	332	108
	10/10/1995	134	90
	6/3/1996	154	96
	11/20/1996	104	71
	6/3/1997	130	85
	10/6/1997	23	7
	6/8/1998	131	88
	10/26/1998	48	21
	6/28/1999	98	65
	9/28/1999	48	22
	6/19/2000	60	29
	11/13/2000	42	16
	6/18/2001	64	34
	10/29/2001	260	104
	6/17/2002	223	101
	10/7/2002	ND<0 R	2.5
	2/27/2006	115	84
	8/23/2006	78	42
	2/21/2007	114	83
	8/22/2007	91	58
	2/27/2008	110	73
	8/20/2008	88	54
	8/11/2009	110	74
	3/22/2010	130	86
	8/17/2010	89	55
	2/22/2011	87	50
	8/10/2011	110	75
	2/29/2012	92	61
	8/14/2012	59	28
	2/19/2013	90	56
	8/15/2013	80	45
	2/25/2014	170	99
	8/26/2014	71	39
	2/23/2015	10	5
	8/19/2015	61	31
	2/22/2016	40	13
	9/6/2016	110	76
	3/6/2017	92	62
	8/8/2017	130	87
	2/26/2018	100	67
	8/29/2018	110	77
	2/25/2019	83	47
	8/26/2019	87	51
	2/24/2020	110	78
	8/24/2020	45	18
	2/23/2021	68	36
	8/31/2021	140	93
	2/28/2022	98	66
	8/29/2022	100	68
	2/27/2023	55	27
	8/28/2023	110	79
	2/26/2024	78	43

	8/26/2024	87	52
MW-5	3/2/1995	426	112
	5/15/1995	360	111
	5/22/1995	324	107
	5/31/1995	356	110
	10/10/1995	280	105
	6/4/1996	892	116
	11/20/1996	162	97
	6/3/1997	136	92
	10/6/1997	628	115
	6/8/1998	448	113
	10/26/1998	474	114
	6/28/1999	142	94
	9/28/1999	308	106
	6/19/2000	236	102
	11/13/2000	346	109
	6/18/2001	162	98
	10/29/2001	258	103
	6/17/2002	218	100
	10/7/2002	ND<0 R	2.5
	7/14/2003	112	80
	2/23/2004	112	81
	11/15/2004	112	82
	8/10/2005	101	70
	2/27/2006	91	59
	8/23/2006	106	72
	2/21/2007	91	60
	8/22/2007	83	48
	2/26/2008	86	49
	8/20/2008	87	53
	8/11/2009	75	40
	3/22/2010	94	64
	8/17/2010	93	63
	2/22/2011	76	41
	8/10/2011	53	25
	2/29/2012	90	57
	8/14/2012	19	6
	2/19/2013	ND<10	2.5
	8/15/2013	62	33
	2/25/2014	39	12
	8/26/2014	43	17
	2/23/2015	30	10
	8/19/2015	29	9
	2/22/2016	ND<10	2.5
	9/6/2016	52	24
	3/6/2017	48	23
	8/8/2017	79	44
	2/26/2018	41	15
	8/29/2018	69	38
	2/25/2019	46	19
	8/26/2019	54	26
	2/24/2020	68	37
	8/24/2020	81	46
	2/23/2021	46	20
	8/31/2021	100	69
	2/28/2022	60	30
	8/29/2022	67	35
	2/27/2023	36	11
	8/28/2023	25	8
	2/26/2024	40	14
	8/26/2024	61	32

The Wilcoxon Statistic is 1603.5
The Expected value is 1680
The Standard Deviation is 180.997

The Z Score is -0.425421

The Standard Deviation adjusted for ties is 180.994

The Z Score adjusted for ties is -0.425429

-0.425421 < 2.326 indicating no statistical significance at 1% level

-0.425429 < 2.326 indicating no statistical significance at 1% level when adjusted for ties

Mann-Kendall Trend Analysis

Parameter: Nitrate

Location: MW-1

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
4.9	4.9	0	0	0
5.1	4.9	0.2	1	0
12.2	4.9	7.3	2	0
3.8	4.9	-1.1	2	1
6.5	4.9	1.6	3	1
5.8	4.9	0.9	4	1
8.5	4.9	3.6	5	1
4.8	4.9	-0.1	5	2
5.7	4.9	0.8	6	2
3.7	4.9	-1.2	6	3
4.3	4.9	-0.6	6	4
3.7	4.9	-1.2	6	5
3.9	4.9	-1	6	6
3	4.9	-1.9	6	7
3.7	4.9	-1.2	6	8
3.1	4.9	-1.8	6	9
2.9	4.9	-2	6	10
6.4	4.9	1.5	7	10
3.2	4.9	-1.7	7	11
3.6	4.9	-1.3	7	12
4.5	4.9	-0.4	7	13
5.9	4.9	1	8	13
5	4.9	0.1	9	13
5.7	4.9	0.8	10	13
5.5	4.9	0.6	11	13
6.3	4.9	1.4	12	13
5.8	4.9	0.9	13	13
6.1	4.9	1.2	14	13
6.5	4.9	1.6	15	13
6.9	4.9	2	16	13
6.1	4.9	1.2	17	13
6.6	4.9	1.7	18	13
6.3	4.9	1.4	19	13
6.5	4.9	1.6	20	13
8.3	4.9	3.4	21	13
8.2	4.9	3.3	22	13
9.3	4.9	4.4	23	13
8.2	4.9	3.3	24	13
9.6	4.9	4.7	25	13
10	4.9	5.1	26	13
11	4.9	6.1	27	13
13	4.9	8.1	28	13
13	4.9	8.1	29	13
14	4.9	9.1	30	13
15	4.9	10.1	31	13
16	4.9	11.1	32	13
16	4.9	11.1	33	13

2/21/2007	1
8/22/2007	1
2/26/2008	1
8/20/2008	1
8/11/2009	1
3/22/2010	1
8/17/2010	1
2/22/2011	1
8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 414

B = 0

C = 18

D = 0

E = 42

F = 0

a = 420906

b = 1.75549e+006

c = 6844

Group Variance = 23360.7

Z-Score = 7.72694

Comparison Level at 95% confidence level = 1.65463 (upward trend)

7.72694 > 1.65463 indicating an upward trend

Mann-Kendall Trend Analysis

Parameter: Nitrate

Location: MW-2

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
11.4	12	-0.6	0	1
11.8	12	-0.2	0	2
11	12	-1	0	3
11.4	12	-0.6	0	4
7.2	12	-4.8	0	5
5.8	12	-6.2	0	6
4.6	12	-7.4	0	7
4.8	12	-7.2	0	8
14.2	12	2.2	1	8
3.7	12	-8.3	1	9
4.3	12	-7.7	1	10
3.8	12	-8.2	1	11
3.9	12	-8.1	1	12
3.1	12	-8.9	1	13
4.1	12	-7.9	1	14
13	12	1	2	14
13.4	12	1.4	3	14
9.8	12	-2.2	3	15
6.4	12	-5.6	3	16
11.5	12	-0.5	3	17
10.3	12	-1.7	3	18
12.1	12	0.1	4	18
10.7	12	-1.3	4	19
11.2	12	-0.8	4	20
9.3	12	-2.7	4	21
10	12	-2	4	22
10	12	-2	4	23
10	12	-2	4	24
10	12	-2	4	25
8.8	12	-3.2	4	26
12	12	0	4	26
8.6	12	-3.4	4	27
8.8	12	-3.2	4	28
6.9	12	-5.1	4	29
7.3	12	-4.7	4	30
6.2	12	-5.8	4	31
7	12	-5	4	32
4.7	12	-7.3	4	33
5.4	12	-6.6	4	34
2.4	12	-9.6	4	35
6.6	12	-5.4	4	36
5.6	12	-6.4	4	37
7.1	12	-4.9	4	38
6.6	12	-5.4	4	39
6.9	12	-5.1	4	40
8	12	-4	4	41
7.8	12	-4.2	4	42

