2024 Annual Water Quality Report

Central Disposal Landfill
Permit No. 95-SDP-01-72

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The 2024 Annual Water Quality Report (AWQR), was prepared by the following:

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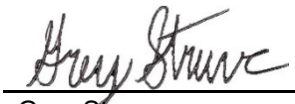

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The AWQR also incorporates the required Statistical Monitoring Report in its entirety as prepared by Otter Creek Environmental Services LLC.

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Executive Summary

Site Status and Applicable Rules:

The Central Disposal Landfill (the Landfill) is an open facility owned and operated by Central Disposal Systems, Inc. The Landfill accepts municipal solid waste (MSW), construction and demolition debris, asbestos-containing waste, petroleum-contaminated soils, and non-hazardous special wastes subject to prior Special Waste Authorization(s) issued by the Iowa Department of Natural Resources (IDNR). The Landfill is not authorized to accept bulk liquids; wastes that exhibit free liquids; wastes that have toxic or hazardous properties (i.e., no hazardous wastes, as defined by Chapter 455B.411 of the Iowa Code); radioactive wastes; untreated medical waste; and whole tires.

The Landfill is located approximately three miles southwest of Lake Mills, Iowa, in Winnebago County (see **Figure 1**). Groundwater monitoring is conducted according to the requirements of 567 IAC Chapter 113.10 and Permit No. 95-SDP-01-72. Existing conditions of the Landfill are provided in **Figures 2** and **3** with the latter providing Landfill layout including existing and future phases and topography. The Landfill has a gas-to-energy facility on the northwest portion of the property where gas collected from the landfill is converted into energy by Caterpillar 3516 Engines.

Report Priority:

The priority for review of this report remains low and thus similar to prior annual reports, based on the fact that there have been no confirmed detections of volatile organic compounds (VOCs) in the groundwater monitoring well network, nor are there verified inorganic parameter detections above groundwater performance standards or statistical control limits that are currently attributable to the Landfill. It is also important to note that there are no groundwater receptors in the immediate vicinity of the Landfill and there are no corrective action activities on-going or needed at the Landfill.

Based on the extensive historical monitoring database, a revised Hydrologic Monitoring System Plan (2023 HMSP) was approved by IDNR email on December 8, 2023. The 2023 HMSP was incorporated into the December 8, 2023 revision to the Landfill's IDNR Sanitary Disposal Project Permit, and provides an annual sampling frequency for selected annual parameters (optimized statistical detection parameter used for intrawell statistical analyses and supplemental parameters). The 2023 HMSP also includes testing for the parameters listed in IAC 567 Chapter 113 Appendix I (i.e., metals and VOCs) on a periodic, once per three year schedule to augment the annual monitoring for selected annual parameters.

Period of Report Coverage:

This 2024 Annual Water Quality Report (2024 AWQR) provides the IDNR with information regarding the groundwater quality monitoring activities that were conducted at the Landfill during 2024. In addition, the 2024 AWQR provides the 2024 Leachate Control System Performance Report and the 2024 Landfill Gas Monitoring and Management Report which are attached to this report as **Appendix A** and **B**, respectively.

The 2024 AWQR addresses the annual groundwater quality monitoring event completed at the Landfill on July 19, 2024. In addition, the 2024 AWQR provides the results from the second, third and fourth background monitoring events completed for wells MW-134, MW-135, and MW-136 on October 3, 2023, April 25, 2024, and October 24, 2024, respectively. With the exception of sample collection from MW-11, which was observed as damaged and unsamplable during the July 2024 annual monitoring event, all monitoring in 2024 was completed in accordance with the IDNR-approved 2023 HMSP. Monitoring well MW-11 was repaired in December 2024 and will be sampled during the next regularly scheduled annual monitoring event (fall 2025).

A brief summary of the July 2024 annual monitoring event and May 2024 background event was provided to the IDNR with the email dated August 22, 2024. The laboratory analytical reports for the July 2024 annual monitoring event, the October 2023 background event, and the two 2024 semi-annual background events have not been formally submitted to the IDNR and are provided with this 2024 AWQR.

1 Introduction

The Central Disposal Landfill (the Landfill) is located approximately three miles southwest of Lake Mills, Iowa, Portions of Section 16 and 21, Township 99N, Range 23W, Winnebago County. The Landfill property consists of 590 acres of which approximately 440 acres are permitted for solid waste activities. **Figure 1** illustrates the Landfill location and **Figures 2** and **3** provide an aerial view and topographic map of the facility, respectively; the latter includes a layout of existing and future landfilling phases.

1.1 Site Hydrogeologic Conditions

The hydrogeologic conditions associated with the Landfill have been established through the review of regional information and by the numerous site investigations, borings and well installations that have been completed at the Landfill. A brief discussion of the conditions at the Landfill are provided below.

Northern Iowa is characterized by a rolling terrain associated with glacial tills deposited as part of the Wisconsonian period of glaciation, and more specifically the Algona Moraine of the Des Moines Lobe. The glacial till may have isolated water-bearing units, but these are typically of limited extent. The glacial tills overlie bedrock of the Cedar Valley Formation which is sedimentary carbonate rock (dolostone). On a regional scale, the uppermost aquifer defined as producing economic quantities of water is the Cedar Valley formation.

At the Landfill, two water-bearing zones have been identified and designated as the Perched Zone and the Monitorable Zone. The shallow Perched Zone is represented as near surface perched water found to occur unconformably in the transition zone between weathered and unweathered till at depths of approximately 10 to 15 feet. The unweathered till represents a relatively impermeable confining layer atop which the Perched Zone occurs. The Perched Zone contains limited quantities of water, is not continuous across the site, and may be represented as only localized and isolated perched areas with no defined flow direction. In portions of the site, soil borrow has eliminated some of these isolated perched zones. During drier climatic periods Perched Zone wells may be dry; similarly, under wet climatic conditions water may accumulate within a perched zone.

The Monitorable Zone occurs at an elevation of approximately ± 1,215 feet relative to the National Geodetic Vertical Datum (feet NGVD) and consists of a laterally extensive clayey sand layer within the unweathered glacial till with a thickness of roughly 5 to 10 feet. The lower hydraulic boundary to the Monitorable Zone is represented as a zone of till with a higher clay content. The Monitorable Zone has been identified at all drilling locations at the site that were advanced to sufficient depth. Site investigations have established that the Monitorable Zone is the hydrologic unit of interest for monitoring potential off-site migration of impacts via groundwater as it represents the nearest surface unit with sufficient permeability such that it can be reliably monitored. However, it is important to note that the Monitorable Zone, due to its moderate to low permeability, does not meet the definition of the uppermost aquifer and review of available water well records indicate that it is not used as a water supply in the area.

Groundwater within the Monitorable Zone is confined with up to 40 feet of confining head. The resulting depth to groundwater in wells screened in this unit is 30 and 60 feet below grade. Groundwater flow within the Monitorable Zone is primarily southerly for a majority of the site, but with a northern flow component for the northernmost portion of the site. Flow conditions in the Monitorable Zone may fluctuate to some degree in response to changes in this confined unit. While short term fluctuations can indicate differences in flow vector, the overall average flow condition is to the south-southwest. The apparent flow divide of the Monitorable Zone roughly corresponds with 430th Street, which separates the main Landfill operations to the south and the landfill gas-to-energy facility and northern leachate ponds on the north side of 430th Street.

The Des Moines Lobe glacial deposits typically provide poor to low yields for water supply and the extensive thickness and overall low permeability of the glacial deposits result in very slow groundwater movement both horizontally and vertically. These conditions significantly minimize potential impact to groundwater receptors from a potential release at the Landfill.

2 Hydrologic Monitoring System Plan

The November 2, 2023 Hydrologic Monitoring System Plan and additional information submitted December 6, 2023 (2023 HMSP) was approved by the Iowa Department of Natural Resources (IDNR) on December 6, 2023 and was incorporated into the Revised Landfill Permit dated December 8, 2023 which was most recently revised on February 27, 2024. The updated 2023 HMSP supersedes previous HMSPs from April 2008, July 2009 (revised), and July 2018.

The 2023 HMSP was prepared based on review of water quality data collected since 2009 and provides an optimized sampling frequency and parameter list in accordance with IAC Chapter 113.10(5-6). The 2023 HMSP defines a detection monitoring program that incorporates parameters with the highest concentration contrast to leachate (referred to herein as “optimized intrawell statistical detection parameters”) and supplemental parameters (collectively referred to as “selected annual parameters”), thus providing the best means of improving the performance of the statistical analyses program following EPA and ASTM guidance (ASTM D7045-04). Detection monitoring at the Landfill also includes sampling and analysis for the list of metals and volatile organic compounds (VOCs) identified in IAC 567 Chapter 113 Appendix I (referred to herein as “Appendix I parameters”), on a periodic, once per three-year schedule to augment the selected annual parameters list.

2.1 Groundwater Monitoring Network

The water quality monitoring network at the Landfill currently includes twelve (12) monitoring wells, each of which were installed by a licensed well contractor in accordance with IAC requirements. The monitoring network was most recently modified to facilitate the construction of Phase VIII of the Landfill and included the sealing of wells MW-115, MW-130, and MW-131 and the installation of wells MW-134, MW-135, and MW-136 to augment the monitoring network. Each of these three new monitoring wells are currently in background monitoring mode and, in accordance with the 2023 HMSP, will remain in background monitoring mode until the full eight sets of background data required by the statistical program have been collected. The Landfill also has an additional eleven (11) monitoring wells utilized for static water level measurements only.

A construction summary for the Landfill’s existing groundwater monitoring well network, each well’s status (i.e., detection, assessment, or background), and each well’s hydraulic position relative to landfilled waste is presented in **Table 1**. The Landfill’s groundwater monitoring network is also illustrated on **Figures 2** and **3**.

2.2 Groundwater Sampling Frequency

The 2023 HMSP provides for a seasonally rotating annual monitoring schedule (excluding winter) in consideration of the relatively slow groundwater flow velocity at the site. The Landfill’s monitoring program, as described in the 2023 HMSP, is presented in **Table 2**. The seasonally rotating annual monitoring schedule was initially developed as part of the 2018 HMSP, was initiated following approval of the 2018

HMSP and, at its initiation, was augmented by a few additional monitoring events (2018-2019) to accumulate additional background datasets for a few selected parameters.

Each of the Landfill's monitoring wells utilized for water quality evaluation are classified as either being in detection or assessment monitoring status. Detection monitoring at the Landfill consists of seasonally rotating annual groundwater sampling for the selected annual parameters and is augmented with sampling and analysis for Appendix I parameters on a once per three year basis as described in the 2023 HMSP (see **Table 2**). Sampling for Appendix I parameters was most recently completed concurrent with the May 2023 monitoring event; as such, the next monitoring event scheduled to include the Appendix I parameters is scheduled for 2026.

Background monitoring for the three new wells is ongoing and will continue to occur on a semi-annual basis in accordance with the IDNR-approved 2023 HMSP until the full eight sets of background data required for intrawell statistical evaluation have been collected. A summary of the Landfill's monitoring as completed from 2019 through 2024 and a tentative schedule for 2025 monitoring is presented in **Table 3**.

2.2.1 Detection Monitoring

As noted above, Detection monitoring at the Landfill occurs pursuant to the seasonally rotating annual schedule for the selected annual parameters as described in the 2023 HMSP. Detection monitoring is augmented with sampling for Appendix I parameters on a once per three year basis. Detection monitoring results are compared to published groundwater quality standards (e.g., U.S. Environmental Protection Agency [EPA] Maximum Contaminant Levels [MCL] and/or IDNR Groundwater Performance Standards [GWPS]). The intrawell statistical detection parameters are compared against statistical limits established according to the methods described in the 2023 HMSP and in the Otter Creek Environmental Services, LLC (Otter Creek) statistical reports. The intent of statistical analysis is to identify at the earliest indication changes in water quality that may be indicative of a potential leachate release. Collection of background monitoring data (minimum of eight data sets) is required for the statistical program. With the exception of newly installed monitoring wells MW-134, MW-135, and MW-136, the full complement of background data has been collected for all monitoring wells utilized for water quality monitoring.

New monitoring wells MW-134, MW-135, and MW-136 were installed in May and June 2023 in accordance with the IDNR approved Proposed Groundwater Monitoring Network Revisions letter dated July 28, 2022. Consistent with the statistical procedures implemented for the Landfill, eight sets of background groundwater quality data consisting of the selected annual parameters and Appendix I parameters will be collected. Collection of the background data for the three new wells, has, and will continue to occur on a semi-annual basis in accordance with the 2023 HMSP. Once eight sets of background groundwater quality data has been collected for each of the new monitoring wells they will be incorporated into the annual Detection monitoring schedule and sampled annually for the approved selected annual parameter list, and, for Appendix I parameters on a periodic, once per three-year schedule.

2.2.2 Assessment Monitoring

Monitoring wells enter into Assessment status when there has been a confirmed volatile organic compound (VOC) detection, or when there has been a confirmed statistical exceedance that is attributable to the Landfill. Assessment monitoring includes sampling and analysis for the parameters listed in IAC 567 Chapter 113 Appendix II (referred to herein as “Appendix II parameters”). Appendix II parameters consist of all Appendix I parameters, as well as, pesticides, herbicides, polychlorinated biphenyls (PCBs), semi-volatile organics, cyanide, mercury, sulfide, and tin.

There are no monitoring wells currently in Assessment status at the Landfill. However, monitoring wells MW-11, MW-115, MW-130, MW-131, MW-132, MW-133 have each undergone a minimum of two rounds of Assessment monitoring for Appendix II parameters, largely in response to statistical exceedances of arsenic that have since proven to be reflective of natural water quality variability. Collectively, there have been no confirmed detections of any parameters specific to only the Appendix II parameters list.

2.3 Monitoring Well Performance Evaluation

Evaluation of well conditions are conducted periodically in accordance with the 2023 HMSP and IAC Chapter 113.10(2)”f”. Performance evaluations are conducted to ensure that each well provides samples representative of the screened groundwater interval. The principal components evaluated include the following:

- A biennial examination of high and low water levels as well as a discussion of the validity of the well location both vertically and horizontally. The discussion will also include an analysis of the exposure of the screened interval to the atmosphere.
- A biennial evaluation water level conditions in the monitoring wells to ensure that the effects of waste disposal or well operation have not resulted in changes in the hydrogeologic setting and resultant flow paths.
- Measurements of well depths in wells with no dedicated sampling equipment will be taken annually and every five years for wells containing dedicated sampling equipment to ensure that the wells are physically intact and not filling with sediment.
- Biennially, the well recharge rates and chemistry will be evaluated to determine if the well is deteriorating.

The monitoring wells that are utilized for water quality sampling at the Landfill are screened in the “monitorable zone” with screened intervals that are not intended to intersect or cross the water table. Therefore, evaluation of screened interval in relation to the water table as required by IAC 113.10(2)”f”(1) is not applicable to this site-specific water quality monitoring network. In addition, the low-permeability glacial sediments in which the wells are screened may unavoidably yield samples that contain varying amounts of fine-grained sediment. To minimize sediment in well samples, dedicated QED Well Wizard ® bladder pumps (model number P-110-1S) are used along with micro-purge sampling procedures. The dedicated bladder pumps continued to operate as intended in 2024.

Monitoring well performance evaluations were conducted concurrent with the July 2024 monitoring event. Updated turbidity and suspended solids data for 2024 is provided in **Table 4A** and a summary of previously completed well performance evaluations, including well depth measurements, purge, and recovery rates, is provided in **Table 4B**. It is noted that no performance evaluation was completed on monitoring well MW-11 in 2024 as the well was damaged. Total depth measurements for wells with dedicated sampling pumps will next be collected in 2029 in accordance with the schedule outlined in the 2023 HMSP.

The monitoring well characteristics through 2024 are summarized below and indicate the monitoring network provides for accurate determination of water quality and allows for early detection and response to a potential release.

567 IAC 113.10(2)"f"(1) - high and low water levels.

- As noted above, this aspect of well performance evaluation is not applicable to the site-specific monitoring network at the Landfill. Monitoring well depths and screen positions are properly positioned vertically to account for fluctuations in groundwater elevation that occur naturally within the monitorable zone.

567 IAC 113.10(2)"f"(2) – changes in the hydrogeologic setting and flow path.

- This is completed on an annual basis at the site. Groundwater elevation information indicates groundwater flow to be consistent with that which has previously been determined. This indicates the monitoring wells are properly situated horizontally with respect to groundwater flow and landfill phases.

567 IAC 113.10(2)"f"(3) – well depths.

- Well depth measurements have been collected periodically, as stipulated by IAC regulations and the Landfill's HMSP, and were most recently measured during the July 2024 event.
- Measurement of well depths indicate that siltation into wells has not affected the usefulness of the wells for sample collection which use dedicated bladder pumps and micro purge sampling methods that minimize sedimentation potential.
- Pursuant with the 2023 HMSP, well depth measurements at monitoring wells which have dedicated sampling equipment will next occur in 2029.

567 IAC 113.10(2)"f"(3) – well recharge rates and chemistry.

- Well recharge rates were most recently calculated as a part of the July 2024 monitoring event, in accordance with the biennial schedule outlined in the 2023 HMSP.
- Well chemistry is recorded on an annual basis.
- The purge rate used by the dedicated bladder pumps has remained consistent indicating that well yield, as it is necessary for sample collection, remains adequate.
- The dedicated sampling equipment remains in good condition to provide water quality samples representative of groundwater conditions.

- Well chemistry has not varied to the extent which would suggest well deterioration.
- The physical condition of each well, aside from MW-11, remain in good physical condition at the surface (well casing, protective casing, barrier posts). MW-11 sustained damage to its outer/inner casing in 2024. The well was repaired on December 27, 2024, by a licensed well contractor, in accordance with IAC requirements. MW-11 will be surveyed for updated elevation information now that the repairs are complete. Well construction records will be updated accordingly to account for the new elevation information following the survey (see **Table 1**).

113.6(2)"I" – waste separation from groundwater.

- The design and operation of the groundwater underdrains GU-V-2 and GU-VIII-1 is addressed in *Sections 2.4* and *3.6* of this report.

2.4 Groundwater Underdrains

Groundwater underdrains are operated at the Landfill in order to ensure that the minimum five-foot separation distance between the liner and groundwater is maintained. The Landfill currently operates two groundwater underdrains, GU-V-2 and GU-VIII-1. GU-V-2 is located beneath Phase V of Cell 2 of the Landfill and was installed in August 2012. GU-VIII-1 is located beneath Phase VIII of the Landfill and was installed in November 2022. It is important to note that the Landfill's underdrains are not points-of-compliance and were not installed as monitoring locations as neither the equipment nor materials used for construction are cleaned in the fashion of a monitoring well. Groundwater underdrains are often dry at the time of installation, but may accumulate stormwater during and post-construction. Water evacuated from the Landfill's groundwater underdrains is discharged and managed as surface water.