8/22/2007	1
2/27/2008	1
8/20/2008	1
8/11/2009	1
3/22/2010	1
8/17/2010	1
2/22/2011	1
8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 318

B = 0

C = 24

D = 0

E = 30

F = 0

a = 442500

b = 1.84788e+006

c = 7080

Group Variance = 24565.7

Z-Score = -0.893231

Comparison Level at 1.0 - (0.05 / 2) = 97.5% confidence level = 1.97737 (two-tailed)

|**-0.893231**| <= 1.97737 indicating no evidence of a trend

Mann-Kendall Trend Analysis

Parameter: Nitrate

Location: MW-4

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
8.2	7.5	0.7	1	0
7.8	7.5	0.3	2	0
7.8	7.5	0.3	3	0
7.9	7.5	0.4	4	0
5.6	7.5	-1.9	4	1
11	7.5	3.5	5	1
12.2	7.5	4.7	6	1
13.6	7.5	6.1	7	1
16.5	7.5	9	8	1
19	7.5	11.5	9	1
4.4	7.5	-3.1	9	2
19.5	7.5	12	10	2
19.5	7.5	12	11	2
6.2	7.5	-1.3	11	3
31	7.5	23.5	12	3
34.8	7.5	27.3	13	3
6.3	7.5	-1.2	13	4
31.3	7.5	23.8	14	4
26.8	7.5	19.3	15	4
21.9	7.5	14.4	16	4
17.6	7.5	10.1	17	4
13.4	7.5	5.9	18	4
18.1	7.5	10.6	19	4
19	7.5	11.5	20	4
18	7.5	10.5	21	4
19	7.5	11.5	22	4
18	7.5	10.5	23	4
14	7.5	6.5	24	4
21	7.5	13.5	25	4
16	7.5	8.5	26	4
16	7.5	8.5	27	4
16	7.5	8.5	28	4
14	7.5	6.5	29	4
9.6	7.5	2.1	30	4
12	7.5	4.5	31	4
11	7.5	3.5	32	4
10	7.5	2.5	33	4
9.7	7.5	2.2	34	4
8.9	7.5	1.4	35	4
8.5	7.5	1	36	4
9.7	7.5	2.2	37	4
7.7	7.5	0.2	38	4
8.6	7.5	1.1	39	4
11	7.5	3.5	40	4
9.7	7.5	2.2	41	4
10	7.5	2.5	42	4
7.1	7.5	-0.4	42	5

8/17/2010	1
2/22/2011	1
8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 456

B = 0

C = 30

D = 0

E = 44

F = 0

a = 400026

b = 1.66622e+006

c = 6612

Group Variance = 22198.3

Z-Score = -2.88608

Comparison Level at 95% confidence level = -1.65463 (downward trend)

-2.88608 < -1.65463 indicating a downward trend

Mann-Kendall Trend Analysis
Parameter: Nitrate
Location: MW-5
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
20	17.2	2.8	1	0
19	17.2	1.8	2	0
18.3	17.2	1.1	3	0
16.8	17.2	-0.4	3	1
5.6	17.2	-11.6	3	2
11.7	17.2	-5.5	3	3
ND<0.2	17.2	-17	3	4
6.7	17.2	-10.5	3	5
10.6	17.2	-6.6	3	6
6.3	17.2	-10.9	3	7
0.4	17.2	-16.8	3	8
4.7	17.2	-12.5	3	9
3.9	17.2	-13.3	3	10
4	17.2	-13.2	3	11
6.6	17.2	-10.6	3	12
2.9	17.2	-14.3	3	13
5	17.2	-12.2	3	14
ND<0 R	17.2	-17.2	3	15
6.2	17.2	-11	3	16
5.8	17.2	-11.4	3	17
6.9	17.2	-10.3	3	18
7.4	17.2	-9.8	3	19
4.4	17.2	-12.8	3	20
3.5	17.2	-13.7	3	21
4.6	17.2	-12.6	3	22
4.4	17.2	-12.8	3	23
4.5	17.2	-12.7	3	24
4.9	17.2	-12.3	3	25
4.3	17.2	-12.9	3	26
5.5	17.2	-11.7	3	27
4.4	17.2	-12.8	3	28
3	17.2	-14.2	3	29
3	17.2	-14.2	3	30
3.2	17.2	-14	3	31
2.8	17.2	-14.4	3	32
3	17.2	-14.2	3	33
2.4	17.2	-14.8	3	34
2.5	17.2	-14.7	3	35
1.3	17.2	-15.9	3	36
1.7	17.2	-15.5	3	37
1.3	17.2	-15.9	3	38
1.7	17.2	-15.5	3	39
3.4	17.2	-13.8	3	40
2.8	17.2	-14.4	3	41
3.2	17.2	-14	3	42
3.8	17.2	-13.4	3	43
4.1	17.2	-13.1	3	44

11/15/2004	1
8/10/2005	1
2/27/2006	1
8/23/2006	1
2/21/2007	1
8/22/2007	1
2/26/2008	1
8/20/2008	1
8/11/2009	1
3/22/2010	1
8/17/2010	1
2/22/2011	1
8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 504

B = 0

C = 36

D = 0

E = 48

F = 0

a = 442500

b = 1.84788e+006

c = 7080

Group Variance = 24555.3

Z-Score = -3.529

Comparison Level at 95% confidence level = -1.65463 (downward trend)

-3.529 < -1.65463 indicating a downward trend

Mann-Kendall Trend Analysis

Parameter: Nitrate

Location: MW-3

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
11.4	9.2	2.2	1	0
11.4	9.2	2.2	2	0
18.3	9.2	9.1	3	0
14.5	9.2	5.3	4	0
13.8	9.2	4.6	5	0
9	9.2	-0.2	5	1
12	9.2	2.8	6	1
4.9	9.2	-4.3	6	2
11.8	9.2	2.6	7	2
3.7	9.2	-5.5	7	3
12.6	9.2	3.4	8	3
3.7	9.2	-5.5	8	4
3.8	9.2	-5.4	8	5
3.1	9.2	-6.1	8	6
4.3	9.2	-4.9	8	7
15.2	9.2	6	9	7
4.5	9.2	-4.7	9	8
ND<0 R	9.2	-9.2	9	9
10.5	9.2	1.3	10	9
6.9	9.2	-2.3	10	10
8.6	9.2	-0.6	10	11
5.3	9.2	-3.9	10	12
9.2	9.2	0	10	12
6.1	9.2	-3.1	10	13
7.7	9.2	-1.5	10	14
18	9.2	8.8	11	14
2.5	9.2	-6.7	11	15
8	9.2	-1.2	11	16
4.8	9.2	-4.4	11	17
4.1	9.2	-5.1	11	18
3.7	9.2	-5.5	11	19
7.7	9.2	-1.5	11	20
3.9	9.2	-5.3	11	21
8.3	9.2	-0.9	11	22
2.5	9.2	-6.7	11	23
5.3	9.2	-3.9	11	24
2.4	9.2	-6.8	11	25
5.9	9.2	-3.3	11	26
7.4	9.2	-1.8	11	27
5.8	9.2	-3.4	11	28
10	9.2	0.8	12	28
12	9.2	2.8	13	28
9	9.2	-0.2	13	29
6.5	9.2	-2.7	13	30
5.2	9.2	-4	13	31
4.8	9.2	-4.4	13	32
5.8	9.2	-3.4	13	33

8/10/2011	1
2/29/2012	1
8/14/2012	1
2/19/2013	1
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 420

B = 0

C = 30

D = 0

E = 40

F = 0

a = 360360

b = 1.49688e+006

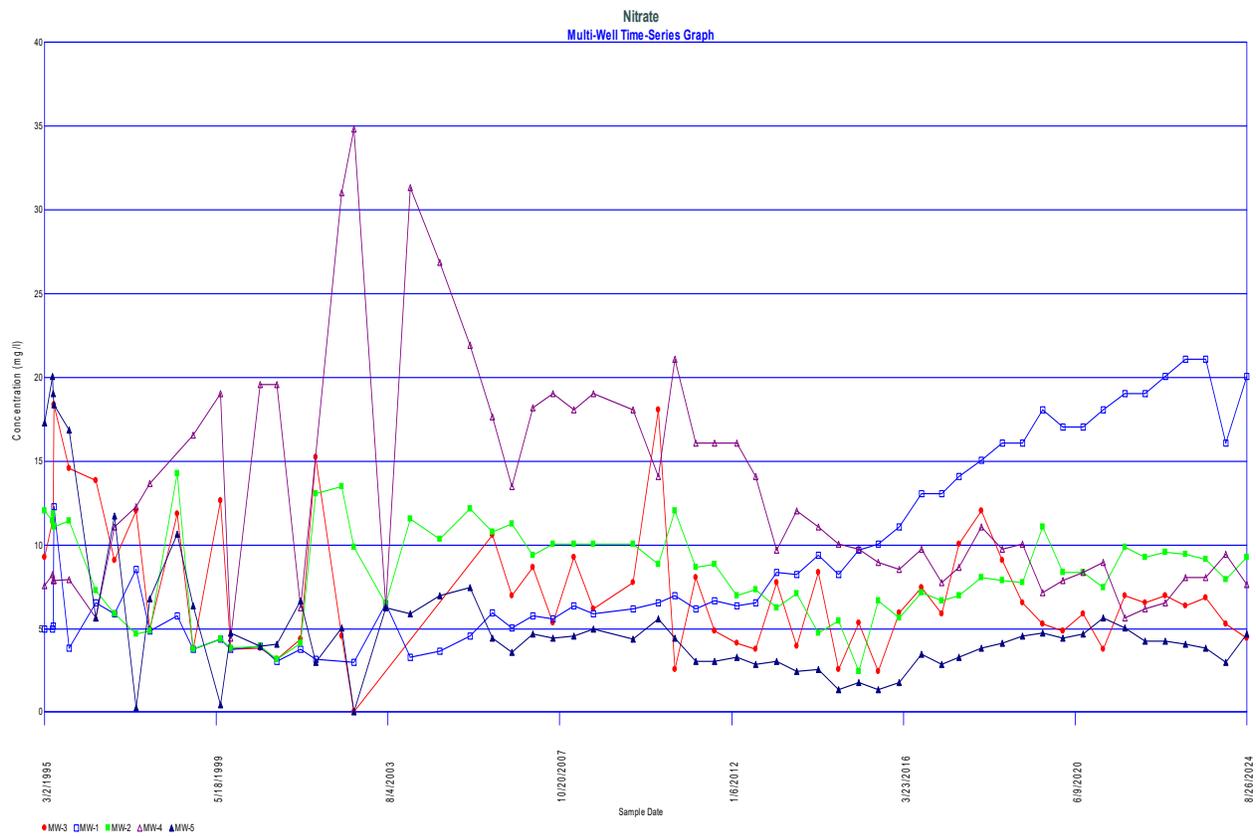
c = 6160

Group Variance = 19996.7

Z-Score = -2.14271

Comparison Level at 95% confidence level = -1.65463 (downward trend)

-2.14271 < -1.65463 indicating a downward trend



Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Nitrate

Location: MW-4

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	9.2	65
	5/15/1995	11.4	79
	5/22/1995	11.4	80
	5/31/1995	18.3	103
	10/10/1995	14.5	92
	6/3/1996	13.8	89
	11/20/1996	9	63
	6/3/1997	12	82
	10/6/1997	4.9	19
	6/8/1998	11.8	81
	10/26/1998	3.7	6
	6/28/1999	12.6	86
	9/28/1999	3.7	7
	6/19/2000	3.8	10
	11/13/2000	3.1	5
	6/18/2001	4.3	13
	10/29/2001	15.2	93
	6/17/2002	4.5	16
	10/7/2002	ND<0 R	1
	2/27/2006	10.5	75
	8/23/2006	6.9	38
	2/21/2007	8.6	59
	8/22/2007	5.3	22
	2/27/2008	9.2	66
	8/20/2008	6.1	29
	8/11/2009	7.7	45
	3/22/2010	18	99
	8/17/2010	2.5	3
	2/22/2011	8	52
	8/10/2011	4.8	17
	2/29/2012	4.1	12
	8/14/2012	3.7	8
	2/19/2013	7.7	46
	8/15/2013	3.9	11
	2/25/2014	8.3	56
	8/26/2014	2.5	4
	2/23/2015	5.3	23
	8/19/2015	2.4	2
	2/22/2016	5.9	28
	9/6/2016	7.4	42
	3/6/2017	5.8	26
	8/8/2017	10	72
	2/26/2018	12	83
	8/29/2018	9	64
	2/25/2019	6.5	34
	8/26/2019	5.2	20
	2/24/2020	4.8	18
	8/24/2020	5.8	27
	2/23/2021	3.7	9
	8/31/2021	6.9	39
	2/28/2022	6.5	35
	8/29/2022	6.9	40
	2/27/2023	6.3	32
	8/28/2023	6.8	37
	2/26/2024	5.2	21

	8/26/2024	4.4	14
MW-4	3/2/1995	7.5	43
	5/15/1995	8.2	55
	5/22/1995	7.8	48
	5/31/1995	7.8	49
	10/10/1995	7.9	51
	6/3/1996	5.6	24
	11/20/1996	11	76
	6/3/1997	12.2	85
	10/6/1997	13.6	88
	10/26/1998	16.5	97
	6/28/1999	19	104
	9/28/1999	4.4	15
	6/19/2000	19.5	107
	11/13/2000	19.5	108
	6/18/2001	6.2	31
	6/17/2002	31	112
	10/7/2002	34.8	114
	7/14/2003	6.3	33
	2/23/2004	31.3	113
	11/15/2004	26.8	111
	8/10/2005	21.9	110
	2/27/2006	17.6	98
	8/23/2006	13.4	87
	2/21/2007	18.1	102
	8/22/2007	19	105
	2/27/2008	18	100
	8/20/2008	19	106
	8/11/2009	18	101
	3/22/2010	14	90
	8/17/2010	21	109
	2/22/2011	16	94
	8/10/2011	16	95
	2/29/2012	16	96
	8/14/2012	14	91
	2/19/2013	9.6	68
	8/15/2013	12	84
	2/25/2014	11	77
	8/26/2014	10	73
	2/23/2015	9.7	69
	8/19/2015	8.9	61
	2/22/2016	8.5	58
	9/6/2016	9.7	70
	3/6/2017	7.7	47
	8/8/2017	8.6	60
	2/26/2018	11	78
	8/29/2018	9.7	71
	2/25/2019	10	74
	8/26/2019	7.1	41
	2/24/2020	7.8	50
	8/24/2020	8.3	57
	2/23/2021	8.9	62
	8/31/2021	5.6	25
	2/28/2022	6.1	30
	8/29/2022	6.5	36
	2/27/2023	8	53
	8/28/2023	8	54
	2/26/2024	9.4	67
	8/26/2024	7.6	44

The Wilcoxon Statistic is 2546

The Expected value is 1624

The Standard Deviation is 176.428

The Z Score is 5.22311

The Standard Deviation adjusted for ties is 176.428

The Z Score adjusted for ties is 5.22311

5.22311 > 2.326 indicating statistical significance at 1% level

5.22311 > 2.326 indicating statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Nitrate