2.4.1 GU-V-2

GU-V-2 was initially dry at the time of installation and water was first found to be present in September 2012. Initial sampling results identified a number of VOC detections. An alternative source demonstration (ASD) indicated that the detections were not leachate related, but likely the result of incidental fuel-related sources from construction activities. Subsequent monitoring occurred semi-annually through 2017 with results indicating a significant decrease in VOC detections to the point that none were detected in 2015, 2016, or 2017. Since 2018, monitoring of GU-V-2 has occurred annually in accordance with the 2018 HMSP, and most recently, the 2023 HMSP which include testing for VOCs on a once per three years basis. No VOCs were detected in 2020 or 2023. A historical summary of VOC results for GU-V-2 is provided in **Appendix F Table F-1**. Cumulatively, the monitoring data indicates that the past VOC detections in GU-V-2 were not associated with Landfill leachate. The 2024 GU-V-2 sampling results are discussed in *Section 3.6*.

Operation of GU-V-2 is conducted by the Landfill and was refined in 2016 and discussed in detail in the *2016 Annual Water Quality Report*. The discharge operation incorporates the use of a pump, discharge hose, flow meter, pressure gauge and airline. An optimal pump run time of roughly one hour per day was established in 2016 and continued to be sufficient to evacuate water that may have accumulated, ensuring the required five-foot separation distance was maintained through 2021. Yearly GU-V-2 discharge volumes

have continued to decrease since 2016. The optimal pump run time was reduced to roughly one hour per week in 2022 and continued in this manner through 2023; this reduced run time proved sufficient to evacuate what little water may have accumulated during the week to ensure the required five-foot separation distance between water level and waste was maintained through 2023. In 2024, the pump was set to run automatically so that any water that accumulated in the underdrain was automatically evacuated, as necessary, in order to continuously maintain the required five-foot separation distance between water level and waste throughout 2024.

2.4.2 GU-VIII-1

GU-VIII-1 was initially dry at the time of installation, however, as has been the case with other underdrains, stormwater that accumulated during construction was observed in GU-VIII-1 post-construction. Pursuant to the protocols detailed in the 2023 HMSP, GU-VIII-1 underwent a three-month evaluation period. During this period, weekly pumping of the underdrain was proposed to occur so that construction-related stormwater could be evacuated and average flows calculated. The weekly underdrain discharge volumes were to be recorded and evaluated at the end of the three-month evaluation period. The intent of this evaluation period was to determine whether or not monitorable quantities of groundwater are present within GU-VIII-1 following the successful evacuation of any construction-related stormwater. Per the 2023 HMSP, monitorable quantities included at least five additional gallons once the lysimeter and associated piping infrastructure has been purged. The results from this initial evaluation period at GU-VIII-1 were inconclusive and ultimately did not satisfy the goal of determining if GU-VIII-1 was monitorable.

The Landfill discussed the underdrain evaluation with the IDNR via phone call on October 30, 2024 and follow up email on October 31, 2024. The aforementioned correspondence proposed a second three-month evaluation period in which the Landfill would purge GU-VIII-1 and then record the amount of time it takes for the underdrain to recharge and fill a five-gallon bucket (monitorable quantity) once per week. If GU-VIII-1 does not recharge after one hour, the underdrain would be declared unmonitorable for that week's event. When not conducting the weekly testing the underdrain pump is set to run automatically so that any water that accumulates in the underdrain is automatically evacuated, as necessary, in order to continuously maintain the required five-foot separation distance between water level and waste. The results from this secondary evaluation period will be used to determine if GU-VIII-1 is monitorable. This proposed plan was approved by the IDNR via email on October 31, 2024. As proposed, the secondary evaluation period began in December 2024, is scheduled to conclude on or before February 28, 2025, and results will be provided to the IDNR no later than April 31, 2025.

If the secondary evaluation period determines monitorable quantities of water be present in the underdrain then samples will be collected from GU-VIII-1 semi-annually for the full list of Detection monitoring parameters (i.e., selected annual parameters and Appendix I parameters) until eight rounds of background data has been collected, per the 2023 HMSP. If semi-annual monitoring results detect VOCs or elevated concentrations of leachate indicator parameters (e.g., sodium, chloride, etc.) then the results will be evaluated with geochemical tools (i.e., Stiff diagrams and Piper plots) comparing GU-VIII-1 major ion results to that of leachate in order to determine if the water in the underdrain has been impacted with leachate. Once the background data set is complete, assuming no leachate impacts are identified, underdrain GU-

VIII-1 will be incorporated into the Detection monitoring schedule consisting of annual sampling for selected annual parameters augmented with sampling for Appendix I parameters on a periodic once per three year basis, and the statistical program consisting of annual evaluation of optimized statistical detection parameter results through intrawell statistics.

3 2024 Data Evaluation and Summary

Monitoring activities conducted in 2024 were performed in accordance with the approved 2023 HMSP. The 2024 annual detection monitoring event was conducted on July 19, 2024 (July 2024 event). Sample collection was conducted by Alliance Technical Group (Alliance), formerly Interpoll Laboratories, of Circle Pines, Minnesota. Alliance has consistently served as the sampling vendor to the Landfill for more than a decade. Sample analysis was conducted by Pace Analytical National Laboratories (PAN) of Mt. Juliet, Tennessee.

The monitoring events as completed in 2024 are summarized on **Table 2** and background monitoring events completed to date for the three new wells are summarized on **Table 3**. Monitoring well MW-11 was unable to be sampled during the July 2024 event due to damage that prevented sample collection and water level measurement. MW-11 was repaired on December 27, 2024 by a licensed well contractor in accordance with IAC requirements. Due to an apparent miscommunication water level measurements were not collected from new wells MW-134, MW-135, and MW-136. Care will be taken to ensure that water level measurements are collected from these three new wells during annual events going forward.

The second, third, and fourth background monitoring events for new monitoring wells MW-134, MW-135, and MW-136 were conducted on October 3, 2023, April 25, 2024, and October 24, 2024, respectively. With the few exceptions noted above all monitoring events conducted in 2024 were completed in accordance with the 2023 HMSP with all required locations and parameters accounted for.

The PAN laboratory report for the July 2024 event is provided as **Appendix C**. The statistical report as prepared by Otter Creek Environmental Services, LLC (Otter Creek) is presented as **Appendix D**. The analytical reports for the second (October 2023), third (April 2024), and fourth (October 2024) background monitoring events completed for the new wells have yet to be formally submitted to the IDNR and are provided in **Appendix E**.

A NPDES sample was collected on July 19, 2024 from Outfall 001. Results are maintained within the Landfill's operating record in accordance with the Landfill's Stormwater Pollution Prevention Plan (SWPPP).

3.1 Groundwater Elevation Data

A groundwater elevation data summary is provided as **Table 5**. Groundwater elevations for the July 2024 event were comparable to those recorded during the May 2023 event and all recorded groundwater elevations, with the exception of the historical maximum elevation recorded at P-120S, were within each well's historical range. A groundwater contour map generated from the elevations measured during the July 2024 event is presented as **Figure 4**. The interpreted groundwater contours remain similar to previous determinations indicating a predominant southerly flow direction. As there is no indication of change in groundwater flow conditions, the existing monitoring wells remain properly situated to monitor for potential releases from the Landfill.

3.2 Quality Assurance/Quality Control (QA/QC)

Each monitoring event completed in 2024 utilized standard field and laboratory quality assurance and quality control (QA/QC) procedures to generate data that accurately reflects the individual samples collected. Field procedures include use of dedicated and/or disposable equipment as appropriate, proper sample collection and preservation methods, and shipment of collected samples via overnight courier under chain-of-custody protocol. Laboratory QA/QC methods begin with sample login and continue with sample preparation and analyses in controlled environments and within specified timeframes. Laboratory QA/QC samples are prepared for instrument calibration as method blanks, matrix spikes and duplicates. Results of the method blanks, matrix spikes, surrogate recoveries, etc. were within acceptable limits, indicating the laboratory data is valid. Trip blanks were prepared and analyzed for VOCs during the background monitoring events; no VOCs were detected in either sample.

3.3 Annual Detection Monitoring

In accordance with the 2023 HMSP, annual detection monitoring at the Landfill in 2024 (July 2024 event) consisted of sampling and analysis for the selected annual parameters. The selected annual parameters consist of the optimized statistical detection parameter used for intrawell statistical evaluation and the supplemental parameters (see **Table 2**). The detection monitoring program is augmented with sampling and analysis for Appendix I parameters on a periodic once per three year basis.

Selected annual parameters results from 2018 through the July 2024 event are provided in **Table 6**. Results from the July 2024 event are generally consistent with historical results for respective individual well locations and none of the results exceed respective water quality standards (MCL/GWPS).

3.3.1 Appendix I Parameters

As noted above, the 2023 HMSP provides for testing of Appendix I parameters on a once per three year basis. Appendix I parameters were last sampled for during the May 2023 event and are next scheduled for 2026. A summary of historical Appendix I results for metals and VOCs are presented in **Tables 7** and **8**, respectively.

3.4 Statistical Analysis

Statistical groundwater quality analysis is required by IAC 567, Chapter 113.10(4) to identify the earliest indication of changes in water quality that may be indicative of either normal ambient variability or a potential leachate release from the Landfill. Otter Creek provides the intrawell statistical analyses of the collected data. In accordance with the 2023 HMSP, the background data set for each well (except for the three new wells) has been updated to incorporate optimized intrawell statistical detection parameter results through May 2023. The statistical report for the July 2024 event is provided in **Appendix D**. The statistical report includes a discussion of the statistical methods, water quality data tabulations, control limits, intrawell

control charts, and time series charts for supplemental parameters. The statistical report for the July 2024 event did not identify any verified or unverified intrawell statistical exceedances.

3.5 Assessment Monitoring

As noted in *Section 2.2*, monitoring wells enter into Assessment status when there has been a confirmed VOC detection, or when there is a confirmed statistical exceedance that is attributable to the Landfill. There are no wells at the Landfill currently in Assessment status; however, monitoring wells MW-11, MW-115, MW-130, MW-131, MW-132, MW-133 have each undergone a minimum of two rounds of testing for Assessment monitoring parameters. Assessment monitoring at these locations was initiated largely in response to statistical exceedances of arsenic that have since proven to be reflective of natural water quality variability. Therefore, because there have been no confirmed VOC detections, GWPS/MCL exceedances, or verified statistical control limit exceedances attributable to the Landfill, each of these wells met the requirements of 113.10(6)e and g.4(2) and returned to Detection status. Monitoring wells MW-11, MW-132, and MW-133 remain in Detection status. As mentioned in previous sections monitoring wells MW-115, MW-130, and MW-131 were sealed in August 2022.

While the wells were in Assessment status, Appendix II parameter data was collected. None of the parameters specific to only the Appendix II list (pesticides, herbicides, polychlorinated biphenyls (PCBs), semi-volatile organics, cyanide, mercury, sulfide, and tin) were detected during the completed Assessment monitoring events. An abbreviated summary of the analytical results of the Assessment monitoring events is provided in **Appendix F Table F-2**. A comprehensive summary of all Appendix II results was last provided to the IDNR with the *2017 Annual Water Quality Report* for the Landfill, dated January 30, 2018.

3.6 2024 GU-V-2 Data

GU-V-2 was sampled during the July 2024 event and analyzed for selected annual parameters. Sampling of GU-V-2 for Appendix I parameters was most recently conducted during the May 2023 monitoring event and is next scheduled for 2026. A summary of selected annual detection data collected from GU-V-2 from 2018 through 2024 is provided in **Table 6**, Appendix I metals data is included in **Table 7**, and a historical summary of VOC detections in GU-V-2 is provided in **Appendix F Table F-1**. The July 2024 event results for the sample collected from GU-V-2 are comparable to prior results and are indicative of naturally occurring groundwater conditions at the Landfill with no influence from leachate as has been the case historically.

Operation (pumping and discharging) of GU-V-2 during 2024 is described in *Section 2.4.1*. Water evacuated from GU-V-2 continues to be managed as surface water. Through March 2024 approximately 100 gallons of water was discharged from GU-V-2. Flow meter readings from April through December 2024 are not available due to staff turnover, however, it is noted that Landfill staff observed discharge occurring from GU-V-2 during April through December 2024 indicating that the automated pumping system continued to operate as intended ensuring that the required five-foot separation distance between water level and waste was maintained through 2024.

3.7 Background Monitoring Results

The second, third, and fourth rounds of background monitoring at monitoring wells MW-134, MW-135, and MW-136 took place on October 3, 2023, April 25, 2024 and October 24, 2024, respectively. Background monitoring for these wells includes the full list of Detection monitoring parameters (i.e., Appendix I parameters and selected annual parameters), in accordance with the 2023 HMSP. Analytical results for selected annual parameters, Appendix I metals, and Appendix I VOCs are summarized along with results from the Landfill's other wells in **Tables 6**, **7**, and **8**, respectively. Trend charts tracking the background monitoring results for the new wells through the fourth background monitoring event were prepared by Otter Creek and are provided in **Appendix D**.

Consistent with the first background monitoring event, results from the second, third, and fourth background monitoring events indicate no confirmed VOC detections for any of the three new wells. An anomalous unconfirmed carbon disulfide result of 1.08 ug/L was reported for MW-134 for the October 2023 event, however the April 2024 event did not confirm the anomalous carbon disulfide result as it was not detected. A number of metals (arsenic, barium, chromium, copper, lead, nickel, vanadium, and zinc) have been detected in the monitoring wells at concentrations above their respective reporting limits. Through the fourth background monitoring, the only parameters reported at concentrations above their respective water quality standard have been arsenic and cobalt. Arsenic has been detected above that MCL in MW-134 during all four background monitoring events. Cobalt was detected above the GWPS in MW-134 during the first and second background monitoring events. For MW-135, arsenic was detected above the MCL during the second background monitoring event and cobalt was detected above the GWPS during the first and second background monitoring events. For MW-136, arsenic and cobalt were detected above the MCL and GWPS, respectively, during the first background monitoring event. The aforementioned arsenic and cobalt results are within the range of those previously detected in other wells in the Landfill's monitoring system, including upgradient wells. Based on comparison to monitoring results from other wells at the Landfill, background monitoring results for the three new wells continue to be representative of background water quality (i.e., non-landfill affected, ambient groundwater conditions).

Consistent with the statistical procedures implemented for the site, eight sets of background groundwater quality data for selected annual parameters and Appendix I parameters will be collected at the new wells. Collection of the background data will continue to occur on a semi-annual basis, as previously discussed with the IDNR. Sample collection and laboratory analyses will continue to follow the established procedures implemented by Alliance and PAN, respectively. Once eight sets of background groundwater quality data have been collected for each of the new monitoring wells, they will be incorporated into the annual monitoring schedule and sampled annually for selected annual parameters, and for Appendix I parameters on a periodic, once per three-year basis. The fifth and sixth background sampling events for the wells are scheduled for spring and fall 2025, respectively (See **Table 3**).

4 2025 Monitoring Schedule

The Detection monitoring schedule during 2025 provides for one annual event in the fall. The 2025 annual event will include testing for selected annual parameters. The three new monitoring wells (MW-134, MW-135, and MW-136) will continue to be sampled semi-annually in accordance with the background monitoring schedule provided with the approved 2023 HMSP. As noted in *Section 3.8,* the fifth and sixth background monitoring events for the new wells are scheduled for spring and fall 2025, respectively. A detailed summary of the proposed 2025 monitoring schedule is provided in **Table 3**.

Leachate monitoring will also be completed in 2025 to comply with the needs of the leachate treatment agreements with Mason City, Iowa, Northwood, Iowa, and Albert Lea, Minnesota. An annual NPDES stormwater sample is anticipated to be collected in the spring of 2025, if conditions permit. Modification to the monitoring schedule may be made in response to data review or in accordance with modified schedules approved by the IDNR.

5 Conclusions and Recommendations

1. The July 2024 annual event and 2024 background monitoring events were completed in accordance with the 2023 HMSP, and the current Landfill Permit. The July 2024 annual event included testing of all wells, with the exception of MW-11 and the three new wells, for the selected annual parameters.

2. In accordance with the IDNR approved 2023 HMSP, the third and fourth background monitoring events for the new wells (MW-134, MW-135, and MW-136) were completed in April and October 2024, respectively.

3. Monitoring well MW-11 was unsamplable during the July 2024 event due to damage to the protective casing and upper portion of the well's riser. The well was repaired on December 27, 2024 by a licensed well contractor in accordance with IAC requirements and will be sampled during the next regularly scheduled annual monitoring event (fall 2025).

4. There were no inorganic parameter detections above water quality standards attributable to the Landfill in 2024. Background monitoring results for the three new wells remains consistent with naturally occurring background groundwater quality conditions.

5. To date there have been no confirmed VOC detections in the groundwater well monitoring network which is consistent with historical data and indicates no releases to groundwater have occurred at this site.

6. There were no verified or unverified intrawell statistical exceedances identified in the statistical report prepared for the July 2024 event.

7. The monitoring well performance evaluation completed as a part of the July 2024 event indicates that the wells remain properly situated and in acceptable condition. Monitoring well performance evaluation will continue to be completed in accordance with the schedule outlined in the 2023 HMSP.

8. Cumulatively, Detection monitoring data, statistical analyses, and historical Assessment monitoring data indicate that a confirmed landfill release has not occurred, and that there continues to be no risk to any off-site receptors.

9. The operation of GU-V-2 in 2024, as described in *Section 2.4.1*, effectively maintains the required five-foot separation distance between water level and waste. Operation of GU-V-2 is proposed to continue in this manner in 2025 with the water managed as surface discharge.

10. Results from the first three-month evaluation period at GU-VIII-1 were inconclusive. As such, an IDNR approved secondary three-month evaluation period is ongoing to determine if monitorable quantities of groundwater exist in the underdrain (see *Section 2.4.2*). A letter summarizing the

results of the secondary evaluation period will be provided to the IDNR under separate cover, no later than April 31, 2025.

11. Annual Detection and semi-annual background monitoring in 2025 will follow the IDNR approved 2023 HMSP monitoring schedule, as summarized for 2025 in **Table 3**.

6 References

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Woodward-Clyde Consultants, “Well Development Report.” August 1993.

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Wenck Associates, Inc., “Supplemental Hydrogeologic Investigation Report.” August 1995.

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Wenck Associates, Inc., “Phase IV, Cell 1 Supplemental Hydrogeologic Investigation Report.,” April 1997.

Wenck Associates, Inc., “1998 Hydrologic Monitoring and Leachate Management System Effectiveness Report,” December 1998 (boring logs & well installation of 4 monitoring wells, and sealing records of 19 wells).

Wenck Associates, Inc., “Hydrologic Monitoring System Plan” April 2008, Revised July 2009.

Wenck Associates, Inc., “Monitoring Well Installation Documentation” November 4, 2009 letter to IDNR (well installation of 4 monitoring wells, & sealing of 12 monitoring wells).

Wenck Associates, Inc. “Landfill Gas Monitoring Plan.” September 26, 2016.

Wenck Associates, Inc. “Hydrologic Monitoring System Plan.” July 2018.

Stantec Consulting Services Inc., “Notice of Well Plugging” August 29, 2022 (sealing of 3 monitoring wells).

Stantec Consulting Services Inc., “Monitoring Well Installation Documentation Letter Report” September 1, 2023 letter to IDNR (installation of 3 monitoring wells).

Stantec Consulting Services, Inc. “Hydrologic Monitoring System Plan.” November 2, 2023.

Tables

Table 1 - Groundwater Monitoring Network (Updated January 2025)

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Well ID	Date Installed	Date Sealed	Drilling Company	Well Status	Well Position (Relative to waste)	Dedicated Bladder Pump (Yes/No)	Ground Elevation (Ft. NGVD)	TOC Elevation (Ft. NGVD)	Well Depth (Ft. from TOC)	Well Diameter / Material	Screen Length / Material	Slot Size	Approximate Depth to Water (ft. below TOC)	Approximate Boring Depth (ft)
MW-2A	1995	N/A	AET	WQ / Detection	Upgradient	Yes	1,278.3	1,281.05	78.4	2" / PVC	10' / PVC	#10 slot	37.5	75.4
MW-7A	1998	N/A	AET	WQ / Detection	Downgradient	Yes	1,292.4	1,294.94	97.5	2" / PVC	10' / PVC	#10 slot	62.0	99.0
MW-11 (PZ-11)*	1989	N/A	J&R	WQ / Detection	Downgradient	Yes	1,274.9*	1,277.65*	73.8*	2" / PVC	10' / PVC	#10 slot	48*	73
MW-101	1995	N/A	AET	SWL	Up- to Side-gradient	No	1,289.4	1,292.09	82.5	2" / PVC	10' / PVC	#10 slot	59.0	80.5
MW-104	1995	N/A	AET	SWL	Down- to Side-gradient	No	1,270.4	1,272.16	82.5	2" / PVC	10' / PVC	#10 slot	41.5	80.0
MW-110	1995	N/A	AET	WQ / Detection	Upgradient	Yes	1,288.9	1,291.32	75.6	2" / PVC	10' / PVC	#10 slot	56.5	75
MW-112	1996	N/A	AET	SWL	Down- to Side-gradient	No	1,286.0	1,287.89	82.1	2" / PVC	10' / PVC	#10 slot	57.8	79.8
MW-117	1999	N/A	Braun Intertec	WQ / Detection	Upgradient	Yes	1,277.4	1,279.84	76.9	2" / PVC	10' / PVC	#10 slot	53.1	74.5
MW-118	1999	N/A	Braun Intertec	WQ / Detection	Upgradient	Yes	1,281.6	1,284.56	95.4	2" / PVC	5' / PVC	#6 slot	58.8	92.0
MW-120	1999	N/A	Braun Intertec	SWL	Downgradient	No	1,276.4	1,278.86	62.5	2" / PVC	5' / PVC	#6 slot	49.9	72.0
MW-121	1999	N/A	Braun Intertec	SWL	Downgradient	No	1,272.5	1,275.65	105.2	2" / PVC	5' / PVC	#6 slot	48.5	102.0
MW-123	2003	N/A	Bergerson-Casewell	WQ / Detection	Upgradient	Yes	1,294.7	1,297.30	82.9	2" / PVC	5' / PVC	#6 slot	66.5	80.0
MW-132	2009	N/A	Traut Wells	WQ / Detection	Downgradient	Yes	1,256.0	1,259.32	42.5	2" / PVC	15' / PVC	#6 slot	28.0	60.0
MW-133	2009	N/A	Traut Wells	WQ / Detection	Downgradient	Yes	1,252.0	1,254.95	53.3	2" / PVC	15' / PVC	#6 slot	20.0	50.0
MW-134	2023	N/A	Midwestern	Background	Downgradient	Yes	1,259.5	1,261.83	59.8	2" / PVC	10' / PVC	#10 slot	32.0	58.0
MW-135	2023	N/A	Midwestern	Background	Downgradient	Yes	1,274.9	1,277.32	72.4	2" / PVC	10' / PVC	#10 slot	47.5	70.0
MW-136	2023	N/A	Midwestern	Background	Downgradient	Yes	1,272.1	1,274.63	80.5	2" / PVC	10' / PVC	#10 slot	18.0	78.0
P-15	1999	N/A	Braun Intertec	SWL	Upgradient	No	1,293.9	1,297.40	18.4	2" / PVC	10' / PVC	#6 slot	11.2	15.0
P-16	2003	N/A	Bergerson-Casewell	SWL	Upgradient	No	1,292.3	1,294.87	17.9	2" / PVC	10' / PVC	#6 slot	6.6	15.0
P-17	2003	N/A	Bergerson-Casewell	SWL	Upgradient	No	1,293.6	1,296.32	18.1	2" / PVC	10' / PVC	#6 slot	5.0	15.0
P-18	2003	N/A	Bergerson-Casewell	SWL	Upgradient	No	1,291.9	1,294.48	17.7	2" / PVC	10' / PVC	#6 slot	6.7	15.0
P-120S	1999	N/A	Braun Intertec	SWL	Downgradient	No	1,276.6	1,278.76	17.2	2" / PVC	10' / PVC	#6 slot	7.2	15.0
P-121S	1999	N/A	Braun Intertec	SWL	Downgradient	No	1,272.5	1,275.75	33.3	2" / PVC	10' / PVC	#6 slot	17.3	31.0

Notes:

WQ: Monitoring well utilized for groundwater quality monitoring, as required by Solid Waste Permit, its amendments, and the 2023 Hydrologic Monitoring System Plan (2023 HMSP)

- Detection = Monitoring well is in Detection status, per the 2023 HMSP
- Assessment = Monitoring well is in Assessment status, per 2023 HMSP
- Background = Monitoring well is in Background status, per 2023 HMSP

* - MW-11 casing and riser repaired 12-27-24 due to damge sustained earlier in the year. Well to be resurveyed and elevation information will be updated herin accoringly

SWL: Monitoring location utilized for static water level measurements only

N/A = Not Applicable

TOC = Top of Casing

NGVD = National Geodetic Vertical Datum

Table 2 - 2024 Annual Monitoring Event Summary

Central Disposal Landfill - Lake Mills, Iowa
Permit No. 95-SDP-01-72

Location	Well Status (as of August 2023)	Location / Description	Background Event #3 April 25, 2024	Annual Groundwater Event July 19, 2024***	Background Event #4 October 24, 2024	Leachate (per WWTP permts) Months (1,4,7,10)
MW-2A	Detection	Upgradient	--	Selected Annual Parameters	--	--
MW-7A	Detection	Downgradient	--	Selected Annual Parameters	--	--
MW-11*	Detection	Downgradient	--	Not Sampled - Well Damaged	--	--
MW-110	Detection	Upgradient	--	Selected Annual Parameters	--	--
MW-117 *	Detection	Distant Downgradient	--	Selected Annual Parameters	--	--
MW-118 *	Detection	Distant Downgradient	--	Selected Annual Parameters	--	--
MW-123 *	Detection	Upgradient	--	Selected Annual Parameters	--	--
MW-132	Detection	Downgradient	--	Selected Annual Parameters	--	--
MW-133	Detection	Downgradient	--	Selected Annual Parameters	--	--
MW-134 [1]	Background	Downgradient	Appendix I & Selected Annual Parameters	-- [2]	Appendix I & Selected Annual Parameters	--
MW-135 [1]	Background	Downgradient	Appendix I & Selected Annual Parameters	-- [2]	Appendix I & Selected Annual Parameters	--
MW-136 [1]	Backround	Downgradient	Appendix I & Selected Annual Parameters	-- [2]	Appendix I & Selected Annual Parameters	--
GU-V-2	Groundwater Underdrain	Groundwater Underdrain	--	Selected Annual Parameters	--	--
Other wells **	WL only	Various	--	WL	--	--
Outfall 1	NPDES	Stormwater Pond Outlet	--	NPDES	--	--
Leachate (5 ponds)	--	--	--	Selected Annual Parameters	--	WWTP parameters

Well Monitoring Notes:

* - Monitoring wells added to Detection monitoring schedule in Fall 2014, as per Permit Amendment #5

** - Other Wells available for static water level measurements: MW-101, MW-104, MW-112, MW-112, MW-120, P120S, MW-121, P121S, P-15, P-16, P-17 and P-18

*** - Annual Groundwater Events are completed on a rotating, seasonal schedule; sampling during the winter quarter is excluded

Spring Window = April - May
Summer Window = June - July
Fall Window = October - November

[1] = Monitoring wells MW-134, MW-135, and MW-136 installed May-June 2023

[2] = Monitoring wells MW-134, MW-135, and MW-136 to be incorporated into Annual Groundwater Events once the 8 rounds of background monitoring have been completed (anticipated 2027)

Appendix I Parameters sampled and analyzed every three years. Last completed May 2023; next event scheduled for 2026

Parameter Lists:

Selected Annual Parameters (Optimized parameter list, as per November 2023 Hydrologic Monitoring System Plan (HMSP)):

- Intrawell Statistical Detection Parameters = Ammonia, Chloride, Sodium, and Alkalinity
- Supplemental Parameters = Calcium, Iron, Magnesium, Potassium, Sulfate, Total dissolved solids (TDS), and Total Suspended Solids (TSS)

Appendix I:

- IAC Chapter 113, Appendix I Parameter List (Metals & Volatile Organic Compounds (VOCs))

Appendix II:

- IAC Chapter 113, Appendix II Parameter List (Includes full Appendix I List + Pesticides, Herbicides, Poly-Chlorinated Biphenyls (PCBs), Semi-Volatiles, Cyanide, Mercury, Sulfide, and Tin)

Leachate Monitoring Notes:

Leachate management system includes 5 ponds (Ponds 1, 2, 3, 4 and 5); sample collection and analyses per wastewater treatment plant (WWTP) agreements on quarterly basis. Leachate ponds are also sampled for Selected Annual Parameters, concurrent with Annual Groundwater Events.

Current WWTP Agreements:

- Mason City, Iowa - Issued: 05/29/2024; Expires: 05/29/2027
- Northwood, Iowa - Issued: 10/01/2020; Expires: 2030
- Albert Lea, Minnesota - Issued: 01/01/2023; Expires: 12/31/2027

Table 3 - 2019-2024 Monitoring Summary and 2025 Monitoring Schedule

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Monitoring Location	2019		2020	2021	2022		2023				2024			2025	
	May 10, 2019	*Annual Event*** October 14, 2019*	*Annual Event *** May 19-20, 2020*	*Annual Event*** July 19, 2021*	*Confirmation Testing April 14, 2022*	*Annual Event*** November 10-11, 2022*	*Annual Event*** May 11, 2023*	*Background Event #1 June 21, 2023*	*Confirmation Testing July 18, 2023*	*Background Event #2 October 3, 2023*	*Background Event #3 April 25, 2024*	*Annual Event*** July 19, 2024*	*Background Event #4 October 24, 2024*	*Background Event #5 Spring 2025*	*Annual Event *** & Background Event #6 Fall 2025*
MW-2A	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-7A	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	Chloride	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-11*	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Not sampled (well damaged)	--	--	Selected Annual Parameters
MW-110	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
~~MW-115~~[1]	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	--	--	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-117 *	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	Cobalt	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-118 *	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-123 *	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
~~MW-130~~[1]	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	--	--	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
~~MW-131~~[1]	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	Chloride and Alkalinity	--	--	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-132	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-133	Intrawell Parameters - Background	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
MW-134[2]	--	--	--	--	--	--	--	Appendix I & Selected Annual Parameters	--	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters
MW-135[2]	--	--	--	--	--	--	--	Appendix I & Selected Annual Parameters	--	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters
MW-136[2]	--	--	--	--	--	--	--	Appendix I & Selected Annual Parameters	--	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters	Appendix I & Selected Annual Parameters
GU-V-2	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	Selected Annual Parameters	--	Selected Annual Parameters	Appendix I & Selected Annual Parameters	--	--	--	--	Selected Annual Parameters	--	--	Selected Annual Parameters
Other wells **	--	WL	WL	WL	--	WL	WL	--	--	--	--	WL	--	--	WL
Leachate	WWTP Parameters		WWTP Parameters	WWTP Parameters	WWTP Parameters		WWTP Parameters				WWTP Parameters			WWTP Parameters	
Outfall 1	NPDES May 9, 2019		NPDES May 20, 2020	NPDES April 26 & July 19, 2021	--		NPDES September 15, 2023				NPDES July 19, 2024			NPDES	

Well Monitoring Notes:

* - Monitoring wells added to Detection monitoring schedule in Fall 2014, as per Permit Amendment #5

** - Other Wells available for static water level measurements: MW-101, MW-104, MW-112, MW-112, MW-120, P120S, MW-121, P121S, P-15, P-16, P-17 and P-18

*** - Annual Groundwater Events are completed on a rotating, seasonal schedule; sampling during the winter quarter is excluded

Spring Window = April - May

Summer Window = June - July

Fall Window = October - November

[1] = Monitoring wells MW-115, MW-130, and MW-131 sealed August 2022

[2] = Monitoring wells MW-134, MW-135, and MW-136 installed May-June 2023

Appendix I Parameters sampled and analyzed every three years. Last completed May 2023; next event scheduled for 2026

Parameter Lists:

Selected Annual Parameters (Optimized parameter list, as per November 2023 Hydrologic Monitoring System Plan (HMSP)):

- Intrawell Statistical Detection Parameters = Ammonia, Chloride, Sodium, and Alkalinity
- Supplemental Parameters = Calcium, Iron, Magnesium, Potassium, Sulfate, Total dissolved solids (TDS), and Total Suspended Solids (TSS)

Appendix I:

- IAC Chapter 113, Appendix I Parameter List (Metals & Volatile Organic Compounds (VOCs))

Appendix II:

- IAC Chapter 113, Appendix II Parameter List (Includes full Appendix I List + Pesticides, Herbicides, Poly-Chlorinated Biphenyls (PCBs), Semi-Volatiles, Cyanide, Mercury, Sulfide, and Tin)

Leachate Monitoring Notes:

Leachate management system includes 5 ponds (Ponds 1, 2, 3, 4 and 5); sample collection and analyses per wastewater treatment plant (WWTP) agreements on quarterly basis. Leachate ponds are also sampled for Selected Annual Parameters, concurrent with Annual Groundwater Events.

Current WWTP Agreements:

- Mason City, Iowa - Issued: 05/29/2024; Expires: 05/29/2027
- Northwood, Iowa - Issued: 10/01/2020; Expires: 2030
- Albert Lea, Minnesota - Issued: 01/01/2023; Expires: 12/31/2027

Table 4A - Dedicated Pump and TSS/Turbidity Measurements

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Well ID	Well Position (Relative to waste)	Total Well Depth	Well Installed (Sealed)	Well Status	Bladder Pump Installation	TSS [Turbidity] May 2015 (prior to pump)	TSS [Turbidity] Oct 2015 (post pump)	TSS [Turbidity] May 2016 (post pump)	TSS [Turbidity] Nov 2016 (post pump)	TSS [Turbidity] May 2017 (post pump)	TSS [Turbidity] Oct 2017 (post pump)	TSS [Turbidity] July 2018 (post pump)	[Turbidity] Nov 2018 (post pump)
MW-2A	Upgradient	78.7	1995	WQ / Detection	Oct '15	<4 [3.2]	<4 [2.1]	<4 [2.9]	<4 [2.5]	<4 [4.0]	<4 [3.1]	<4 [3.5]	[2.1]
MW-7A	Downgradient	101.3	1998	WQ / Detection	Oct '15	<4 [4.8]	33.2 [20]	11.2 [30.1]	32.4 [34.9]	12.8 [20.1]	10.8 [11.7]	34.4 [22.1]	--
MW-11	Downgradient	73.8	1989	WQ / Detection	2009	--	--	--	--	--	--	5.6 [17.3]	--
MW-101	Up- to Side-gradient	82.6	1995	SWL	--	--	--	--	--	--	--	--	--
MW-104	Down- to Side-gradient	82.8	1995	SWL	--	--	--	--	--	--	--	--	--
MW-110	Upgradient	76	1995	WQ / Detection	2009	--	--	--	--	--	--	<4 [13.9]	--
MW-112	Down- to Side-gradient	82.1	1996	SWL	NA	--	--	--	--	--	--	--	--
MW-115[1]	Downgradient	80	1998 (2022)	Sealed	Sealed	297 [98]	51.2 [47.1]	18 [10.2]	10.4 [4.3]	<4 [19.6]	<4 [12.8]	<4 [12.5]	--
MW-117	Upgradient	76.1	1999	WQ / Detection	Oct '15	118 [70.3]	43.2 [33.1]	20 [19.3]	5.6 [11.0]	14.8 [13.1]	202 [40.7]	11.6 [11.5]	[49.1]
MW-118	Upgradient	95.4	1999	WQ / Detection	Oct '15	4.8 [4.4]	8 [7]	14.4 [11.3]	<4 [2.5]	5.2 [--]	<4 [5.6]	<4 [6.0]	[2.0]
MW-120	Downgradient	63.7	1999	SWL	--	--	--	--	--	--	--	--	--
P-120S	Downgradient	18.4	1999	SWL	--	--	--	--	--	--	--	--	--
MW-121	Downgradient	105.4	1999	SWL	--	--	--	--	--	--	--	--	--
P-121S	Downgradient	33.4	1999	SWL	--	--	--	--	--	--	--	--	--
MW-123	Upgradient	82.9	2003	WQ / Detection	Oct '15	5.6 [2.5]	6.0 [6.0]	5.6 [7.1]	<4 [2.0]	4.8 [5.8]	6 [5]	<4 [4.1]	[2.0]
MW-130[1]	Downgradient	73	2009 (2022)	Sealed	Sealed	5.2 [21.3]	17.2 [6.0]	12 [31]	8.4 [2.6]	10.8 [10.0]	5.2 [4.1]	8.0 [5.0]	[30]
MW-131[1]	Downgradient	54	2009 (2022)	Sealed	Sealed	11.2 [11.5]	25.6 [9.1]	7.2 [7.1]	12 [4.4]	16 [8.0]	9.6 [2.7]	6.8 [3.1]	[9.3]
MW-132	Downgradient	42.5	2009	WQ / Detection	Oct '15	56.2 [43.2]	31.6 [20]	25.6 [17.1]	18.8 [14]	16 [23.1]	5.2 [17]	20 [15.4]	[33.1]
MW-133	Downgradient	53.3	2009	WQ / Detection	Oct '15	53.2 [30.2]	9.6 [7.8]	4.4 [9.3]	5.6 [4.5]	5.6 [8.4]	6 [8.3]	6 [24.3]	[27]
P-15	Upgradient	18.4	1999	SWL	--	--	--	--	--	--	--	--	--
P-16	Upgradient	17.9	2003	SWL	--	--	--	--	--	--	--	--	--
P-17	Upgradient	18.1	2003	SWL	--	--	--	--	--	--	--	--	--
P-18	Upgradient	17.7	2003	SWL	--	--	--	--	--	--	--	--	--
GU-V-2	GW Underdrain	--	--	WQ	Submersible	--	--	--	--	--	--	--	--

Notes:

WQ: Monitoring well utilized for groundwater quality monitoring, as required by Solid Waste Permit, its amendments, and the 2023 Hydrologic Monitoring System Plan (2023 HMSP)

- Detection = Monitoring well is in Detection status, per the 2023 HMSP
- Assessment = Monitoring well is in Assessment status, per 2023 HMSP
- Background = Monitoring well is in Background status, per 2023 HMSP

SWL: Monitoring location utilized for static water level measurements only

[1] - Monitoring wells MW-115, MW-130, & MW-131 sealed August 2022

Sampling Event Notes:

May 2020 - MW-2A pump was pulled to release check-ball that was stuck and causing elevated turbidity measurements.