Location: MW-1

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	9.2	79
	5/15/1995	11.4	87
	5/22/1995	11.4	88
	5/31/1995	18.3	109
	10/10/1995	14.5	98
	6/3/1996	13.8	96
	11/20/1996	9	77
	6/3/1997	12	90
	10/6/1997	4.9	31
	6/8/1998	11.8	89
	10/26/1998	3.7	11
	6/28/1999	12.6	93
	9/28/1999	3.7	12
	6/19/2000	3.8	18
	11/13/2000	3.1	7
	6/18/2001	4.3	23
	10/29/2001	15.2	100
	6/17/2002	4.5	26
	10/7/2002	ND<0 R	1
	2/27/2006	10.5	85
	8/23/2006	6.9	63
	2/21/2007	8.6	76
	8/22/2007	5.3	38
	2/27/2008	9.2	80
	8/20/2008	6.1	49
	8/11/2009	7.7	68
	3/22/2010	18	106
	8/17/2010	2.5	3
	2/22/2011	8	70
	8/10/2011	4.8	28
	2/29/2012	4.1	22
	8/14/2012	3.7	13
	2/19/2013	7.7	69
	8/15/2013	3.9	20
	2/25/2014	8.3	73
	8/26/2014	2.5	4
	2/23/2015	5.3	39
	8/19/2015	2.4	2
	2/22/2016	5.9	47
	9/6/2016	7.4	67
	3/6/2017	5.8	43
	8/8/2017	10	83
	2/26/2018	12	91
	8/29/2018	9	78
	2/25/2019	6.5	56
	8/26/2019	5.2	36
	2/24/2020	4.8	29
	8/24/2020	5.8	44
	2/23/2021	3.7	14
	8/31/2021	6.9	64
	2/28/2022	6.5	57
	8/29/2022	6.9	65
	2/27/2023	6.3	52
	8/28/2023	6.8	62
	2/26/2024	5.2	37

	8/26/2024	4.4	25
MW-1	3/2/1995	4.9	32
	5/15/1995	4.9	33
	5/22/1995	5.1	35
	5/31/1995	12.2	92
	10/10/1995	3.8	19
	6/3/1996	6.5	58
	11/20/1996	5.8	45
	6/3/1997	8.5	75
	10/6/1997	4.8	30
	6/8/1998	5.7	41
	10/26/1998	3.7	15
	6/28/1999	4.3	24
	9/28/1999	3.7	16
	6/19/2000	3.9	21
	11/13/2000	3	6
	6/18/2001	3.7	17
	10/29/2001	3.1	8
	10/7/2002	2.9	5
	7/14/2003	6.4	55
	2/23/2004	3.2	9
	11/15/2004	3.6	10
	8/10/2005	4.5	27
	2/27/2006	5.9	48
	8/23/2006	5	34
	2/21/2007	5.7	42
	8/22/2007	5.5	40
	2/26/2008	6.3	53
	8/20/2008	5.8	46
	8/11/2009	6.1	50
	3/22/2010	6.5	59
	8/17/2010	6.9	66
	2/22/2011	6.1	51
	8/10/2011	6.6	61
	2/29/2012	6.3	54
	8/14/2012	6.5	60
	2/19/2013	8.3	74
	8/15/2013	8.2	71
	2/25/2014	9.3	81
	8/26/2014	8.2	72
	2/23/2015	9.6	82
	8/19/2015	10	84
	2/22/2016	11	86
	9/6/2016	13	94
	3/6/2017	13	95
	8/8/2017	14	97
	2/26/2018	15	99
	8/29/2018	16	101
	2/25/2019	16	102
	8/26/2019	18	107
	2/24/2020	17	104
	8/24/2020	17	105
	2/23/2021	18	108
	8/31/2021	19	110
	2/28/2022	19	111
	8/29/2022	20	112
	2/27/2023	21	114
	8/28/2023	21	115
	2/26/2024	16	103
	8/26/2024	20	113

The Wilcoxon Statistic is 1907
The Expected value is 1652
The Standard Deviation is 178.714
The Z Score is 1.42406

The Standard Deviation adjusted for ties is 178.714

The Z Score adjusted for ties is 1.42406

1.42406 < 2.326 indicating no statistical significance at 1% level

1.42406 < 2.326 indicating no statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Nitrate

Location: MW-2

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	9.2	76
	5/15/1995	11.4	96
	5/22/1995	11.4	97
	5/31/1995	18.3	116
	10/10/1995	14.5	113
	6/3/1996	13.8	111
	11/20/1996	9	73
	6/3/1997	12	103
	10/6/1997	4.9	28
	6/8/1998	11.8	101
	10/26/1998	3.7	8
	6/28/1999	12.6	108
	9/28/1999	3.7	9
	6/19/2000	3.8	13
	11/13/2000	3.1	6
	6/18/2001	4.3	19
	10/29/2001	15.2	114
	6/17/2002	4.5	22
	10/7/2002	ND<0 R	1
	2/27/2006	10.5	91
	8/23/2006	6.9	48
	2/21/2007	8.6	69
	8/22/2007	5.3	31
	2/27/2008	9.2	77
	8/20/2008	6.1	39
	8/11/2009	7.7	59
	3/22/2010	18	115
	8/17/2010	2.5	4
	2/22/2011	8	64
	8/10/2011	4.8	25
	2/29/2012	4.1	17
	8/14/2012	3.7	10
	2/19/2013	7.7	60
	8/15/2013	3.9	15
	2/25/2014	8.3	66
	8/26/2014	2.5	5
	2/23/2015	5.3	32
	8/19/2015	2.4	2
	2/22/2016	5.9	38
	9/6/2016	7.4	57
	3/6/2017	5.8	35
	8/8/2017	10	85
	2/26/2018	12	104
	8/29/2018	9	74
	2/25/2019	6.5	43
	8/26/2019	5.2	29
	2/24/2020	4.8	26
	8/24/2020	5.8	36
	2/23/2021	3.7	11
	8/31/2021	6.9	49
	2/28/2022	6.5	44
	8/29/2022	6.9	50
	2/27/2023	6.3	41
	8/28/2023	6.8	47
	2/26/2024	5.2	30

	8/26/2024	4.4	21
MW-2	3/2/1995	12	105
	5/15/1995	11.4	98
	5/22/1995	11.8	102
	5/31/1995	11	93
	10/10/1995	11.4	99
	6/3/1996	7.2	55
	11/20/1996	5.8	37
	6/3/1997	4.6	23
	10/6/1997	4.8	27
	6/8/1998	14.2	112
	10/26/1998	3.7	12
	6/28/1999	4.3	20
	9/28/1999	3.8	14
	6/19/2000	3.9	16
	11/13/2000	3.1	7
	6/18/2001	4.1	18
	10/29/2001	13	109
	6/17/2002	13.4	110
	10/7/2002	9.8	83
	7/14/2003	6.4	42
	2/23/2004	11.5	100
	11/15/2004	10.3	90
	8/10/2005	12.1	107
	2/27/2006	10.7	92
	8/23/2006	11.2	95
	2/21/2007	9.3	80
	8/22/2007	10	86
	2/27/2008	10	87
	8/20/2008	10	88
	8/11/2009	10	89
	3/22/2010	8.8	71
	8/17/2010	12	106
	2/22/2011	8.6	70
	8/10/2011	8.8	72
	2/29/2012	6.9	51
	8/14/2012	7.3	56
	2/19/2013	6.2	40
	8/15/2013	7	53
	2/25/2014	4.7	24
	8/26/2014	5.4	33
	2/23/2015	2.4	3
	8/19/2015	6.6	45
	2/22/2016	5.6	34
	9/6/2016	7.1	54
	3/6/2017	6.6	46
	8/8/2017	6.9	52
	2/26/2018	8	65
	8/29/2018	7.8	62
	2/25/2019	7.7	61
	8/26/2019	11	94
	2/24/2020	8.3	67
	8/24/2020	8.3	68
	2/23/2021	7.4	58
	8/31/2021	9.8	84
	2/28/2022	9.2	78
	8/29/2022	9.5	82
	2/27/2023	9.4	81
	8/28/2023	9.1	75
	2/26/2024	7.9	63
	8/26/2024	9.2	79