July 2024 - MW-11 damaged prior to sampling event; thus, well was unable to be sampled.

Table 4A - Dedicated Pump and TSS/Turbidity Measurements

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Well ID	Well Position (Relative to waste)	Total Well Depth	Well Installed (Sealed)	Well Status	Bladder Pump Installation	TSS [Turbidity] May 2019 (post pump)	TSS [Turbidity] Oct 2019 (post pump)	TSS [Turbidity] May 2020 (post pump)	TSS [Turbidity] July 2021 (post pump)	TSS [Turbidity] Nov 2022 (post pump)	TSS [Turbidity] May 2023 (post pump)	TSS [Turbidity] July 2024 (post pump)
MW-2A	Upgradient	78.7	1995	WQ / Detection	Oct '15	[11.6]	<4.0 [4.0]	47.3 [50.9]	<4.0 [9.6]	<4.0 [1.3]	<4.0 [1.5]	<4.0 [2.1]
MW-7A	Downgradient	101.3	1998	WQ / Detection	Oct '15	--	4.8 [11.1]	79.0 [19.0]	15.1 [37.3]	<4.0 [4.5]	14.4 [14.0]	34.6 [40.0]
MW-11	Downgradient	73.8	1989	WQ / Detection	2009	--	9.6 [9.2]	17.2 [19.2]	12.6 [7.3]	8.40 [18.1]	9.5 [4.7]	Well Damaged
MW-101	Up- to Side-gradient	82.6	1995	SWL	--	--	--	--	--	--	--	--
MW-104	Down- to Side-gradient	82.8	1995	SWL	--	--	--	--	--	--	--	--
MW-110	Upgradient	76	1995	WQ / Detection	2009	--	4.4 [1.3]	4.1 [15.3]	<4.0 [17.6]	<4.0 [1.0]	4.4 [3.0]	4.5 [1.0]
MW-112	Down- to Side-gradient	82.1	1996	SWL	NA	--	--	--	--	--	--	--
MW-115[1]	Downgradient	80	1998 (2022)	Sealed	Sealed	--	4.8 [3.8]	15.5 [14.9]	14.4 [8.8]	--	--	--
MW-117	Upgradient	76.1	1999	WQ / Detection	Oct '15	[9.5]	10.4 [8.0]	98.0 [20.3]	156 [27.3]	33.8 [6.3]	350 [26.3]	6.8 [39.5]
MW-118	Upgradient	95.4	1999	WQ / Detection	Oct '15	[10.8]	4.8 [5.2]	<4.0 [5.1]	<4.0 [9.3]	<4.0 [3.5]	4.6 [3.0]	<4.0 [2.0]
MW-120	Downgradient	63.7	1999	SWL	--	--	--	--	--	--	--	--
P-120S	Downgradient	18.4	1999	SWL	--	--	--	--	--	--	--	--
MW-121	Downgradient	105.4	1999	SWL	--	--	--	--	--	--	--	--
P-121S	Downgradient	33.4	1999	SWL	--	--	--	--	--	--	--	--
MW-123	Upgradient	82.9	2003	WQ / Detection	Oct '15	[4.0]	7.2 [4.7]	<4.0 [3.3]	<4.0 [0.9]	<4.0 [18.2]	<4.0 [2.3]	4.0 [0.8]
MW-130[1]	Downgradient	73	2009 (2022)	Sealed	Sealed	[22.8]	4.4 [4.6]	15.1 [4.3]	10.3 [4.0]	--	--	--
MW-131[1]	Downgradient	54	2009 (2022)	Sealed	Sealed	[5.8]	18.8 [1.5]	26.4 [3.5]	9.87 [2.9]	--	--	--
MW-132	Downgradient	42.5	2009	WQ / Detection	Oct '15	[71.7]	37.6 [172.9]	20.8	9.60 [7.0]	8.70 [5.9]	50.6 [43.2]	17.0 [26.0]
MW-133	Downgradient	53.3	2009	WQ / Detection	Oct '15	[10.2]	10.4 [19.9]	25.7 [27.3]	120 [79.3]	14.5 [17.7]	11.2 [9.3]	15.0 [15.9]
P-15	Upgradient	18.4	1999	SWL	--	--	--	--	--	--	--	--
P-16	Upgradient	17.9	2003	SWL	--	--	--	--	--	--	--	--
P-17	Upgradient	18.1	2003	SWL	--	--	--	--	--	--	--	--
P-18	Upgradient	17.7	2003	SWL	--	--	--	--	--	--	--	--
GU-V-2	GW Underdrain	--	--	WQ	Submersible	--	--	--	--	--	--	--

Notes:

WQ: Monitoring well utilized for groundwater quality monitoring, as required by Solid Waste Permit, its amendments, and the 2023 Hydrologic Monitoring System Plan (2023 HMSP)

- Detection = Monitoring well is in Detection status, per the 2023 HMSP
- Assessment = Monitoring well is in Assessment status, per 2023 HMSP
- Background = Monitoring well is in Background status, per 2023 HMSP

SWL: Monitoring location utilized for static water level measurements only

[1] - Monitoring wells MW-115, MW-130, & MW-131 sealed August 2022

Sampling Event Notes:

May 2020 - MW-2A pump was pulled to release check-ball that was stuck and causing elevated turbidity measurements.

July 2024 - MW-11 damaged prior to sampling event; thus, well was unable to be sampled.

Table 4B - Well Performance Evaluation

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Monitoring Well	Well Depth (Feet)	Depth Difference (Feet)	Purge Rate (Liters/Min)	Static Depth to Water (Feet)	Ending Depth to Water (Feet)	Drawdown[1] (Feet)	Efficiency (Liters/Min per Foot)	Drawdown Difference[2] (Feet)	Efficiency Difference (Liters/Min per Foot)
Fall 2009									
MW-130	72.8	--	0.5	47.42	48.00	0.58	0.86	--	--
MW-131	54.0	--	0.3	38.48	42.70	4.22	0.07	--	--
MW-132	42.5	--	0.3	27.53	31.70	4.17	0.07	--	--
MW-133	53.3	--	0.5	19.53	27.00	7.47	0.07	--	--
MW-115	82.4	--	0.5	50.78	51.30	0.52	0.96	--	--
MW-110*	76.2	--	0.4	56.39	56.70	0.31	1.29	--	--
MW-2A	78.7	--	N/A	38.28	44.30	6.02	--	--	--
MW-7A	101.3	--	N/A	65.53	77.30	11.77	--	--	--
MW-11	N/A	--	N/A	N/A	N/A	--	--	--	--
Fall 2012									
MW-130	73.0	0.20	0.4	49.22	49.30	0.08	5.00	-0.50	4.14
MW-131	53.6	-0.40	0.3	40.20	43.30	3.10	0.10	-1.12	0.03
MW-132	42.1	-0.40	0.3	29.59	39.10	9.51	0.03	5.34	-0.04
MW-133	53.0	-0.25	0.2	22.30	38.50	16.20	0.01	8.73	-0.05
MW-115	79.5	-2.90	0.5	50.52	50.60	0.08	6.25	-0.44	5.29
MW-110	75.2	-1.00	0.2	59.28	59.30	0.02	10.00	-0.29	8.71
MW-2A	78.6	-0.10	0.2	40.05	48.90	8.85	0.02	2.83	--
MW-7A	101.3	0.00	0.2	68.92	82.60	13.68	0.01	1.91	--
MW-11	73.8	--	0.2	53.62	53.60	-0.02	--	--	--
Fall 2014									
MW-130	N/A	--	0.2	47.53	47.60	0.07	2.86	-0.01	-2.14
MW-131	N/A	--	0.2	38.54	42.20	3.66	0.05	0.56	-0.04
MW-132	N/A	--	0.2	27.73	29.90	2.17	0.09	-7.34	0.06
MW-133	N/A	--	0.2	19.89	26.50	6.61	0.03	-9.59	0.02
MW-115	N/A	--	0.5	49.05	49.10	0.05	10.00	-0.03	3.75
MW-110	N/A	--	0.2	58.27	58.27	0.00	--	-0.02	--
MW-2A	N/A	--	0.2	39.20	51.30	12.10	0.02	3.25	-0.01
MW-7A	N/A	--	0.2	65.84	69.30	3.46	0.06	-10.22	0.04
MW-11	N/A	--	0.2	50.89	50.89	0.00	--	0.02	--
Fall 2015									
MW-130	N/A	--	0.3	46.85	46.80	-0.05	--	-0.12	--
MW-131	N/A	--	0.3	37.46	43.90	6.44	0.05	2.78	-0.01
MW-132	N/A	--	0.3	26.63	30.30	3.67	0.08	1.50	-0.01
MW-133	N/A	--	0.3	18.50	23.50	5.00	0.06	-1.61	0.03
MW-115	N/A	--	0.3	48.27	48.30	0.03	10.00	-0.02	0.00
MW-110	N/A	--	0.3	57.41	57.40	-0.01	--	-0.01	--
MW-2A	N/A	--	0.2	38.91	47.20	8.29	0.02	-3.81	0.01
MW-7A	N/A	--	0.2	64.68	70.10	5.42	0.04	1.96	-0.02
MW-11	N/A	--	0.3	50.12	50.10	-0.02	--	-0.02	--
Fall 2016									
MW-130	N/A	--	0.3	45.88	N/A	--	--	--	--
MW-131	N/A	--	0.3	35.95	36.00	0.05	6.00	-6.39	5.95

Table 4B - Well Performance Evaluation

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Monitoring Well	Well Depth (Feet)	Depth Difference (Feet)	Purge Rate (Liters/Min)	Static Depth to Water (Feet)	Ending Depth to Water (Feet)	Drawdown[1] (Feet)	Efficiency (Liters/Min per Foot)	Drawdown Difference[2] (Feet)	Efficiency Difference (Liters/Min per Foot)
MW-132	N/A	--	0.3	24.89	25.10	0.21	1.43	-3.46	1.35
MW-133	N/A	--	0.3	15.60	N/A	--	--	--	--
MW-115	N/A	--	0.3	47.20	N/A	--	--	--	--
MW-110	N/A	--	0.3	55.66	55.70	0.04	7.50	0.05	--
MW-2A	N/A	--	0.3	38.14	38.20	0.06	5.00	-8.23	4.98
MW-7A	N/A	--	0.3	62.61	63.40	0.79	0.38	-4.63	0.34
MW-11	N/A	--	0.4	48.59	48.60	0.01	40.00	0.03	--
Fall 2017									
MW-130	73.0	--	0.3	47.02	47.00	-0.02	--	--	--
MW-131	53.9	--	0.3	37.80	37.80	0.00	--	-0.05	--
MW-132	42.1	--	0.3	26.89	26.90	0.01	30.00	-0.20	28.57
MW-133	53.0	--	0.3	19.00	19.00	0.00	--	--	--
MW-115	81.0	--	0.3	48.42	48.40	-0.02	--	--	--
MW-110	75.6	--	0.3	56.46	56.50	0.04	7.50	-7.105×10^{-15}	0.00
MW-2A	78.6	--	0.3	38.43	38.70	0.27	1.11	0.21	-3.89
MW-7A	101.3	--	0.3	64.88	64.90	0.02	15.00	-0.77	14.62
MW-11	73.8	--	0.3	50.35	50.40	0.05	6.00	0.04	-34.00
Summer 2018									
MW-130	73.0	0.00	0.4	46.35	46.40	0.05	8.00	0.07	--
MW-131	53.9	0.00	0.4	37.58	37.60	0.02	20.00	0.02	--
MW-132	42.1	0.00	0.4	26.66	26.70	0.04	10.00	0.03	-20.00
MW-133	53.0	0.00	0.4	17.10	17.10	0.00	--	0.00	--
MW-123	82.9	--	0.4	63.90	63.90	0.00	--	--	--
MW-118	95.4	--	0.4	59.00	59.00	0.00	--	--	--
MW-117	76.1	--	0.4	53.28	53.30	0.02	20.00	--	--
MW-115	81.0	0.00	0.4	47.71	47.71	0.00	--	0.02	--
MW-110	75.6	0.00	0.4	56.31	56.31	0.00	--	-0.04	--
MW-2A	78.6	0.00	0.4	37.35	37.35	0.00	--	-0.27	--
MW-7A	101.3	0.00	0.4	63.52	63.52	0.00	--	-0.02	--
MW-11	73.8	0.00	0.4	48.95	48.95	0.00	--	-0.05	--
Fall 2018									
MW-130	73.0	0.00	0.3	45.77	45.80	0.03	10.00	-0.02	2.00
MW-131	53.9	0.00	0.3	36.50	36.50	0.00	--	-0.02	--
MW-132	42.1	0.00	0.3	25.20	25.20	0.00	--	-0.04	--
MW-133	53.0	0.00	0.3	17.80	17.80	0.00	--	0.00	--
MW-123	N/A	--	0.3	62.81	62.80	-0.01	--	-0.01	--
MW-118	N/A	--	0.3	58.30	58.30	0.00	--	0.00	--
MW-117	76.1	0.00	0.3	52.49	52.50	0.01	30.00	-0.01	10.00
MW-115	81.0	0.00	N/A	N/A	N/A	--	--	--	--
MW-110	75.6	0.00	N/A	N/A	N/A	--	--	--	--
MW-2A	78.6	0.00	0.3	38.60	44.40	5.80	0.05	5.80	--
MW-7A	101.3	0.00	N/A	N/A	N/A	--	--	--	--
MW-11	73.8	0.00	N/A	N/A	N/A	--	--	--	--

Table 4B - Well Performance Evaluation

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Monitoring Well	Well Depth (Feet)	Depth Difference (Feet)	Purge Rate (Liters/Min)	Static Depth to Water (Feet)	Ending Depth to Water (Feet)	Drawdown[1] (Feet)	Efficiency (Liters/Min per Foot)	Drawdown Difference[2] (Feet)	Efficiency Difference (Liters/Min per Foot)
Fall 2019									
MW-130	72.0	-0.98	0.4	45.73	45.73	0.00	--	-0.03	--
MW-131	53.1	-0.85	0.4	35.92	35.92	0.00	--	0.00	--
MW-132	41.8	-0.29	0.4	24.87	24.87	0.00	--	0.00	--
MW-133	52.3	-0.73	0.4	16.19	16.19	0.00	--	0.00	--
MW-123	84.0	--	0.4	63.30	63.30	0.00	--	0.01	--
MW-118	96.0	--	0.4	59.00	59.00	0.00	--	0.00	--
MW-117	77.0	0.90	0.4	53.08	53.08	0.00	--	-0.01	--
MW-115	78.4	-2.65	0.4	47.13	47.13	0.00	--	--	--
MW-110	74.9	-0.70	0.4	55.78	55.78	0.00	--	--	--
MW-2A	78.4	-0.20	0.4	37.25	37.30	0.05	8.00	-5.75	7.95
MW-7A	101.4	0.10	0.4	63.22	72.50	9.28	0.04	--	--
MW-11	72.65	-1.15	0.4	48.82	48.82	0.00	--	--	--
Spring 2020									
MW-130	72.0	0.00	0.4	45.30	45.30	0.00	--	0.00	--
MW-131	53.1	0.00	0.4	36.58	36.58	0.00	--	0.00	--
MW-132	41.8	0.00	0.4	25.62	25.62	0.00	--	0.00	--
MW-133	52.3	0.00	0.4	16.17	16.17	0.00	--	0.00	--
MW-123	84.0	0.00	0.4	62.88	62.88	0.00	--	0.00	--
MW-118	96.0	0.00	0.4	58.41	58.41	0.00	--	0.00	--
MW-117	77.0	0.00	0.4	52.90	52.90	0.00	--	0.00	--
MW-115	78.4	0.00	0.4	46.66	46.66	0.00	--	0.00	--
MW-110	74.9	0.00	0.4	55.08	55.08	0.00	--	0.00	--
MW-2A	78.4	0.00	0.4	37.03	37.20	0.17	2.35	0.12	-5.65
MW-7A	101.4	0.00	0.4	62.55	64.00	1.45	0.28	-7.83	0.23
MW-11	72.65	0.00	0.4	48.25	48.25	0.00	--	0.00	--
Fall 2022									
MW-130	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*
MW-131	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*
MW-132	41.9	0.09	0.3	27.00	28.00	1.00	0.30	1.00	--
MW-133	52.6	0.33	0.3	20.69	20.90	0.21	1.43	0.21	--
MW-123	83.0	-1.00	0.3	66.31	66.30	-0.01	--	-0.01	--
MW-118	96.0	0.00	0.3	61.38	61.40	0.02	15.00	0.02	--
MW-117	76.5	-0.50	0.3	55.63	55.70	0.07	4.29	0.07	--
MW-115	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*
MW-110	75.6	0.70	0.3	58.19	58.20	0.01	30.00	0.01	--
MW-2A	78.5	0.10	0.3	38.36	44.20	5.84	0.05	5.67	-2.30
MW-7A	100.9	-0.50	0.2	66.2	88.50	22.30	0.01	20.85	-0.27
MW-11	73.6	0.95	0.3	51.27	51.50	0.23	1.30	0.23	--
Summer 2024									
MW-130	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*
MW-131	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*	*Sealed*
MW-132	42.2	0.25	0.3	27.26	27.50	0.24	1.25	-0.76	0.95