The Wilcoxon Statistic is 2093
The Expected value is 1680
The Standard Deviation is 180.997

The Z Score is 2.27904

The Standard Deviation adjusted for ties is 180.997

The Z Score adjusted for ties is 2.27904

2.27904 < 2.326 indicating no statistical significance at 1% level

2.27904 < 2.326 indicating no statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Nitrate

Location: MW-5

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 3

Non detect rank is 2

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	3/2/1995	9.2	95
	5/15/1995	11.4	100
	5/22/1995	11.4	101
	5/31/1995	18.3	113
	10/10/1995	14.5	108
	6/3/1996	13.8	107
	11/20/1996	9	93
	6/3/1997	12	104
	10/6/1997	4.9	58
	6/8/1998	11.8	103
	10/26/1998	3.7	26
	6/28/1999	12.6	106
	9/28/1999	3.7	27
	6/19/2000	3.8	30
	11/13/2000	3.1	21
	6/18/2001	4.3	41
	10/29/2001	15.2	109
	6/17/2002	4.5	48
	10/7/2002	ND<0 R	2
	2/27/2006	10.5	98
	8/23/2006	6.9	82
	2/21/2007	8.6	92
	8/22/2007	5.3	64
	2/27/2008	9.2	96
	8/20/2008	6.1	73
	8/11/2009	7.7	88
	3/22/2010	18	112
	8/17/2010	2.5	11
	2/22/2011	8	90
	8/10/2011	4.8	56
	2/29/2012	4.1	37
	8/14/2012	3.7	28
	2/19/2013	7.7	89
	8/15/2013	3.9	33
	2/25/2014	8.3	91
	8/26/2014	2.5	12
	2/23/2015	5.3	65
	8/19/2015	2.4	9
	2/22/2016	5.9	72
	9/6/2016	7.4	86
	3/6/2017	5.8	69
	8/8/2017	10	97
	2/26/2018	12	105
	8/29/2018	9	94
	2/25/2019	6.5	77
	8/26/2019	5.2	62
	2/24/2020	4.8	57
	8/24/2020	5.8	70
	2/23/2021	3.7	29
	8/31/2021	6.9	83
	2/28/2022	6.5	78
	8/29/2022	6.9	84
	2/27/2023	6.3	75
	8/28/2023	6.8	81
	2/26/2024	5.2	63

	8/26/2024	4.4	43
MW-5	3/2/1995	17.2	111
	5/15/1995	20	116
	5/22/1995	19	115
	5/31/1995	18.3	114
	10/10/1995	16.8	110
	6/4/1996	5.6	67
	11/20/1996	11.7	102
	6/3/1997	ND<0.2	2
	10/6/1997	6.7	80
	6/8/1998	10.6	99
	10/26/1998	6.3	76
	6/28/1999	0.4	4
	9/28/1999	4.7	54
	6/19/2000	3.9	34
	11/13/2000	4	35
	6/18/2001	6.6	79
	10/29/2001	2.9	16
	6/17/2002	5	60
	10/7/2002	ND<0 R	2
	7/14/2003	6.2	74
	2/23/2004	5.8	71
	11/15/2004	6.9	85
	8/10/2005	7.4	87
	2/27/2006	4.4	44
	8/23/2006	3.5	25
	2/21/2007	4.6	51
	8/22/2007	4.4	45
	2/26/2008	4.5	49
	8/20/2008	4.9	59
	8/11/2009	4.3	42
	3/22/2010	5.5	66
	8/17/2010	4.4	46
	2/22/2011	3	18
	8/10/2011	3	19
	2/29/2012	3.2	22
	8/14/2012	2.8	14
	2/19/2013	3	20
	8/15/2013	2.4	10
	2/25/2014	2.5	13
	8/26/2014	1.3	5
	2/23/2015	1.7	7
	8/19/2015	1.3	6
	2/22/2016	1.7	8
	9/6/2016	3.4	24
	3/6/2017	2.8	15
	8/8/2017	3.2	23
	2/26/2018	3.8	31
	8/29/2018	4.1	38
	2/25/2019	4.5	50
	8/26/2019	4.7	55
	2/24/2020	4.4	47
	8/24/2020	4.6	52
	2/23/2021	5.6	68
	8/31/2021	5	61
	2/28/2022	4.2	39
	8/29/2022	4.2	40
	2/27/2023	4	36
	8/28/2023	3.8	32
	2/26/2024	2.9	17
	8/26/2024	4.6	53

The Wilcoxon Statistic is 1013
The Expected value is 1680
The Standard Deviation is 180.997

The Z Score is -3.6879

The Standard Deviation adjusted for ties is 180.996

The Z Score adjusted for ties is -3.68793

-3.6879 < 2.326 indicating no statistical significance at 1% level

-3.68793 < 2.326 indicating no statistical significance at 1% level when adjusted for ties

Mann-Kendall Trend Analysis
Parameter: Manganese
Location: MW-1
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.012	0.0093	0.0027	1	0
0.011	0.0093	0.0017	2	0
0.012	0.0093	0.0027	3	0
0.014	0.0093	0.0047	4	0
0.0129	0.0093	0.0036	5	0
0.0148	0.0093	0.0055	6	0
0.0142	0.0093	0.0049	7	0
0.0159	0.0093	0.0066	8	0
0.0169	0.0093	0.0076	9	0
0.0162	0.0093	0.0069	10	0
0.0181	0.0093	0.0088	11	0
0.0171	0.0093	0.0078	12	0
0.0174	0.0093	0.0081	13	0
0.0161	0.0093	0.0068	14	0
0.0197	0.0093	0.0104	15	0
0.0193	0.0093	0.01	16	0
0.021	0.0093	0.0117	17	0
0.0194	0.0093	0.0101	18	0
0.02	0.0093	0.0107	19	0
0.0202	0.0093	0.0109	20	0
0.0213	0.0093	0.012	21	0
0.0235	0.0093	0.0142	22	0
0.011	0.012	-0.001	22	1
0.012	0.012	0	22	1
0.014	0.012	0.002	23	1
0.0129	0.012	0.0009	24	1
0.0148	0.012	0.0028	25	1
0.0142	0.012	0.0022	26	1
0.0159	0.012	0.0039	27	1
0.0169	0.012	0.0049	28	1
0.0162	0.012	0.0042	29	1
0.0181	0.012	0.0061	30	1
0.0171	0.012	0.0051	31	1
0.0174	0.012	0.0054	32	1
0.0161	0.012	0.0041	33	1
0.0197	0.012	0.0077	34	1
0.0193	0.012	0.0073	35	1
0.021	0.012	0.009	36	1
0.0194	0.012	0.0074	37	1
0.02	0.012	0.008	38	1
0.0202	0.012	0.0082	39	1
0.0213	0.012	0.0093	40	1
0.0235	0.012	0.0115	41	1
0.012	0.011	0.001	42	1
0.014	0.011	0.003	43	1

S Statistic = 236 - 16 = 220

Tied Group	Value	Members
1	0.012	2

Time Period	Observations
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 25806

b = 95634

c = 1012

Group Variance = 1432.67

Z-Score = 5.78591

Comparison Level at 95% confidence level = 1.65463 (upward trend)

5.78591 > 1.65463 indicating an upward trend

Mann-Kendall Trend Analysis
Parameter: Manganese
Location: MW-2
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.0078	0.0074	0.0004	1	0
0.0072	0.0074	-0.0002	1	1
0.018	0.0074	0.0106	2	1
0.0082	0.0074	0.0008	3	1
0.008	0.0074	0.0006	4	1
0.0077	0.0074	0.0003	5	1
0.0069	0.0074	-0.0005	5	2
0.0075	0.0074	0.0001	6	2
0.0089	0.0074	0.0015	7	2
0.0078	0.0074	0.0004	8	2
0.0106	0.0074	0.0032	9	2
0.0093	0.0074	0.0019	10	2
0.0102	0.0074	0.0028	11	2
0.0113	0.0074	0.0039	12	2
0.0114	0.0074	0.004	13	2
0.0102	0.0074	0.0028	14	2
0.0105	0.0074	0.0031	15	2
0.0276	0.0074	0.0202	16	2
0.0139	0.0074	0.0065	17	2
0.0088	0.0074	0.0014	18	2
0.0094	0.0074	0.002	19	2
0.0118	0.0074	0.0044	20	2
0.0072	0.0078	-0.0006	20	3
0.018	0.0078	0.0102	21	3
0.0082	0.0078	0.0004	22	3
0.008	0.0078	0.0002	23	3
0.0077	0.0078	-0.0001	23	4
0.0069	0.0078	-0.0009	23	5
0.0075	0.0078	-0.0003	23	6
0.0089	0.0078	0.0011	24	6
0.0078	0.0078	0	24	6
0.0106	0.0078	0.0028	25	6
0.0093	0.0078	0.0015	26	6
0.0102	0.0078	0.0024	27	6
0.0113	0.0078	0.0035	28	6
0.0114	0.0078	0.0036	29	6
0.0102	0.0078	0.0024	30	6
0.0105	0.0078	0.0027	31	6
0.0276	0.0078	0.0198	32	6
0.0139	0.0078	0.0061	33	6
0.0088	0.0078	0.001	34	6
0.0094	0.0078	0.0016	35	6
0.0118	0.0078	0.004	36	6
0.018	0.0072	0.0108	37	6
0.0082	0.0072	0.001	38	6

S Statistic = 185 - 66 = 119

Tied Group	Value	Members
1	0.0078	2
2	0.0102	2

Time Period	Observations
8/15/2013	1
2/25/2014	1
8/26/2014	1
2/23/2015	1
8/19/2015	1
2/22/2016	1
9/6/2016	1
3/6/2017	1
8/8/2017	1
2/26/2018	1
8/29/2018	1
2/25/2019	1
8/26/2019	1
2/24/2020	1
8/24/2020	1
2/23/2021	1
8/31/2021	1
2/28/2022	1
8/29/2022	1
2/27/2023	1
8/28/2023	1
2/26/2024	1
8/26/2024	1

There are 0 time periods with multiple data

A = 36

B = 0

C = 0

D = 0

E = 4

F = 0

a = 25806

b = 95634

c = 1012

Group Variance = 1431.67

Z-Score = 3.11861

Comparison Level at 95% confidence level = 1.65463 (upward trend)

3.11861 > 1.65463 indicating an upward trend

Mann-Kendall Trend Analysis
Parameter: Manganese
Location: MW-4
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.064	0.2	-0.136	0	1
0.21	0.2	0.01	1	1
0.19	0.2	-0.01	1	2
0.22	0.2	0.02	2	2
0.0698	0.2	-0.1302	2	3
0.0973	0.2	-0.1027	2	4
0.146	0.2	-0.054	2	5
0.0953	0.2	-0.1047	2	6
0.0411	0.2	-0.1589	2	7
0.0593	0.2	-0.1407	2	8
0.0302	0.2	-0.1698	2	9
0.137	0.2	-0.063	2	10
0.0648	0.2	-0.1352	2	11
0.0332	0.2	-0.1668	2	12
0.0377	0.2	-0.1623	2	13
0.0917	0.2	-0.1083	2	14
0.0951	0.2	-0.1049	2	15
0.0289	0.2	-0.1711	2	16
0.0465	0.2	-0.1535	2	17
0.0441	0.2	-0.1559	2	18
0.0325	0.2	-0.1675	2	19
0.0739	0.2	-0.1261	2	20
0.21	0.064	0.146	3	20
0.19	0.064	0.126	4	20
0.22	0.064	0.156	5	20
0.0698	0.064	0.0058	6	20
0.0973	0.064	0.0333	7	20
0.146	0.064	0.082	8	20
0.0953	0.064	0.0313	9	20
0.0411	0.064	-0.0229	9	21
0.0593	0.064	-0.0047	9	22
0.0302	0.064	-0.0338	9	23
0.137	0.064	0.073	10	23
0.0648	0.064	0.0008	11	23
0.0332	0.064	-0.0308	11	24
0.0377	0.064	-0.0263	11	25
0.0917	0.064	0.0277	12	25
0.0951	0.064	0.0311	13	25
0.0289	0.064	-0.0351	13	26
0.0465	0.064	-0.0175	13	27
0.0441	0.064	-0.0199	13	28
0.0325	0.064	-0.0315	13	29
0.0739	0.064	0.0099	14	29
0.19	0.21	-0.02	14	30
0.22	0.21	0.01	15	30

S Statistic = 71 - 182 = -111

Tied Group	Value	Members
Time Period		Observations
8/15/2013		1
2/25/2014		1
8/26/2014		1
2/23/2015		1
8/19/2015		1
2/22/2016		1
9/6/2016		1
3/6/2017		1
8/8/2017		1
2/26/2018		1
8/29/2018		1
2/25/2019		1
8/26/2019		1
2/24/2020		1
8/24/2020		1
2/23/2021		1
8/31/2021		1
2/28/2022		1
8/29/2022		1
2/27/2023		1
8/28/2023		1
2/26/2024		1
8/26/2024		1

There are 0 time periods with multiple data

A = 0

B = 0

C = 0

D = 0

E = 0

F = 0

a = 25806

b = 95634

c = 1012

Group Variance = 1433.67

Z-Score = -2.90515

Comparison Level at 95% confidence level = -1.65463 (downward trend)

-2.90515 < -1.65463 indicating a downward trend

Mann-Kendall Trend Analysis
Parameter: Manganese
Location: MW-5
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.06	ND<0 R	0.06	1	0
0.084	ND<0 R	0.084	2	0
0.057	ND<0 R	0.057	3	0
0.052	ND<0 R	0.052	4	0
0.052	ND<0 R	0.052	5	0
0.0499	ND<0 R	0.0499	6	0
0.0549	ND<0 R	0.0549	7	0
0.0521	ND<0 R	0.0521	8	0
0.0566	ND<0 R	0.0566	9	0
0.0537	ND<0 R	0.0537	10	0
0.0564	ND<0 R	0.0564	11	0
0.0647	ND<0 R	0.0647	12	0
0.0591	ND<0 R	0.0591	13	0
0.0569	ND<0 R	0.0569	14	0
0.0571	ND<0 R	0.0571	15	0
0.0779	ND<0 R	0.0779	16	0
0.0663	ND<0 R	0.0663	17	0
0.0629	ND<0 R	0.0629	18	0
0.0714	ND<0 R	0.0714	19	0
0.0596	ND<0 R	0.0596	20	0
0.0541	ND<0 R	0.0541	21	0
0.0451	ND<0 R	0.0451	22	0
0.0557	ND<0 R	0.0557	23	0
0.084	0.06	0.024	24	0
0.057	0.06	-0.003	24	1
0.052	0.06	-0.008	24	2
0.052	0.06	-0.008	24	3
0.0499	0.06	-0.0101	24	4
0.0549	0.06	-0.0051	24	5
0.0521	0.06	-0.0079	24	6
0.0566	0.06	-0.0034	24	7
0.0537	0.06	-0.0063	24	8
0.0564	0.06	-0.0036	24	9
0.0647	0.06	0.0047	25	9
0.0591	0.06	-0.0009	25	10
0.0569	0.06	-0.0031	25	11
0.0571	0.06	-0.0029	25	12
0.0779	0.06	0.0179	26	12
0.0663	0.06	0.0063	27	12
0.0629	0.06	0.0029	28	12
0.0714	0.06	0.0114	29	12
0.0596	0.06	-0.0004	29	13
0.0541	0.06	-0.0059	29	14
0.0451	0.06	-0.0149	29	15
0.0557	0.06	-0.0043	29	16