Table 4B - Well Performance Evaluation

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Monitoring Well	Well Depth (Feet)	Depth Difference (Feet)	Purge Rate (Liters/Min)	Static Depth to Water (Feet)	Ending Depth to Water (Feet)	Drawdown[1] (Feet)	Efficiency (Liters/Min per Foot)	Drawdown Difference[2] (Feet)	Efficiency Difference (Liters/Min per Foot)
MW-133	53.1	0.50	0.3	17.47	17.90	0.43	0.70	0.22	-0.73
MW-123	84.4	1.40	0.3	64.22	64.30	0.08	3.75	0.09	--
MW-118	95.4	-0.65	0.3	58.77	58.80	0.03	10.00	0.01	-5.00
MW-117	76.2	-0.30	0.3	53.30	53.30	0.00	--	-0.07	--
MW-115	*Sealed*	Sealed	*Sealed*	*Sealed*	*Sealed*	Sealed	Sealed	Sealed	Sealed
MW-110	75.2	-0.40	0.3	57.39	57.40	0.01	30.00	0.00	0.00
MW-2A	79.9	1.40	0.3	38.30	38.90	0.60	0.50	-5.24	0.45
MW-7A	102	1.10	0.3	63.75	68.00	4.25	0.07	-18.05	0.06
MW-11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Notes:

(1) - Postive number indicates drawdown ocurred during purging

(2) - Positive number indicates an increase in drawdown between rounds

Drawdown Difference and Efficiency Difference values are calculated between the presented events

Text in red indicates a decreasing value (i.e., no drawdown ocurred during sample, decreasing drawdown between events, or decrease in efficiency between events)

* - MW-110 data presented is from 2010

-- = Value is undefined, or otherwise invalid based on presented data

N/A = Reading not available, not recorded, or N/A during event

Table 5 - Groundwater Elevation Summary

Central Disposal Landfill - Lake Mills , Iowa

Permit No. 95-SDP-01-72

Well ID	TOC Elevation	03/30/11	06/16/11	06/29/11	09/28/11	12/12/11	03/28/12 03/29/12	04/05/12	06/25/12	09/25/12	12/11/12	03/26/13	06/24/13	08/28/13	11/20/13	05/21/14	10/07/14	05/11/15 06/02/15	10/13/15	05/24/16 05/25/16	11/09/16 11/10/16	05/15/17 05/16/17
MW-2A	1281.05	NA	1244.75	1238.96	1243.15	NA	1242.55	NA	NA	1241	NA	1241.06	NA	NA	1241.76	1241.7	1241.85	1242.60	1242.14	1243.44	1242.91	1243.26
MW-7A	1294.94	NA	1232.28	1232.38	1230.64	NA	1230.64	NA	NA	1226.02	NA	1225.33	NA	NA	1228.60	1228.2	1229.10	1229.24	1230.26	1231.9	1232.33	1232.66
MW-11	1277.65	NA	1229.21	1229.53	1227.41	1227.02	1226.65	1226.61	1226.28	1224.03	NA	1224.02	NA	NA	1226.42	1226.43	1226.76	1227.20	1227.53	1229.11	1229.06	1229.63
MW-101	1292.09	NA	NA	1235.13	1233.79	NA	NA	NA	NA	1229.11	NA	1227.91	NA	NA	1231.57	NA	1231.80	1232.09	1233.07	1234.77	1235.58	1235.88
MW-104	1272.16	NA	1232.38	1232.49	1227.05	NA	1229.64	NA	NA	1226.94	NA	1226.94	NA	NA	1229.54	NA	1228.57	1230.33	1230.65	1232.29	1232.25	1232.95
MW-110	1291.32	NA	1236.53	1236.12	1235.4	NA	1234.42	NA	NA	1232.04	NA	1231.32	NA	NA	1232.53	1233.28	1233.05	1233.63	1233.91	1235.41	1235.66	1236.40
MW-112	1287.89	NA	NA	1234.27	1233.07	NA	1231.71	NA	NA	1229.54	NA	1228.99	NA	NA	1231.12	NA	1230.13	NA	1232.29	1233.51	1233.76	1234.24
MW-115	1279.85	1231.37	1231.98	1230.37	1230.83	NA	1231.3	NA	1230.96	1229.33	1229.25	1228.63	1230.20	1230.82	1230.14	1230.47	1230.80	1231.28	1231.58	1232.73	1232.65	1238.29
MW-117	1279.84	1226.52	NA	1227.31	1225.11	1224.68	1224.56	NA	1224.12	1221.84	1222.14	1221.82	1225.13	1224.69	1224.37	NA	1224.78	1225.35	1225.46	1227.11	1226.92	1227.54
MW-118	1284.56	1225.54	NA	1226.37	1223.91	1223.59	1223.45	NA	1222.87	1220.81	1221.03	1220.79	1224.53	1223.44	1223.36	NA	1223.82	1224.52	1224.49	1226.14	1225.96	1226.54
MW-120	1278.86	NA	NA	1229.24	1227.41	NA	1226.9	NA	NA	1224.09	NA	1224.24	NA	NA	1226.14	NA	1226.28	1227.08	1227.23	1228.81	1228.71	1229.41
MW-121	1275.65	NA	NA	1230.06	1227.6	NA	1226.82	NA	NA	1223.94	NA	1223.89	NA	NA	1226.99	NA	1227.24	1227.43	1228.06	1229.65	1229.61	1230.03
MW-123	1294.66	1230.78	NA	1231.72	1230.44	1228.79	1227.68	NA	1227.19	1224.92	1225.14	1224.18	1226.42	1228.13	1227.57	NA	1228.22	1228.51	1229.63	1231.3	1231.92	1232.46
MW-130	1276.76	NA	1231.76	1231.66	1230.65	1229.97	1229.61	1229.56	1229.33	1227.54	NA	1226.88	NA	NA	1228.94	1228.72	1229.23	1229.51	1229.91	1230.96	1230.88	1231.51
MW-131	1268.20	NA	1231.78	1231.57	1231.39	1230.32	1228.88	1228.69	1228.75	1228	NA	1225.89	NA	NA	1229.36	1229.11	1229.66	1229.10	1230.74	1231.15	1232.25	1231.91
MW-132	1259.32	NA	1233.1	1233.17	1233.42	1230.4	1229.76	1229.65	1230.44	1229.73	NA	1226.50	NA	NA	1230.94	1230.23	1231.59	1230.50	1232.69	1232.83	1234.43	1233.81
MW-133	1254.95	NA	1239.13	1238.22	1237.3	1234.65	1233.43	1233.4	1234.81	1232.65	NA	1229.07	NA	NA	1234.23	1232.71	1235.06	1234.41	1236.45	1237.43	1239.35	1238.95
MW-134	1261.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-135	1277.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
MW-136	1274.63	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
P-15	1297.40	1290.65	NA	1288.29	1285.17	1282.28	1281.89	NA	1285.2	1279.55	1279.52	1279.51	1292.95	1288.38	1286.04	NA	1286.59	1289.59	1286.6	1288.06	1288.63	1288.58
P-16	1292.29	1288.24	NA	1286.99	1283.8	1281.96	1283.7	NA	1283.15	1276.52	1274.68	1274.65	1288.97	1286.10	1284.55	NA	1285.66	1287.61	1285.31	1286.46	1287.30	1287.09
P-17	1293.64	1290.32	NA	1289.61	1287.44	1286	1287.84	NA	1287.47	1283.44	1283.38	1284.60	1291.06	1288.22	1287.44	NA	1288.54	1289.33	1287.7	1288.41	1289.05	1288.93
P-18	1294.48	1291.20	NA	1289.76	1286.86	1284.56	1285.87	NA	1286.48	1278.99	1277.06	1277.03	1292.03	1281.51	1286.66	NA	1287.81	1290.29	1287.26	1288.84	1289.49	1289.30
P-120s	1278.76	NA	NA	1270.94	1269.56	NA	1270.18	NA	NA	1267.17	NA	1265.49	NA	NA	1269.41	NA	1272.24	1272.36	1270.64	1272.67	1272.78	1273.08
P-121s	1275.75	NA	NA	1261.78	1256.34	NA	1253.86	NA	NA	1224.04	NA	1251.68	NA	NA	1258.03	NA	1259.08	1262.75	1257.95	1261.00	1262.03	1262.23

NA = not available; not measured

Sealed = well abandoned (sealed)

* = water level below bladder pump

** historical data available in previous report or upon request

Table 5 - Groundwater Elevation Summary

Central Disposal Landfill - Lake Mills , Iowa

Permit No. 95-SDP-01-72

Well ID	TOC Elevation	10/23/17	07/31/18 08/01/18	11/27/18	05/09/19 05/10/19	10/14/19 10/15/19	05/19/20 05/20/20	07/19/21	04/14/22	11/10/22 11/11/22	05/11/23	06/21/23	10/03/23	04/25/24	07/19/24	10/24/24
MW-2A	1281.05	1242.62	1243.7	1242.45	1242.17	1243.80	1244.02	1243.48	NA	1242.69	1241.96	NA	NA	NA	1242.55	NA
MW-7A	1294.94	1230.06	1231.42	NA	NA	1231.72	1232.39	1228.75	1228.82	1228.74	1229.14	NA	NA	NA	1226.26	NA
MW-11	1277.65	1227.3	1228.7	NA	NA	1228.83	1229.40	1225.73	NA	1226.38	1227.04	NA	NA	NA	NA	NA
MW-101	1292.09	1233.23	1234.29	NA	NA	1234.87	1235.44	1231.98	NA	1231.97	1232.03	NA	NA	NA	1231.88	NA
MW-104	1272.16	1230.31	1232.00	NA	NA	1231.81	1232.76	1229.09	NA	1229.16	1229.87	NA	NA	NA	1229.51	NA
MW-110	1291.32	1234.86	1235.01	NA	NA	1235.54	1236.24	1233.51	NA	1233.13	1233.34	NA	NA	NA	1232.91	NA
MW-112	1287.89	1232.47	1233.03	NA	NA	1233.45	1234.05	1231.71	NA	1230.92	1231.62	NA	NA	NA	1231.57	NA
MW-115	1279.85	1231.43	1232.14	NA	NA	1232.72	1233.19	1230.36	NA	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed
MW-117	1279.84	1224.94	1226.56	1227.35	1227.00	1226.76	1226.94	1223.23	NA	1224.21	1225.14	NA	NA	NA	1226.54	NA
MW-118	1284.56	1223.86	1225.56	1226.26	1226.11	1225.56	1226.15	1222.06	NA	1223.18	1224.18	NA	NA	NA	1225.76	NA
MW-120	1278.86	1227.37	1228.43	NA	NA	NA	1229.16	1225.78	NA	1226.17	1227.09	NA	NA	NA	1226.85	NA
MW-121	1275.65	1227.37	1229.39	NA	NA	NA	1229.75	1226.00	NA	1226.73	1227.36	NA	NA	NA	1227.25	NA
MW-123	1294.66	1229.75	1230.76	1231.85	1230.97	1231.36	1231.78	1228.32	NA	1228.35	1228.31	NA	NA	NA	1225.24	NA
MW-130	1276.76	1229.74	1230.41	1230.99	1231.29	1231.03	1231.46	1228.71	NA	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed
MW-131	1268.20	1230.40	1230.62	1231.70	1230.98	1232.48	1231.62	1230.58	1228.95	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed	Sealed
MW-132	1259.32	1232.43	1232.66	1234.12	1232.49	1234.45	1233.70	1231.71	NA	1232.32	1230.64	NA	NA	NA	1231.90	NA
MW-133	1254.95	1235.95	1237.85	1237.15	1237.43	1238.78	1238.78	1235.18	NA	1234.26	1234.88	NA	NA	NA	1237.43	NA
MW-134	1261.83	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1229.42	1226.97	1228.80	NA	1230.23
MW-135	1277.32	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1225.44	1225.73	1227.08	NA	1228.36
MW-136	1274.63	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	1228.12	1226.22	1228.02	NA	1229.94
P-15	1297.40	1283.93	1289.28	NA	NA	1290.57	1288.05	1285.50	NA	1284.74	1288.37	NA	NA	NA	1288.89	NA
P-16	1292.29	1282.73	1287.29	NA	NA	1288.05	1286.70	1284.05	NA	1283.58	1287.43	NA	NA	NA	1283.85	NA
P-17	1293.64	1286.89	1288.74	NA	NA	1289.83	1289.25	1287.07	NA	1286.64	1289.44	NA	NA	NA	1284.90	NA
P-18	1294.48	1284.11	1288.93	NA	NA	1290.01	1289.76	1285.54	NA	1284.38	1290.76	NA	NA	NA	1285.55	NA
P-120s	1278.76	1270.68	1272.57	NA	NA	NA	1273.38	1272.11	NA	1271.20	1273.93	NA	NA	NA	1274.23	NA
P-121s	1275.75	1256.10	1263.96	NA	NA	NA	1262.53	1258.49	NA	1256.26	1257.45	NA	NA	NA	1257.30	NA

NA = not available; not meas NA = not available; not measured

Sealed = well abandoned (se Sealed = well abandoned (sealed)

* = water level below bladder * = water level below bladder pump

** historical data available in ** historical data available in previous report or upon request

Table 6 - Selected Annual Parameters Results Summary (2018-Present)

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Alkalinity	Ammonia	Calcium	Chloride	Iron	Magnesium	Potassium	Sodium	Sulfate	TDS	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS [site std]	--	--	[30]	--	--	--	--	--	--	--	--	--	--
MW-2A	07/31/18	504	0.28	184	1.90	0.11	45	8.9	73.9	348	973	<4.0	3.5
	11/27/18	489	0.13	NT	2.50	NT	NT	NT	76.2	NT	NT	NT	2.1
	5/10/19	511	0.52	NT	2.50	NT	NT	NT	72.2	NT	NT	NT	11.6
	10/15/19	486	0.09	180	2.00	<0.050	46.3	9.1	75.5	410	110	<4.0	4.0
	5/19/20	514	0.642	181	1.09	6.51	47.3	8.74	73.2	334	820	47.3*	50.9*
	7/19/21	539	0.149	180	1.18	<0.100	42.8	8.23	71.0	306	960	<4.0	9.6
	11/11/22	503	<0.1	182	1.36	<0.1	45.2	8.31	75.9	341	866	<4.0	1.3
	5/11/23	503	0.246	188	1.14	<0.1	49.6	8.87	79.3	295	952	<4.0	1.5
	7/19/24	530	0.593	190	1.24	<0.1	45.4	8.66	74.9	314	936	<4.0	2.1
MW-11	07/31/18	422	0.58	148	1.50	2.3	36.8	7.6	37.3	248	813	5.6	17.3
	11/27/18	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/10/19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10/15/19	405	0.71	163	1.30	2.8	42.6	8.9	43.3	260	937	9.6	9.2
	5/19/20	390	0.717	147	5.06	2.67	38.0	11.1	38.6	248	695	17.2	19.2
	7/19/21	415	0.678	171	3.90	2.4	39.0	10.6	41.9	224	747	12.6	7.3
	9/23/21	NT	NT	NT	3.11	NT	NT	NT	NT	NT	NT	NT	1.4
	11/10/22	399	0.766	149	4.28	2.28	37.5	9.8	40.7	255	749	8.4	18.1
	5/11/23	417	0.800	168	<1.0	2.32	42.1	8.25	43.1	237	775	9.5	4.7
	7/19/24	NT**	NT**	NT**	NT**	NT**	NT**	NT**	NT**	NT**	NT**	NT**	NT**
MW-110	07/31/18	392	6.3	104	3.3	0.71	27.3	9.9	52.4	141	596	<4.0	13.9
	11/27/18	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/10/19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10/15/19	425	0.45	127	2.7	0.41	32.5	8.0	68.9	177	819	4.4	1.3
	5/19/20	352	<0.100	90.9	2.01	0.246	24.4	6.23	42.0	94.0	497	4.1	15.3
	7/19/21	473	0.467	142	1.79	<0.100	32.1	7.67	73.6	171	704	<4.0	17.6
	11/10/22	452	0.176	130	1.7	<0.1	32.1	7.38	75.9	199	696	<4.0	1.0
	5/11/23	431	<0.1	139	1.54	0.273	36.3	7.90	74.3	182	713	4.4	3.0
	7/19/24	422	0.925	115	2.29	0.106	29.5	8.05	56.2	128	617	4.5	1.0
~~MW-115~~[1]	07/31/18	496	0.44	143	5.10	1.5	37	8	39.7	109	646	<4.0	12.5
	11/27/18	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/10/19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10/15/19	477	0.62	142	2.10	1.8	39	8.2	43	167	805	4.8	3.8
	5/19/20	497	0.649	132	1.63	1.80	35.9	7.33	36.6	100	648	15.5	14.9
	7/19/21	537	0.658	151	21.70	2.03	38.9	7.84	40.8	111	715	14.4	8.8
	9/23/21	NT	NT	NT	11.30	NT	NT	NT	NT	NT	NT	NT	2.9
	11/10/22	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-117	07/31/18	471	0.54	140	4.20	1.5	36.4	8.8	70	233	781	11.6	11.5
	11/27/18	477	0.60	NT	4.40	NT	NT	NT	68.2	NT	NT	NT	49.1
	5/10/19	468	0.72	NT	4.70	NT	NT	NT	68.6	NT	NT	NT	9.5
	10/15/19	435	0.65	144	5.00	1.3	39.2	9.5	76.2	189	897	10.4	8.0
	5/19/20	501	0.637	157	3.81	4.84	43.1	8.57	68.6	196	720	98.0	20.3
	7/19/21	477	0.640	138	7.99	2.81	36.0	8.27	68.6	110	665	156	27.3
	11/10/22	458	0.720	144	3.34	1.77	37.9	8.28	71.3	222	760	33.8	6.3
	5/11/23	490	0.678	174	5.13	4.98	50.2	9.05	73.1	146	771	350	26.3
	7/19/24	477	0.271	107	12.4	<0.1	26.6	8.21	73.4	69.9	577	6.8	39.5
MW-118	07/31/18	427	0.44	126	1.40	0.96	41.1	8.4	57.6	195	703	<4.0	6.0
	11/27/18	435	0.54	NT	2.50	NT	NT	NT	56.7	NT	NT	NT	2.0
	5/10/19	431	0.61	NT	1.80	NT	NT	NT	54.5	NT	NT	NT	10.8
	10/15/19	416	0.50	122	1.40	1.1	41.7	8.5	57.9	191	879	4.8	5.2
	5/19/20	436	0.554	123	<1.00	0.895	41.1	7.92	56.8	199	651	<4	5.1
	7/19/21	483	0.352	122	1.42	0.745	37.9	7.95	57.9	159	693	<4.0	9.3
	11/10/22	446	0.510	123	1.33	0.782	40.6	7.88	60.9	186	679	<4.0	3.5
	5/11/23	436	0.552	132	<1.0	0.986	44	8.44	61.2	173	689	4.6	3.0
	7/19/24	451	<0.1	109	<1.0	<0.1	41.6	8.21	58.8	184	676	<4.0	2.0