A = 18

B = 0

C = 0

D = 0

E = 2

F = 0

a = 29256

b = 109296

c = 1104

Group Variance = 1624.33

Z-Score = 1.29023

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

|1.29023| \leq 1.97737 indicating no evidence of a trend

Mann-Kendall Trend Analysis
Parameter: Manganese
Location: MW-3
Original Data (Not Transformed)
Non-Detects Replaced with Detection Limit

95% Confidence Level

Xj	Xk	Xj - Xk	Positives	Negatives
0.024	ND<0 R	0.024	1	0
0.046	ND<0 R	0.046	2	0
0.017	ND<0 R	0.017	3	0
0.0081	ND<0 R	0.0081	4	0
0.026	ND<0 R	0.026	5	0
0.0222	ND<0 R	0.0222	6	0
0.0355	ND<0 R	0.0355	7	0
0.0335	ND<0 R	0.0335	8	0
0.0322	ND<0 R	0.0322	9	0
0.0289	ND<0 R	0.0289	10	0
0.0262	ND<0 R	0.0262	11	0
0.0202	ND<0 R	0.0202	12	0
0.023	ND<0 R	0.023	13	0
0.0237	ND<0 R	0.0237	14	0
0.0322	ND<0 R	0.0322	15	0
0.0199	ND<0 R	0.0199	16	0
0.031	ND<0 R	0.031	17	0
0.0322	ND<0 R	0.0322	18	0
0.0096	ND<0 R	0.0096	19	0
0.0303	ND<0 R	0.0303	20	0
0.0364	ND<0 R	0.0364	21	0
0.022	ND<0 R	0.022	22	0
0.0215	ND<0 R	0.0215	23	0
0.046	0.024	0.022	24	0
0.017	0.024	-0.007	24	1
0.0081	0.024	-0.0159	24	2
0.026	0.024	0.002	25	2
0.0222	0.024	-0.0018	25	3
0.0355	0.024	0.0115	26	3
0.0335	0.024	0.0095	27	3
0.0322	0.024	0.0082	28	3
0.0289	0.024	0.0049	29	3
0.0262	0.024	0.0022	30	3
0.0202	0.024	-0.0038	30	4
0.023	0.024	-0.001	30	5
0.0237	0.024	-0.0003	30	6
0.0322	0.024	0.0082	31	6
0.0199	0.024	-0.0041	31	7
0.031	0.024	0.007	32	7
0.0322	0.024	0.0082	33	7
0.0096	0.024	-0.0144	33	8
0.0303	0.024	0.0063	34	8
0.0364	0.024	0.0124	35	8
0.022	0.024	-0.002	35	9
0.0215	0.024	-0.0025	35	10

A = 66

B = 0

C = 6

D = 0

E = 6

F = 0

a = 29256

b = 109296

c = 1104

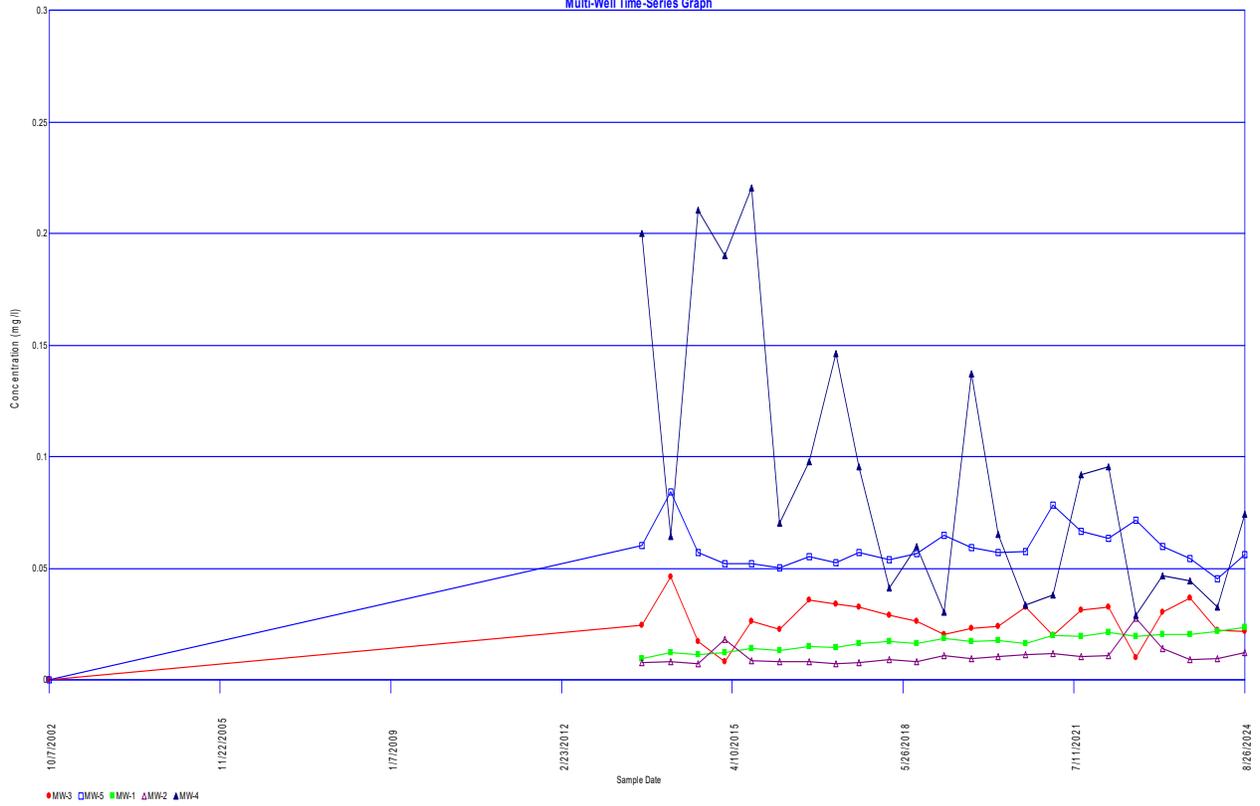
Group Variance = 1621.67

Z-Score = 0.248324

Comparison Level at $1.0 - (0.05 / 2) = 97.5\%$ confidence level = 1.97737 (two-tailed)

|0.248324| \leq 1.97737 indicating no evidence of a trend

Manganese
Multi-Well Time-Series Graph



Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Manganese

Location: MW-4

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	10/7/2002	ND<0 R	1
	8/15/2013	0.024	12
	2/25/2014	0.046	31
	8/26/2014	0.017	4
	2/23/2015	0.0081	2
	8/19/2015	0.026	13
	2/22/2016	0.0222	9
	9/6/2016	0.0355	26
	3/6/2017	0.0335	25
	8/8/2017	0.0322	20
	2/26/2018	0.0289	15
	8/29/2018	0.0262	14
	2/25/2019	0.0202	6
	8/26/2019	0.023	10
	2/24/2020	0.0237	11
	8/24/2020	0.0322	21
	2/23/2021	0.0199	5
	8/31/2021	0.031	19
	2/28/2022	0.0322	22
	8/29/2022	0.0096	3
2/27/2023	0.0303	18	
8/28/2023	0.0364	27	
2/26/2024	0.022	8	
8/26/2024	0.0215	7	
MW-4	8/15/2013	0.2	45
	2/25/2014	0.064	34
	8/26/2014	0.21	46
	2/23/2015	0.19	44
	8/19/2015	0.22	47
	2/22/2016	0.0698	36
	9/6/2016	0.0973	41
	3/6/2017	0.146	43
	8/8/2017	0.0953	40
	2/26/2018	0.0411	29
	8/29/2018	0.0593	33
	2/25/2019	0.0302	17
	8/26/2019	0.137	42
	2/24/2020	0.0648	35
	8/24/2020	0.0332	24
	2/23/2021	0.0377	28
	8/31/2021	0.0917	38
2/28/2022	0.0951	39	
8/29/2022	0.0289	16	
2/27/2023	0.0465	32	
8/28/2023	0.0441	30	
2/26/2024	0.0325	23	
8/26/2024	0.0739	37	