Table 6 - Selected Annual Parameters Results Summary (2018-Present)

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Alkalinity	Ammonia	Calcium	Chloride	Iron	Magnesium	Potassium	Sodium	Sulfate	TDS	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS [site std]	--	--	[30]	--	--	--	--	--	--	--	--	--	--
MW-123	07/31/18	407	0.35	126	3.10	2.1	35.4	6.2	26.2	139	583	<4.0	4.1
	11/27/18	418	0.49	NT	3.30	NT	NT	NT	27.3	NT	NT	NT	2
	5/10/19	416	0.53	NT	3.20	NT	NT	NT	25.6	NT	NT	NT	4
	10/15/19	396	0.49	122	3.10	2	36	6.4	27.7	168	726	7.2	4.7
	5/19/20	410	0.506	124	2.09	1.86	36.3	6.05	27.6	119	554	<4.0	3.3
	7/19/21	439	0.453	124	2.58	1.89	34.1	6.07	26.9	115	593	<4.0	0.9
	11/10/22	412	0.565	125	2.78	2.03	35.5	5.93	27.9	126	592	<4.0	18.2
	5/11/23	404	0.564	119	3.10	1.73	35.6	5.99	27.7	123	587	<4.0	2.3
	7/19/24	436	0.464	139	3.40	1.70	36.3	6.8	27.4	126	603	4.0	0.8
MW-7A	07/31/18	261	0.03	84.7	6.60	1.3	21.9	6.2	35.6	79.4	395	34.4	22.1
	11/27/18	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/10/19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10/15/19	73.3	<0.020	44.1	42.20	0.42	9.9	4.6	34.6	62.8	473	4.8	11.1
	5/19/20	442	0.125	111	1.40	3.94	32.3	7.25	40.8	63.2	517	79.0	19.0
	7/19/21	197	<0.100	72.9	32.20	1.52	17.2	5.63	36.9	61.2	450	15.1	37.3
	9/23/21	NT	NT	NT	18.90	NT	NT	NT	NT	NT	NT	NT	17.8
	4/14/22	NT	NT	NT	32.60	NT	NT	NT	NT	NT	NT	NT	197
	11/11/22	436	<0.1	108	<1.0	0.42	29.7	7.0	41.3	61.3	526	<4.0	4.5
	5/11/23	429	0.185	104	<1.0	0.647	30.1	6.87	43.3	59.7	546	14.4	14.0
	7/19/24	466	0.211	119	<1.0	3.34	30.0	7.26	40.8	59.6	537	34.6	40.0
~~MW-130~~[1]	07/31/18	485	0.57	205	<1.0	3.4	55	9.8	52.1	393	1040	8.0	5.0
	11/27/18	491	0.67	NT	1.50	NT	NT	NT	52.3	NT	NT	NT	30.0
	5/9/19	483	0.75	NT	2.00	NT	NT	NT	50.5	NT	NT	NT	22.8
	10/15/19	458	0.75	197	1.60	3.4	55.8	10	52.6	425	1170	4.4	4.6
	5/20/20	490	0.762	194	<1.00	3.31	52.2	9.28	55.0	388	1040	15.1	4.3
	7/19/21	518	0.723	197	<1.00	3.79	50.9	9.14	49.0	389	1020	10.3	4.0
	11/10/22	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
~~MW-131~~[1]	07/31/18	434	0.550	288	6.80	4.3	77.2	10.1	48.5	644	1600	6.8	3.1
	11/27/18	435	0.790	NT	10.00	NT	NT	NT	69.7	NT	NT	NT	9.3
	5/9/19	430	0.820	NT	8.30	NT	NT	NT	59.6	NT	NT	NT	5.8
	10/15/19	430	0.880	417	12.60	5.8	116	12.7	68.3	1390	1290	18.8	1.5
	5/20/20	456	0.985	477	7.72	5.83	123	11.8	64.2	1470	2640	26.4	3.5
	7/19/21	816	0.478	428	502.0	6.4	123	10.7	59.7	368	2260	9.87	2.9
	9/23/21	772	NT	NT	634.0	NT	NT	NT	NT	NT	NT	NT	2.1
	4/14/22	791	NT	NT	551.0	NT	NT	NT	NT	NT	NT	NT	6.2
	11/10/22	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-132	07/31/18	476	0.36	269	6.40	2.1	73.3	11.3	54.3	538	1380	20.0	15.4
	11/27/18	517	0.39	NT	8.70	NT	NT	NT	65.3	NT	NT	NT	33.1
	5/9/19	507	0.54	NT	8.20	NT	NT	NT	74.7	NT	NT	NT	71.7
	10/15/19	489	0.45	296	8.10	3.7	84	13	72	826	1710	37.6	172.9
	5/20/20	467	0.417	422	7.30	1.55	119	11.7	55.0	1440	2390	20.8	NT
	7/19/21	507	0.388	330	6.00	1.32	85.2	10.9	50.5	858	1720	9.6	7.0
	11/10/22	467	0.573	300	4.66	2.78	80.2	10.5	55.5	847	1470	8.7	5.9
	5/11/23	432	0.598	307	5.18	3.44	85.8	11.1	58.8	667	1320	50.6	43.2
	7/19/24	496	0.216	343	3.91	6.43	88.7	11.5	61.3	870	1670	17.0	26.0
MW-133	07/31/18	452	0.40	206	9.00	4.4	59.4	8.1	23.2	314	1040	6.0	24.3
	11/27/18	531	0.52	NT	11.10	NT	NT	NT	28.3	NT	NT	NT	27.0
	5/9/19	519	0.62	NT	11.70	NT	NT	NT	27.5	NT	NT	NT	10.2
	10/15/19	471	0.46	252	11.20	2.8	76.8	9.3	26.9	565	1340	10.4	19.9
	5/20/20	520	0.385	297	9.98	3.96	88.2	9.09	28.0	709	1510	25.7	27.3
	7/19/21	563	0.689	270	8.53	4.95	74.4	8.75	25.3	569	1390	120	79.3
	11/10/22	418	0.289	161	8.49	4.52	48.4	6.57	17.7	221	737	14.5	17.7
	5/11/23	416	0.375	195	9.06	2.83	61.8	7.49	21.4	297	875	11.2	9.3
	7/19/24	512	0.412	279	10.4	5.9	74.4	9.01	23.8	555	1250	15.0	15.9

Table 6 - Selected Annual Parameters Results Summary (2018-Present)

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Alkalinity	Ammonia	Calcium	Chloride	Iron	Magnesium	Potassium	Sodium	Sulfate	TDS	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS [site std]	--	--	[30]	--	--	--	--	--	--	--	--	--	--
MW-134	6/21/23	515	0.953	249	2.37	10.8	74.1	11.3	118	484	1190	223	357
	10/3/23	487	0.903	204	37.7	5.66	56.8	10.3	115	384	1160	408	312
	4/25/24	522	0.877	202	7.18	3.9	55.8	10.5	146	675	1120	46.0	65.0
	10/24/24	475	0.866	208	5.95	3.44	54.8	11	145	531	1770	65.7	14.0
MW-135	6/21/23	470	0.748	186	3.47	2.01	48	9.3	81.5	374	1010	1700	827
	10/3/23	581	0.790	232	4.34	5.4	59.8	9.91	79.7	380	1050	460	164
	4/25/24	426	0.165	107	46.7	1.07	34.7	9.19	83.6	157	644	98.8	35.0
	10/24/24	421	0.406	141	43.7	0.797	39.1	10.3	79.8	218	731	35.8	22.0
MW-136	6/21/23	600	0.805	203	3.8	9.46	58.5	8.18	62.6	151	876	1620	1000
	10/3/23	499	0.431	149	3.26	1.69	44	7.17	65.5	148	737	165	144
	4/25/24	502	0.520	123	12.4	0.416	37.4	8.21	76.6	160	660	42.4	45.0
	10/24/24	452	0.298	119	10.3	0.23	34.1	8.17	65.7	129	672	16.1	29.5
GU-V-2	07/31/18	684	0.47	439	32.60	<0.050	126	20.9	45.1	876	2280	<4.0	5.9
	11/27/18	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	5/10/19	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
	10/15/19	626	0.15	353	37.00	<0.050	106	18.2	44.3	742	1990	21.2	6.5
	5/20/20	506	<0.100	353	23.40	1.3	110	17.3	38.1	1030	2030	14.5	12.1
	7/20/21	638	0.708	375	32.50	0.24	103	17.9	44.7	726	1720	<4.0	6.2
	11/11/22	644	<0.1	280	36.40	<0.1	78.8	15.0	43.3	491	1270	<4.0	0.9
	5/11/23	245	<0.1	278	17.8	<0.1	82.1	15.8	44.9	243	564	<4.0	NT
	7/19/24	470	<0.1	254	33.1	0.129	72.4	15.5	45.1	521	1240	<4.0	3.0

Notes:

Selected Annual Parameters = Intrawell Statistical Parameters & Supplemental Parameters, as per 2023 HMSP.

MCL = U.S. EPA maximum contaminant level

GWPS = Iowa Statewide Groundwater Protection Standard for Contaminants in Groundwater (protected Groundwater Source)

NT = Not Tested

[1] = monitoring wells MW-115, MW-130, & MW-131 sealed August 2022

* = MW-2A pump pulled on 5/19/20 to release stuck check ball resulting in higher turbidity

** = MW-11 was damaged during July 2024 event and was therefore unsampleable

Results above MCL or GWPS are highlighted

Table 7 - Detection Monitoring Summary - Appendix I Metals

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS	--	0.006	0.01	2	0.004	0.005	0.1	~~0.007~~ 0.0021 (1)	1.3	0.015	0.1	0.05	0.1	0.002	~~0.049~~ 0.035(1)	2	--	--
MW-2A	3/26/08	<0.0060	<0.020	**0.086**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	**0.011**	<0.010	<0.050	<0.0020	<.0030	**0.014**	--	--
MW-2A	5/19/08	<0.0060	<0.020	**0.098**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	**0.0081**	<0.010	<0.050	<0.0020	<.0030	**0.11**	--	--
MW-2A	6/26/08	<0.0060	<0.020	**0.21**	<0.0010	<0.0010	**0.0099**	**0.0034**	**0.032**	<0.0050	**0.0084**	<0.010	<0.050	<0.0020	**0.011**	**0.076**	--	--
MW-2A	8/20/08	<0.0060	<0.020	**0.095**	<0.0010	<0.0010	<0.0030	<0.0030	**0.0041**	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.03**	--	--
MW-2A	9/29/08	<0.0060	<0.020	**0.1**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	**0.005**	<0.010	<0.050	<0.0020	<.0030	**0.012**	--	4.1
MW-2A	3/25/09	<0.0060	<0.020	**0.0914**	<0.0010	<0.0010	<0.0030	<0.0030	**0.0045**	<0.0050	**0.0052**	<0.010	<0.050	<0.0020	<.0030	**0.0394**	--	5.4
MW-2A	9/29/09	<0.0060	<0.020	**0.0889**	<0.0010	<0.0010	<0.0030	<0.0030	**0.0107**	<0.0050	**0.0071**	<0.010	<0.050	<0.0020	<.0030	**0.0735**	--	6.4
MW-2A	3/31/10	<0.0068	<0.020	**0.090**	<0.0010	<0.0010	**0.0032**	<0.0030	**0.0134**	<0.0050	**0.0061**	<0.010	<0.050	<0.0020	<.0030	**0.0659**	--	4.9
MW-2A	9/22/10	<0.0068	<0.020	**0.408**	<0.0010	<0.0010	**0.0127**	**0.0037**	**0.0271**	<0.0050	**0.0094**	<0.010	<0.050	<0.0020	**0.0166**	**0.0174**	--	--
MW-2A	6/16/11	<0.0134	<0.010	**0.083**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	**0.011**	<0.015	<0.003	<0.0020	<0.0050	**0.036**	--	5.5
MW-2A	6/16/11	<0.0134	<0.010	**0.089**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.035**	--	**filtered**
MW-2A	9/27/11	<0.0134	<0.010	**0.093**	<0.0020	<0.0010	**0.0058**	<0.0040	**0.016**	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.043**	--	**7.2**
MW-2A	3/29/12	<0.0010	<0.0010	**0.098**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.028**	--	**11.3**
MW-2A	9/25/12	<0.0010	**0.0013**	**0.078**	<0.0020	<0.0010	**0.0053**	<0.0040	**0.046**	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	**0.13**	--	7.5
MW-2A	9/25/12	<0.0010	**0.0011**	**0.074**	<0.0020	<0.0010	<0.0040	<0.0040	**0.02**	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	**0.074**	--	**filtered**
MW-2A	3/26/13	<0.0010	<0.010	**0.084**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	**0.0254**	--	5
MW-2A	11/20/13	<0.0010	<0.010	**0.087**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	**0.0484**	--	-
MW-2A	5/21/14	<0.0010	<0.010	**0.11**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	**0.016**	--	-
MW-2A	10/7/14	<0.0010	<0.010	**0.099**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	**0.035**	--	3
MW-2A	5/11/15	<0.0010	<0.0010	**0.074**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	**0.048**	<4	3.2
MW-2A	10/13/15	<0.0010	<0.0010	**0.096**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	<0.010	<4	2.1
MW-2A	5/24/16	<0.0010	<0.0010	**0.08**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	<0.010	<4	2.9
MW-2A	11/10/16	<0.0010	<0.0010	**0.073**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	<0.010	<4	2.5
MW-2A	5/15/17	<0.0010	<0.0010	**0.076**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	<0.010	<4	4
MW-2A	10/23/17	<0.0010	<0.0010	**0.072**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.00020	<0.0050	<0.010	<4	3.1
MW-2A	5/19/20	<0.0020	<0.0020	**0.368**	<0.0020	<0.0010	**0.0120**	**0.00987**	**0.0303**	**0.00244**	**0.00951**	<0.0020	<0.002	<0.0020	**0.0152**	<0.025	47.3*	50.9*
MW-2A	5/11/23	<0.0020	<0.002	**0.068**	<0.002	<0.001	<0.002	<0.002	**0.00518**	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.005	<0.025	<4.0	1.5
MW-11	3/26/08	<0.0060	**0.053**	**0.050**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.03**	--	-
MW-11	5/19/08	<0.0060	**0.073**	**0.082**	<0.0010	<0.0010	**0.0046**	<0.0030	**0.007**	<0.0050	**0.0065**	<0.010	<0.050	<0.0020	**0.011**	**0.013**	--	-
MW-11	6/26/08	<0.0060	**0.072**	**0.088**	<0.0010	<0.0010	**0.0048**	<0.0030	**0.0048**	<0.0050	**0.0065**	<0.010	<0.050	<0.0020	**0.011**	**0.012**	--	-
MW-11	8/20/08	<0.0060	**0.069**	**0.050**	<0.0010	<0.0010	<.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0065**	--	-
MW-11	9/29/08	<0.0060	**0.062**	**0.051**	<0.0010	<0.0010	<.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0066**	--	1.1
MW-11	3/25/09	<0.0060	**0.0638**	**0.072**	<0.0010	<0.0010	**0.0041**	<0.0030	**0.0047**	<0.0050	<0.0040	<0.010	<0.050	<0.0020	**0.0077**	**0.0149**	--	63
MW-11	10/1/09	<0.0060	**0.0718**	**0.091**	<0.0010	<0.0010	**0.0061**	<0.0030	**0.0071**	<0.0050	**0.0066**	<0.010	<0.050	<0.0020	**0.0133**	**0.0157**	--	-
MW-11	3/31/10	<0.0068	**0.0788**	**0.128**	<0.0010	<0.0010	**0.0105**	**0.0049**	**0.0119**	<0.0050	**0.012**	<0.010	<0.050	<0.0020	**0.0253**	**0.202**	--	305
MW-11	9/22/10	<0.0068	**0.0771**	**0.060**	<0.0010	<0.0010	<.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	**0.003**	**0.0092**	--	12.3
MW-11	6/16/11	<0.0134	**0.067**	**0.054**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.017**	--	0.5
MW-11	6/16/11	<0.0134	**0.061**	**0.051**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.014**	--	**filtered**
MW-11	9/27/11	<0.0134	**0.067**	**0.055**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.0086**	--	**8.9**
MW-11	3/29/12	<0.0010	**0.077**	**0.051**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	--
MW-11	9/24/12	<0.0010	**0.064**	**0.05**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.0158**	--	3.7
MW-11	9/24/12	<0.0010	**0.063**	**0.049**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	**filtered**
MW-11	3/26/13	<0.0010	**0.0728**	**0.066**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0054**	**0.0192**	--	2.9
MW-11	11/20/13	<0.0010	**0.065**	**0.056**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.0114**	--	--
MW-11	5/21/14	<0.0010	**0.066**	**0.051**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	5.9

Table 7 - Detection Monitoring Summary - Appendix I Metals

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS	--	0.006	0.01	2	0.004	0.005	0.1	~~0.007~~ 0.0021 (1)	1.3	0.015	0.1	0.05	0.1	0.002	~~0.049~~ 0.035(1)	2	--	--
MW-11	10/7/14	<0.0010	**0.063**	**0.047**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	2.5
MW-11	5/11/15	<0.0010	**0.081**	**0.055**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.012**	39.2	21.4
MW-11	10/13/15	<0.0010	**0.077**	**0.061**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.012**	38	11.1
MW-11	5/24/16	<0.0010	**0.06**	**0.054**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.01**	34.4	9.1
MW-11	11/9/16	<0.0010	**0.06**	**0.049**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.014**	11.2	11.3
MW-11	5/15/17	<0.0010	**0.06**	**0.052**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	20.8	16.6
MW-11	10/23/17	<0.0010	**0.065**	**0.051**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	18	10.4
MW-11	5/19/20	<0.0020	**0.0811**	**0.0457**	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.002	<0.0020	<0.0050	<0.025	17.2	19.2
MW-11	5/11/23	<0.0020	**0.0687**	**0.0483**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.005	<0.025	9.5	4.7
MW-110	3/26/08	<0.0060	<0.020	**0.056**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.038**	--	-
MW-110	5/19/08	<0.0060	<0.020	**0.130**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0076**	--	-
MW-110	6/26/08	<0.0060	<0.020	**0.057**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0068**	--	-
MW-110	8/20/08	<0.0060	<0.020	**0.091**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0084**	--	-
MW-110	9/29/08	<0.0060	<0.020	**0.058**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0068**	--	1.9
MW-110	3/25/09	<0.0060	<0.020	**0.057**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0057**	--	4.1
MW-110	10/1/09	<0.0060	<0.020	**0.140**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0053**	--	-
MW-110	3/31/10	<0.0068	<0.020	**0.063**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.006**	--	42
MW-110	9/22/10	<0.0068	<0.020	**0.086**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.009**	--	2.8
MW-110	6/16/11	<0.0134	<0.010	**0.088**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.0020	<0.0050	**0.01**	--	2.2
MW-110	6/16/11	<0.0134	<0.010	**0.087**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.0020	<0.0050	**0.026**	--	**filtered**
MW-110	9/27/11	<0.0134	<0.010	**0.091**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.0020	<0.0050	**0.0074**	--	**4.5**
MW-110	3/29/12	<0.0010	**0.0021**	**0.050**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	--	**4.2**
MW-110	9/25/12	<0.0010	**0.0019**	**0.060**	<0.0002	<0.0020	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	--	4.1
MW-110	9/25/12	<0.0010	**0.002**	**0.058**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	**0.012**	--	**filtered**
MW-110	3/26/13	<0.0010	**0.0023**	**0.062**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	**0.012**	--	3.2
MW-110	11/20/13	<0.0010	<0.010	**0.13**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	--	--
MW-110	5/21/14	<0.0010	**0.002**	**0.052**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	--	4.1
MW-110	10/7/14	<0.0010	**0.0016**	**0.061**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	--	4
MW-110	5/11/15	<0.0010	**0.001**	**0.098**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	<4	2.9
MW-110	10/13/15	<0.0010	<0.0010	**0.12**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	<4	3.1
MW-110	5/24/16	<0.0010	<0.0010	**0.10**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	<4	7.3
MW-110	11/9/16	<0.0010	**0.0017**	**0.07**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	<4	6.1
MW-110	5/15/17	<0.0010	<0.0010	**0.11**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	<4	5
MW-110	10/23/17	<0.0010	<0.0010	**0.11**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.0030	<0.00020	<0.0050	<0.010	<4	3.2
MW-110	5/19/20	<0.0020	**0.0021**	**0.0522**	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	4.1	15.3
MW-110	5/11/23	<0.0020	<0.002	**0.11**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.005	<0.025	4.4	3
MW-115	3/26/08	<0.0060	<0.020	**0.11**	<0.0010	<0.0010	0.0037	<0.0030	**0.024**	<0.0050	**0.0078**	<0.010	<0.050	<0.0020	**0.011**	**0.03**	--	-
MW-115	5/19/08	<0.0060	<0.020	**0.052**	<0.0010	<0.0010	0.0060	<0.0030	**0.0065**	<0.0050	**0.013**	<0.010	**0.1**	<0.0020	<.0030	**0.068**	--	-
MW-115	6/26/08	<0.0060	<0.020	**0.094**	<0.0010	<0.0010	<0.0030	<0.0030	**0.012**	<0.0050	**0.0045**	<0.010	<0.050	<0.0020	**0.0037**	**0.021**	--	-
MW-115	8/20/08	<0.0060	<0.020	**0.065**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0078**	--	-
MW-115	9/29/08	<0.0060	**0.03**	**0.079**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.013**	--	5.6
MW-115	3/25/09	<0.0060	<0.020	**0.0655**	<0.0010	<0.0010	**0.0049**	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0233**	--	3.7
MW-115	9/30/09	<0.0060	**0.032**	**0.0866**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0112**	--	8.7
MW-115	3/31/10	<0.0068	**0.0339**	**0.075**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	<0.0050	--	3.7

Table 7 - Detection Monitoring Summary - Appendix I Metals

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS	--	0.006	0.01	2	0.004	0.005	0.1	~~0.007~~ 0.0021 [1]	1.3	0.015	0.1	0.05	0.1	0.002	~~0.049~~ 0.035[1]	2	--	--
MW-115	9/22/10	<0.0068	<0.010	**0.234**	<0.0010	<0.0010	**0.0213**	**0.0069**	**0.0409**	**0.0126**	**0.0256**	<0.010	<0.050	<0.0020	**0.0479**	**0.0376**	--	47.1
MW-115	6/16/11	<0.0134	<0.010	**0.048**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.022**	--	6
MW-115	6/16/11	<0.0134	<0.010	**0.041**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.017**	--	**filtered**
MW-115	9/27/11	<0.0134	**0.039**	**0.097**	<0.0020	<0.0010	**0.0042**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	**0.006**	**0.013**	--	**21.5**
MW-115	3/28/12	<0.0010	**0.033**	**0.088**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.01**	--	**28.9**
MW-115	9/25/12	<0.0010	**0.04**	**0.096**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0082**	**0.013**	--	22.1
MW-115	9/25/12	<0.0010	**0.041**	**0.073**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	**filtered**
MW-115	3/26/13	<0.0010	**0.0365**	**0.082**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	15.7
MW-115	11/20/13	<0.0010	**0.0417**	**0.074**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	-
MW-115	5/21/14	<0.0010	**0.033**	**0.09**	<0.0020	<0.0010	**0.0047**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0084**	**0.011**	--	5.3
MW-115	10/7/14	<0.0010	**0.034**	**0.2**	<0.0020	<0.0010	**0.02**	**0.0078**	**0.073**	**0.015**	**0.022**	<0.015	<0.003	**0.00023**	**0.052**	**0.061**	--	50.3
MW-115	6/2/15	<0.0010	**0.039**	**0.13**	<0.0020	<0.0010	**0.011**	**0.039**	**0.024**	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.024**	**0.039**	297	98
MW-115	10/14/15	<0.0010	**0.033**	**0.084**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0069**	**0.016**	51.2	47.1
MW-115	10/14/15	<0.0010	**0.031**	**0.092**	<0.0020	<0.0010	**0.0047**	<0.0040	**0.011**	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.01**	**0.154**	--	47.1
MW-115	5/24/16	<0.0010	**0.034**	**0.063**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	18	10.2
MW-115	11/9/16	<0.0010	**0.032**	**0.060**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	10.4	4.3
MW-115	5/15/17	<0.0010	**0.018**	**0.067**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	<4	19.6
MW-115	10/23/17	<0.0010	**0.022**	**0.064**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	<4	12.8
MW-115	5/19/20	<0.0020	**0.022**	**0.0676**	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	15.5	14.9
~~MW-115~~[2]	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-117	10/7/14	<0.0010	**0.037**	**0.12**	<0.0020	<0.0010	**0.0099**	<0.004	**0.014**	<0.0050	**0.01**	<0.015	<0.003	<0.0002	**0.019**	**0.026**	--	33.9
MW-117	5/11/15	<0.0010	**0.05**	**0.086**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.005**	**0.019**	118	70.3
MW-117	10/13/15	<0.0010	**0.031**	**0.094**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0052**	**0.016**	43.2	33.1
MW-117	5/24/16	<0.0010	**0.02**	**0.07**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.01	20	19.3
MW-117	11/10/16	<0.0010	**0.032**	**0.066**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.01	5.6	11
MW-117	5/15/17	<0.0010	**0.011**	**0.064**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.01	14.8	13.1
MW-117	10/23/17	<0.0010	**0.035**	**0.097**	<0.0020	<0.0010	**0.0047**	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0089**	**0.013**	202	40.7
MW-117	5/19/20	<0.0020	**0.0421**	**0.0903**	<0.0020	<0.0010	**0.00389**	<0.0020	<0.0050	**0.0021**	**0.00501**	<0.0020	<0.0020	<0.0020	**0.00612**	<0.025	98	20.3
MW-117	5/11/23	<0.002	**0.0349**	**0.102**	<0.002	<0.001	**0.00245**	**0.00216**	**0.00531**	**0.00252**	**0.00373**	<0.002	<0.002	<0.002	<0.005	<0.025	350	26.3
MW-117	7/18/23	NT	NT	NT	NT	NT	NT	<0.0020	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-118	10/7/14	<0.0010	**0.017**	**0.079**	<0.0020	<0.0010	<0.004	<0.004	<0.01	<0.005	<0.01	<0.015	<0.003	<0.0002	<0.0050	**0.011**	--	14.9
MW-118	5/11/15	<0.0010	**0.025**	**0.069**	<0.0020	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.01	<0.015	<0.003	<0.0002	<0.0050	**0.011**	4.8	4.4
MW-118	10/13/15	<0.0010	**0.016**	**0.082**	<0.0020	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.01	8	7
MW-118	5/24/16	<0.0010	**0.011**	**0.08**	<0.0020	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.01	14.4	11.3
MW-118	11/10/16	<0.0010	**0.015**	**0.075**	<0.0020	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.01	<4	2.5
MW-118	5/15/17	<0.0010	**0.014**	**0.074**	<0.0020	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.01	5.2	--
MW-118	10/23/17	<0.0010	**0.02**	**0.068**	<0.0020	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.01	<4	5.6
MW-118	5/19/20	<0.0020	**0.0129**	**0.072**	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	<4	5.1
MW-118	5/11/23	<0.002	**0.0178**	**0.0794**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.025	4.6	3
MW-123	10/7/14	<0.0010	**0.045**	**0.038**	<0.002	<0.0010	<0.0010	<0.004	<0.0010	<0.005	<0.0010	<0.0015	<0.0030	<0.00020	<0.0050	**0.024**	--	7.3
MW-123	5/11/15	<0.0010	**0.045**	**0.036**	<0.002	<0.0010	<0.0010	<0.0028	<0.0010	<0.005	<0.0010	<0.0015	<0.0030	<0.00020	<0.0050	**0.011**	5.6	2.5
MW-123	10/13/15	<0.0010	**0.045**	**0.036**	<0.002	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.0010	<0.0015	<0.0030	<0.00020	<0.0050	<0.01	6	6
MW-123	5/24/16	<0.0010	**0.044**	**0.034**	<0.002	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.0010	<0.0015	<0.0030	<0.00020	<0.0050	<0.01	5.6	7.1

Table 7 - Detection Monitoring Summary - Appendix I Metals

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS	--	0.006	0.01	2	0.004	0.005	0.1	~~0.007~~ 0.0021 [1]	1.3	0.015	0.1	0.05	0.1	0.002	~~0.049~~ 0.035[1]	2	--	--
MW-123	11/9/16	<0.0010	**0.043**	**0.034**	<0.002	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.0010	<0.0015	<0.0030	<0.00020	<0.0050	<0.01	<4	2
MW-123	5/15/17	<0.0010	**0.043**	**0.035**	<0.002	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.0010	<0.0015	<0.0030	<0.00020	<0.0050	<0.01	4.8	5.8
MW-123	10/23/17	<0.0010	**0.04**	**0.033**	<0.002	<0.0010	<0.004	<0.0028	<0.01	<0.005	<0.0010	<0.0015	<0.0030	<0.00020	<0.0050	<0.01	6	5
MW-123	5/19/20	<0.0020	**0.0432**	**0.0325**	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	<4	3.3
MW-123	5/11/23	<0.002	**0.0431**	**0.0311**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.025	<4.0	2.3
MW-7A	9/29/09	<0.0060	<0.020	**0.127**	<0.0010	<0.0010	**0.0193**	<0.0030	**0.0081**	<0.0050	**0.0148**	<0.010	<0.050	<0.0020	**0.0141**	**0.0358**	--	111
MW-7A	3/31/10	<0.0068	<0.020	**0.181**	<0.0010	<0.0010	**0.0299**	**0.0063**	**0.0217**	<0.0050	**0.0451**	<0.010	<0.050	<0.0020	**0.0386**	**0.0651**	--	39
MW-7A	9/22/10	<0.0068	**0.0358**	**0.133**	<0.0010	<0.0010	**0.0102**	<0.0030	**0.0051**	**0.0064**	**0.0074**	<0.010	<0.050	<0.0020	**0.0115**	**0.0233**	--	6.1
MW-7A	6/16/11	<0.0134	**0.018**	**0.089**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.018**	--	1.7
MW-7A	6/16/11	<0.0134	**0.019**	**0.088**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.022**	--	**filtered**
MW-7A	9/27/11	<0.0134	**0.019**	**0.034**	<0.0020	<0.0010	**0.0085**	<0.0040	**0.016**	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.071**	--	**7.8**
MW-7A	3/29/12	<0.001	**0.029**	**0.100**	<0.0020	<0.0010	**0.0094**	<0.0040	**0.014**	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.01**	**0.061**	--	**15.3**
MW-7A	9/25/12	<0.0010	**0.013**	**0.045**	<0.0020	<0.0010	0.0098	<0.0040	**0.012**	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.068**	--	3
MW-7A	9/25/12	<0.0010	**0.0083**	**0.043**	<0.0020	<0.0010	<0.0098	<0.0040	**0.01**	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.05**	--	**filtered**
MW-7A	3/26/13	<0.0010	**0.0155**	**0.055**	<0.0020	<0.0010	0.0089	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.051**	--	1.7
MW-7A	11/20/13	<0.0010	**0.0064**	**0.023**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.0206**	--	-
MW-7A	5/21/14	<0.0010	**0.02**	**0.055**	<0.0020	<0.0010	**0.0042**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.021**	--	-
MW-7A	10/7/14	<0.0010	**0.014**	**0.038**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.01	--	1.4
MW-7A	5/11/15	<0.0010	**0.0082**	**0.023**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.022**	<4	4.8
MW-7A	10/13/15	<0.0010	**0.034**	**0.093**	<0.0020	<0.0010	**0.0053**	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.013**	33.2	20
MW-7A	5/24/16	<0.0010	**0.0085**	**0.073**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.01**	11.2	30.1
MW-7A	11/10/16	<0.0010	**0.010**	**0.071**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	**0.0063**	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.04**	32.4	34.9
MW-7A	5/15/17	<0.0010	**0.011**	**0.040**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.10**	12.8	20.1
MW-7A	10/23/17	<0.0010	**0.011**	**0.040**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.057**	10.8	11.7
MW-7A	5/19/20	<0.0020	**0.0488**	**0.0932**	<0.0020	<0.0010	**0.00404**	<0.0020	<0.0050	<0.0020	**0.00443**	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	79	19
MW-7A	5/11/23	<0.002	**0.0156**	**0.0679**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.005	<0.025	14.4	14
MW-130	9/29/09	<0.0060	**0.0218**	**0.0616**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0211**	--	19.5
MW-130	3/31/10	<0.0068	**0.0348**	**0.041**	<0.0010	<0.0010	<0.0030	<0.0030	<0.0040	<0.0050	<0.0040	<0.010	<0.050	<0.0020	<.0030	**0.0072**	--	4.3
MW-130	9/22/10	<0.0068	**0.0531**	**0.103**	<0.0010	<0.0010	**0.0104**	<0.0030	**0.0088**	**0.008**	**0.0099**	<0.010	<0.050	<0.0020	**0.0204**	**0.027**	--	23.8
MW-130	6/16/11	<0.0134	**0.028**	**0.061**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.098**	--	9.3
MW-130	6/16/11	<0.0134	**0.025**	**0.059**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.11**	--	**filtered**
MW-130	9/27/11	<0.0134	**0.058**	**0.041**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.016**	--	**8.8**
MW-130	3/28/12	<0.0010	**0.060**	**0.032**	<0.0020	<0.0010	**0.0041**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	--	-
MW-130	9/24/12	<0.0010	**0.057**	**0.032**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	--	-
MW-130	9/24/12	<0.0010	**0.061**	**0.031**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	--	**filtered**
MW-130	3/26/13	<0.0010	**0.0651**	**0.047**	<0.0020	<0.0010	**0.0048**	<0.0040	**0.015**	**0.005**	<0.010	<0.015	<0.003	<0.0002	**0.0065**	**0.0393**	--	8.3
MW-130	11/20/13	<0.0010	**0.0661**	**0.029**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.0115**	--	-
MW-130	5/21/14	<0.0010	**0.073**	**0.039**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.011**	--	6.9
MW-130	10/7/14	<0.0010	**0.034**	**0.048**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.016**	--	2.4
MW-130	6/2/15	<0.0010	**0.063**	**0.027**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	5.2	21.3
MW-130	10/13/15	<0.0010	**0.074**	**0.030**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	17.2	6
MW-130	5/24/16	<0.0010	**0.096**	**0.033**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	12	31
MW-130	11/9/16	<0.0010	**0.059**	**0.025**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	8.4	2.6
MW-130	5/15/17	<0.0010	**0.059**	**0.027**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	10.8	10