The Wilcoxon Statistic is 523

The Expected value is 276

The Standard Deviation is 46.9894

The Z Score is 5.24587

The Standard Deviation adjusted for ties is 46.9894

The Z Score adjusted for ties is 5.24587

5.24587 > 2.326 indicating statistical significance at 1% level

5.24587 > 2.326 indicating statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Manganese

Location: MW-5

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 2

Non detect rank is 1.5

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	10/7/2002	ND<0 R	1.5
	8/15/2013	0.024	13
	2/25/2014	0.046	26
	8/26/2014	0.017	5
	2/23/2015	0.0081	3
	8/19/2015	0.026	14
	2/22/2016	0.0222	10
	9/6/2016	0.0355	23
	3/6/2017	0.0335	22
	8/8/2017	0.0322	19
	2/26/2018	0.0289	16
	8/29/2018	0.0262	15
	2/25/2019	0.0202	7
	8/26/2019	0.023	11
	2/24/2020	0.0237	12
	8/24/2020	0.0322	20
	2/23/2021	0.0199	6
	8/31/2021	0.031	18
	2/28/2022	0.0322	21
	8/29/2022	0.0096	4
2/27/2023	0.0303	17	
8/28/2023	0.0364	24	
2/26/2024	0.022	9	
8/26/2024	0.0215	8	
MW-5	10/7/2002	ND<0 R	1.5
	8/15/2013	0.06	42
	2/25/2014	0.084	48
	8/26/2014	0.057	38
	2/23/2015	0.052	28
	8/19/2015	0.052	29
	2/22/2016	0.0499	27
	9/6/2016	0.0549	33
	3/6/2017	0.0521	30
	8/8/2017	0.0566	36
	2/26/2018	0.0537	31
	8/29/2018	0.0564	35
	2/25/2019	0.0647	44
	8/26/2019	0.0591	40
	2/24/2020	0.0569	37
	8/24/2020	0.0571	39
	2/23/2021	0.0779	47
	8/31/2021	0.0663	45
	2/28/2022	0.0629	43
	8/29/2022	0.0714	46
2/27/2023	0.0596	41	
8/28/2023	0.0541	32	
2/26/2024	0.0451	25	
8/26/2024	0.0557	34	

The Wilcoxon Statistic is 551.5

The Expected value is 288

The Standard Deviation is 48.4974

The Z Score is 5.42297

The Standard Deviation adjusted for ties is 48.4961

The Z Score adjusted for ties is 5.42312

5.42297 > 2.326 indicating statistical significance at 1% level

5.42312 > 2.326 indicating statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Manganese

Location: MW-1

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	10/7/2002	ND<0 R	1
	8/15/2013	0.024	35
	2/25/2014	0.046	47
	8/26/2014	0.017	16
	2/23/2015	0.0081	2
	8/19/2015	0.026	36
	2/22/2016	0.0222	31
	9/6/2016	0.0355	45
	3/6/2017	0.0335	44
	8/8/2017	0.0322	41
	2/26/2018	0.0289	38
	8/29/2018	0.0262	37
	2/25/2019	0.0202	25
	8/26/2019	0.023	32
	2/24/2020	0.0237	34
	8/24/2020	0.0322	42
	2/23/2021	0.0199	23
	8/31/2021	0.031	40
	2/28/2022	0.0322	43
	8/29/2022	0.0096	4
2/27/2023	0.0303	39	
8/28/2023	0.0364	46	
2/26/2024	0.022	30	
8/26/2024	0.0215	29	
MW-1	8/15/2013	0.0093	3
	2/25/2014	0.012	6
	8/26/2014	0.011	5
	2/23/2015	0.012	7
	8/19/2015	0.014	9
	2/22/2016	0.0129	8
	9/6/2016	0.0148	11
	3/6/2017	0.0142	10
	8/8/2017	0.0159	12
	2/26/2018	0.0169	15
	8/29/2018	0.0162	14
	2/25/2019	0.0181	19
	8/26/2019	0.0171	17
	2/24/2020	0.0174	18
	8/24/2020	0.0161	13
	2/23/2021	0.0197	22
	8/31/2021	0.0193	20
2/28/2022	0.021	27	
8/29/2022	0.0194	21	
2/27/2023	0.02	24	
8/28/2023	0.0202	26	
2/26/2024	0.0213	28	
8/26/2024	0.0235	33	

The Wilcoxon Statistic is 92

The Expected value is 276

The Standard Deviation is 46.9894

The Z Score is -3.92642

The Standard Deviation adjusted for ties is 46.9894

The Z Score adjusted for ties is -3.92642

-3.92642 < 2.326 indicating no statistical significance at 1% level

-3.92642 < 2.326 indicating no statistical significance at 1% level when adjusted for ties

Wilcoxon Non-Parametric Analysis (Inter-Well)

Parameter: Manganese

Location: MW-2

Original Data (Not Transformed)

Non-Detects Replaced with Detection Limit

Total non detects is 1

Non detect rank is 1

Wilcoxon Ranks

Location	Date	Conc.	Rank
MW-3	10/7/2002	ND<0 R	1
	8/15/2013	0.024	34
	2/25/2014	0.046	47
	8/26/2014	0.017	25
	2/23/2015	0.0081	10
	8/19/2015	0.026	35
	2/22/2016	0.0222	31
	9/6/2016	0.0355	45
	3/6/2017	0.0335	44
	8/8/2017	0.0322	41
	2/26/2018	0.0289	38
	8/29/2018	0.0262	36
	2/25/2019	0.0202	28
	8/26/2019	0.023	32
	2/24/2020	0.0237	33
	8/24/2020	0.0322	42
	2/23/2021	0.0199	27
	8/31/2021	0.031	40
	2/28/2022	0.0322	43
	8/29/2022	0.0096	16
2/27/2023	0.0303	39	
8/28/2023	0.0364	46	
2/26/2024	0.022	30	
8/26/2024	0.0215	29	
MW-2	8/15/2013	0.0074	4
	2/25/2014	0.0078	7
	8/26/2014	0.0072	3
	2/23/2015	0.018	26
	8/19/2015	0.0082	11
	2/22/2016	0.008	9
	9/6/2016	0.0077	6
	3/6/2017	0.0069	2
	8/8/2017	0.0075	5
	2/26/2018	0.0089	13
	8/29/2018	0.0078	8
	2/25/2019	0.0106	20
	8/26/2019	0.0093	14
	2/24/2020	0.0102	17
	8/24/2020	0.0113	21
	2/23/2021	0.0114	22
	8/31/2021	0.0102	18
	2/28/2022	0.0105	19
8/29/2022	0.0276	37	
2/27/2023	0.0139	24	
8/28/2023	0.0088	12	
2/26/2024	0.0094	15	
8/26/2024	0.0118	23	

The Wilcoxon Statistic is 60

The Expected value is 276

The Standard Deviation is 46.9894

The Z Score is -4.60743

The Standard Deviation adjusted for ties is 46.9894

The Z Score adjusted for ties is -4.60743

-4.60743 < 2.326 indicating no statistical significance at 1% level

-4.60743 < 2.326 indicating no statistical significance at 1% level when adjusted for ties