Table 7 - Detection Monitoring Summary - Appendix I Metals

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS	--	0.006	0.01	2	0.004	0.005	0.1	~~0.007~~ 0.0021 [1]	1.3	0.015	0.1	0.05	0.1	0.002	~~0.049~~ 0.035[1]	2	--	--
MW-130	10/23/17	<0.0010	**0.06**	**0.025**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	5.2	4.1
MW-130	5/20/20	<0.0020	**0.0648**	**0.0267**	<0.0020	<0.0010	<0.0020	<0.0020	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	15.1	4.3
~~MW-130~~[2]	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-131	9/29/09	<0.0060	**0.0235**	**0.0469**	<0.0010	<0.0010	**0.0032**	**0.0057**	**0.0044**	<0.0050	**0.0121**	<0.010	<0.050	<0.0020	**0.0064**	**0.0393**	--	88.9
MW-131	3/31/10	<0.0068	**0.0615**	**0.023**	<0.0010	<0.0010	**0.0047**	<0.0030	<0.0040	<0.0050	**0.0089**	<0.010	<0.050	<0.0020	<.0030	**0.0261**	--	43
MW-131	9/22/10	<0.0068	**0.103**	**0.063**	<0.0010	<0.0010	**0.0099**	**0.0032**	**0.0066**	**0.0091**	**0.0152**	<0.010	<0.050	<0.0020	**0.0138**	**0.0252**	--	5.1
MW-131	6/16/11	<0.0134	**0.024**	**0.077**	<0.0010	<0.0010	**0.011**	**0.004**	<0.010	**0.011**	**0.014**	<0.015	<0.003	<0.0020	**0.021**	**0.041**	--	523
MW-131	6/16/11	<0.0134	**0.02**	**0.015**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.015**	--	**filtered**
MW-131	9/27/11	<0.0134	**0.055**	**0.017**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.02**	--	**17.1**
MW-131	3/28/12	<0.0010	**0.036**	**0.026**	<0.0020	<0.001	**0.0043**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0065**	<0.010	--	-
MW-131	9/24/12	<0.0010	**0.056**	**0.026**	<0.0020	<0.001	**0.0048**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0051**	**0.026**	--	9.9
MW-131	9/24/12	<0.0010	**0.037**	**0.016**	<0.0020	<0.001	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.0163**	--	**filtered**
MW-131	3/26/13	<0.0010	**0.0657**	**0.047**	<0.0020	<0.001	**0.0048**	<0.0040	<0.010	**0.005**	<0.010	<0.015	<0.003	<0.0002	**0.0065**	**0.0393**	--	12.3
MW-131	11/20/13	<0.0010	**0.0585**	**0.015**	<0.0020	<0.001	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	-
MW-131	5/21/14	<0.0010	**0.16**	**0.16**	<0.0020	0.0018	**0.024**	**0.0086**	**0.031**	**0.024**	**0.026**	<0.015	<0.003	**0.00045**	**0.048**	**0.098**	--	16.4
MW-131	10/7/14	<0.0010	**0.056**	**0.015**	<0.0020	<0.001	<0.004	<0.004	<0.01	**0.0058**	<0.01	**0.016**	<0.003	<0.0002	<0.0050	<0.010	--	2.3
MW-131	6/2/15	<0.0010	**0.058**	**0.014**	<0.0020	<0.001	<0.004	<0.0028	<0.01	<0.0050	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.010	11.2	11.5
MW-131	10/13/15	<0.0010	**0.070**	**0.021**	<0.0020	<0.001	<0.004	<0.0028	<0.01	<0.0050	<0.01	<0.015	<0.003	<0.0002	<0.0050	**0.014**	25.6	9.1
MW-131	5/24/16	<0.0010	**0.046**	**0.012**	<0.0020	<0.001	<0.004	**0.0028**	<0.01	<0.0050	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.010	7.2	7.1
MW-131	11/9/16	<0.0010	**0.046**	**0.011**	<0.0020	<0.001	<0.004	<0.0028	<0.01	**0.0061**	<0.01	<0.015	<0.003	<0.0002	<0.0050	**0.017**	12	4.4
MW-131	5/15/17	<0.0010	**0.053**	**0.011**	<0.0020	<0.001	<0.004	**0.0037**	<0.01	<0.0050	<0.01	<0.015	<0.003	<0.0002	<0.0050	**0.011**	16	8
MW-131	10/23/17	<0.0010	**0.045**	**0.011**	<0.0020	<0.001	<0.004	<0.0028	<0.01	<0.0050	<0.01	<0.015	<0.003	<0.0002	<0.0050	<0.010	9.6	2.7
MW-131	5/20/20	<0.0020	**0.0462**	**0.0129**	<0.0020	<0.0010	<0.0020	**0.00308**	<0.0050	<0.0020	**0.00376**	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	26.4	3.5
~~MW-131~~[2]	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-132	9/29/09	<0.0060	**0.0362**	**0.51**	**0.0022**	<0.0010	**0.0574**	**0.0271**	**0.0659**	**0.0276**	**0.069**	<0.010	<0.050	<0.0020	**0.127**	**0.0573**	--	660
MW-132	3/31/10	<0.0068	**0.0351**	**0.563**	**0.0024**	<0.0010	**0.0705**	**0.0286**	**0.0688**	**0.036**	**0.0758**	<0.010	<0.050	<0.0020	**0.144**	<0.0050	--	28.7
MW-132	9/22/10	<0.0068	**0.0276**	**0.221**	<0.0010	<0.0010	**0.0265**	**0.0085**	**0.0204**	**0.0182**	**0.027**	<0.010	<0.050	<0.0020	**0.0498**	**0.0319**	--	1000
MW-132	6/16/11	<0.0134	**0.032**	**0.320**	<0.0010	<0.0010	**0.037**	**0.013**	**0.036**	**0.028**	**0.037**	<0.015	<0.003	<0.0020	**0.081**	**0.11**	--	7.21
MW-132	6/16/11	<0.0134	**0.017**	**0.064**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	**0.0059**	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.033**	--	**filtered**
MW-132	9/27/11	<0.0134	**0.031**	**0.130**	<0.0020	<0.0010	**0.011**	<0.0040	<0.010	**0.0057**	**0.012**	<0.015	<0.003	<0.0020	**0.019**	**0.026**	--	**509**
MW-132	3/28/12	<0.0010	**0.020**	**0.15**	<0.0020	<0.0010	**0.017**	<0.0040	**0.021**	**0.026**	**0.024**	<0.015	<0.003	<0.0002	**0.032**	**0.059**	--	-
MW-132	9/24/12	<0.0010	**0.010**	**0.12**	<0.0020	<0.0010	**0.012**	**0.0051**	**0.014**	**0.0051**	**0.015**	<0.015	<0.003	<0.0002	**0.027**	**0.044**	--	107
MW-132	9/24/12	<0.0010	**0.0023**	**0.042**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.0178**	--	**filtered**
MW-132	3/26/13	<0.0010	**0.0126**	**0.098**	<0.0020	<0.0010	**0.012**	<0.0040	**0.012**	**0.0098**	**0.013**	<0.015	<0.003	<0.0002	**0.023**	**0.033**	--	12.7
MW-132	11/20/13	<0.0010	**0.0063**	**0.043**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	**0.01**	<0.015	<0.003	<0.0002	<0.0050	**0.0198**	--	-
MW-132	5/21/14	<0.0010	**0.015**	**0.074**	<0.0020	<0.0010	**0.014**	**0.0042**	<0.010	**0.0052**	**0.014**	<0.015	<0.003	<0.0002	**0.013**	**0.032**	--	17.8
MW-132	10/7/14	<0.0010	**0.0064**	**0.036**	<0.0020	<0.0010	<0.004	<0.0042	<0.010	<0.0052	<0.014	<0.015	<0.003	<0.0002	<0.005	**0.019**	--	12.9
MW-132	6/2/15	<0.0010	**0.0068**	**0.044**	<0.0020	<0.0010	<0.004	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.019**	56.4	43.2
MW-132	10/13/15	<0.0010	**0.0063**	**0.055**	<0.0020	<0.0010	<0.004	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.015**	31.6	20
MW-132	5/24/16	<0.0010	**0.0071**	**0.035**	<0.0020	<0.0010	<0.004	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.015**	25.6	17.1
MW-132	11/9/16	<0.0010	**0.0037**	**0.026**	<0.0020	<0.0010	<0.004	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.014**	18.8	14
MW-132	5/15/17	<0.0010	**0.0030**	**0.021**	<0.0020	<0.0010	<0.004	**0.0030**	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.013**	16	23.1
MW-132	10/23/17	<0.0010	**0.0049**	**0.018**	<0.0020	<0.0010	<0.004	<0.0028	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.010	5.2	17
MW-132	5/20/20	<0.0020	**0.00358**	**0.0177**	<0.0020	<0.0010	<0.0020	**0.00332**	<0.0050	<0.0020	**0.00617**	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	20.8	--

Table 7 - Detection Monitoring Summary - Appendix I Metals

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS	--	0.006	0.01	2	0.004	0.005	0.1	~~0.007~~ 0.0021 (1)	1.3	0.015	0.1	0.05	0.1	0.002	~~0.049~~ 0.035(1)	2	--	--
MW-132	5/11/23	<0.0020	**0.0262**	**0.0227**	<0.0020	<0.0010	<0.0036	<0.002	<0.0050	<0.0020	<0.0020	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	50.6	43.2
MW-133	9/29/09	<0.0060	**0.0206**	**0.102**	<0.0010	<0.0010	**0.0046**	**0.004**	**0.0058**	<0.0050	**0.0088**	<0.010	<0.050	<0.0020	**0.0091**	**0.041**	--	97.1
MW-133	9/22/10	<0.0060	**0.16**	**0.166**	<0.0010	<0.0010	**0.0191**	**0.0071**	**0.0136**	**0.0123**	**0.0224**	<0.010	<0.050	<0.0020	**0.0357**	**0.0314**	--	17.3
MW-133	6/16/11	<0.0134	**0.04**	**0.065**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	**0.0053**	<0.010	<0.015	<0.003	<0.0020	**0.0092**	**0.03**	--	4.6
MW-133	6/16/11	<0.0134	**0.029**	**0.04**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.018**	--	**filtered**
MW-133	9/27/11	<0.0134	**0.033**	**0.037**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0020	<0.0050	**0.015**	--	6.3
MW-133	3/29/12	<0.0010	**0.016**	**0.064**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.0067**	**0.025**	--	-
MW-133	9/24/12	<0.0010	**0.045**	**0.076**	<0.0020	<0.0010	**0.0056**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.013**	**0.0284**	--	29.3
MW-133	9/24/12	<0.0010	**0.028**	**0.042**	<0.0020	<0.0010	**0.0056**	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.0184**	--	**filtered**
MW-133	3/26/13	<0.0010	**0.0529**	**0.061**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	<0.010	--	9.1
MW-133	11/20/13	<0.0010	**0.0553**	**0.063**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	<0.0050	**0.0105**	--	-
MW-133	5/21/14	<0.0010	**0.030**	**0.18**	<0.0020	**0.0023**	**0.018**	**0.0045**	**0.013**	**0.0095**	**0.016**	<0.015	<0.003	<0.0002	**0.029**	**0.041**	--	11.1
MW-133	10/7/14	<0.0010	**0.092**	**0.078**	<0.0020	<0.0010	<0.0040	<0.004	<0.010	<0.005	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.01	--	14.1
MW-133	5/11/15	<0.0010	**0.083**	**0.082**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.005	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.014**	53.2	30.2
MW-133	10/14/15	<0.0010	**0.048**	**0.06**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	<0.005	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.01	9.6	7.8
MW-133	10/14/15	<0.0010	**0.041**	**0.052**	<0.0020	<0.0010	<0.0040	<0.004	<0.010	<0.005	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.01	--	7.8
MW-133	5/24/16	<0.0010	**0.039**	**0.042**	<0.0020	<0.0010	<0.0040	<0.004	<0.010	<0.005	<0.010	<0.015	<0.003	<0.0002	<0.005	**0.01**	4.4	9.3
MW-133	11/9/16	<0.0010	**0.030**	**0.039**	<0.0020	<0.0010	<0.0040	<0.0028	<0.010	**0.006**	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.01	5.6	4.5
MW-133	5/15/17	<0.0010	**0.032**	**0.031**	<0.0020	<0.0010	<0.0040	**0.0030**	<0.010	<0.005	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.01	5.6	8.4
MW-133	10/23/17	<0.0010	**0.044**	**0.024**	<0.0020	<0.0010	<0.0040	**0.0029**	<0.010	<0.005	<0.010	<0.015	<0.003	<0.0002	<0.005	<0.01	6	8.3
MW-133	5/20/20	<0.0020	**0.0463**	**0.0296**	<0.0020	<0.0010	<0.0020	**0.00242**	<0.0050	<0.0020	**0.00272**	<0.0020	<0.0020	<0.0020	<0.0050	<0.025	25.7	27.3
MW-133	5/11/23	<0.002	**0.0262**	**0.0227**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.0020	<0.005	<0.025	50.6	43.2
MW-134	6/21/23	<0.002	**0.0211**	**0.0586**	<0.002	<0.001	**0.0113**	**0.0076**	**0.0205**	**0.0108**	**0.0214**	<0.002	<0.002	<0.002	**0.015**	**0.0532**	223	357
MW-134	10/3/23	<0.002	**0.0229**	**0.0483**	<0.002	<0.001	**0.00392**	**0.0025**	**0.00749**	**0.0032**	**0.00718**	<0.002	<0.002	<0.002	**0.00557**	**0.028**	408	312
MW-134	4/25/24	<0.002	**0.0285**	**0.0237**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.025	46	65
MW-134	10/24/24	<0.002	**0.0227**	**0.0231**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.025	65.7	14
MW-135	6/21/23	<0.002	**0.0066**	**0.0833**	<0.002	<0.001	**0.00224**	**0.00256**	**0.00779**	<0.002	**0.00522**	<0.002	<0.002	<0.002	<0.005	<0.025	1700	827
MW-135	10/3/23	<0.002	**0.0108**	**0.0832**	<0.002	<0.001	**0.00486**	**0.00689**	**0.0195**	**0.00536**	**0.0161**	<0.002	<0.002	<0.002	**0.0118**	**0.052**	460	164
MW-135	4/25/24	<0.002	**0.00533**	**0.0996**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	**0.0024**	<0.002	<0.002	<0.002	<0.005	<0.025	98.8	35
MW-135	10/24/24	<0.002	**0.00400**	**0.0753**	<0.002	<0.001	<0.002	<0.002	<0.005	**0.00231**	**0.00252**	<0.002	<0.002	<0.002	<0.005	<0.025	35.8	22
MW-136	6/21/23	<0.002	**0.0195**	**0.196**	<0.002	<0.001	**0.0118**	**0.00947**	**0.037**	**0.00987**	**0.0256**	<0.002	<0.002	<0.002	<0.005	**0.0547**	876	1000
MW-136	10/3/23	<0.002	**0.00974**	**0.149**	<0.002	<0.001	**0.00282**	<0.002	**0.00847**	<0.002	**0.00495**	<0.002	<0.002	<0.002	**0.00667**	<0.025	165	144
MW-136	4/25/24	<0.002	**0.00706**	**0.125**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	**0.00206**	<0.002	<0.002	<0.002	<0.005	<0.025	42.4	45
MW-136	10/24/24	<0.002	**0.00502**	**0.122**	<0.002	<0.001	<0.002	<0.002	<0.005	<0.002	<0.002	<0.002	<0.002	<0.002	<0.005	<0.002	16.1	29.5
GU-V-2	9/10/12	<0.0010	**0.0025**	**0.11**	<0.0020	<0.0010	<0.0040	<0.0040	<0.010	<0.0050	<0.010	<0.015	<0.003	<0.0002	**0.005**	**0.012**	--	-
GU-V-2	6/25/13	NT	NT	**0.32**	<0.0020	0.0011	0.022	**0.015**	**0.022**	<0.0050	**0.056**	<0.015	<0.003	NT	**0.059**	NT	--	113
GU-V-2	7/16/13	<0.0010	**0.0072**	**0.16**	<0.0020	<0.0010	**0.0056**	**0.013**	<0.010	<0.0050	**0.033**	<0.015	<0.003	<0.0002	**0.013**	**0.021**	--	-
GU-V-2	7/16/13	<0.0010	**0.0037**	**0.11**	<0.0020	<0.0010	<0.0040	**0.012**	<0.010	<0.0050	**0.028**	<0.015	<0.003	<0.0002	<0.0050	**0.014**	--	**filtered**
GU-V-2	8/28/13	<0.0010	**0.008**	**0.17**	<0.0020	<0.0010	<0.0040	**0.013**	<0.010	<0.0050	**0.034**	<0.015	<0.003	<0.0002	<0.0050	**0.01**	--	-
GU-V-2	8/28/13	<0.0010	**0.0084**	**0.19**	<0.0020	<0.0010	<0.0040	**0.014**	<0.010	<0.0050	**0.038**	<0.015	<0.003	<0.0002	<0.0050	**0.015**	--	**filtered**
GU-V-2	5/21/14	<0.0010	**0.019**	**0.29**	<0.0020	<0.0010	<0.0040	**0.011**	**0.085**	<0.0050	**0.037**	<0.015	<0.003	<0.0002	<0.0050	**0.026**	--	14

Table 7 - Detection Monitoring Summary - Appendix I Metals

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Antimony	Arsenic	Barium	Beryllium	Cadmium	Chromium	Cobalt	Copper	Lead	Nickel	Selenium	Silver	Thallium	Vanadium	Zinc	TSS	Turbidity
	Units	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*	*mg/L*	*mg/L*	*mg/L*	*mg/L*	*NTU*
MCL/GWPS	--	0.006	0.01	2	0.004	0.005	0.1	~~0.007~~ 0.0021 [1]	1.3	0.015	0.1	0.05	0.1	0.002	~~0.049~~ 0.035[1]	2	--	--
GU-V-2	10/7/14	<0.0010	**0.014**	**0.14**	<0.0020	<0.0010	<0.0040	**0.0077**	<0.010	<0.0050	**0.031**	<0.015	<0.003	<0.0002	<0.0050	<0.01	--	11.4
GU-V-2	5/12/15	<0.0010	**0.0057**	**0.11**	<0.0020	<0.0010	<0.0040	**0.0077**	<0.010	<0.0050	**0.025**	<0.015	<0.003	<0.002	<0.0050	<0.01	5.6	7.1
GU-V-2	10/13/15	<0.0010	**0.0022**	**0.091**	<0.0020	<0.0010	<0.0040	**0.0061**	<0.010	<0.0050	**0.027**	<0.015	<0.003	<0.002	<0.0050	<0.01	<4	4.9
GU-V-2	8/29/16	**0.0036**	**0.0038**	**0.085**	<0.0020	<0.0010	<0.0040	**0.0058**	<0.010	<0.0050	**0.022**	<0.015	<0.003	**0.0002**	<0.0050	<0.01	4.8	13.9
GU-V-2	11/9/16	<0.0010	**0.0025**	**0.077**	<0.0020	<0.0010	<0.0040	**0.006**	**0.022**	**0.0063**	**0.019**	<0.015	<0.003	**0.0002**	<0.0050	**0.01**	<4	17.9
GU-V-2	2/16/17	**0.0069**	**0.0028**	**0.074**	<0.0020	<0.0010	<0.0040	**0.007**	**0.012**	<0.01	**0.029**	<0.015	<0.003	**0.00031**	<0.0050	**0.012**	<4	--
GU-V-2	5/16/17	<0.0010	**0.012**	**0.063**	<0.0020	<0.0010	<0.0040	**0.012**	<0.010	<0.0050	**0.023**	<0.015	<0.003	<0.0002	<0.0050	**0.011**	4.8	6
GU-V-2	10/23/17	**0.0013**	**0.0026**	**0.07**	<0.0020	<0.0010	<0.0040	**0.006**	<0.010	<0.0050	**0.02**	<0.015	<0.003	<0.0002	<0.0050	<0.01	<4	4.2
GU-V-2	5/20/20	**0.0026**	**0.00693**	**0.0342**	<0.0020	<0.0010	<0.0020	<0.0020	**0.117**	<0.0020	**0.00359**	<0.0020	<0.0020	<0.0020	<0.0050	**0.0655**	14.5	12.1
GU-V-2	5/11/23	**0.00587**	<0.002	**0.0472**	<0.002	<0.001	<0.002	<0.002	**0.0905**	<0.002	**0.00536**	<0.002	<0.002	<0.002	<0.005	**0.103**	<4.0	NT

Notes:

Metals parameters, as per IAC Chapter 113 Appendix I

MCL = U.S. EPA maximum contaminant level

GWPS = Iowa Statewide Groundwater Protection Standard for Contaminants in Groundwater (protected Groundwater Source)

NT = Not Tested

[1] = Revised standard, per IDNR 2018

[2] = Monitoring wells MW-115, MW-130, & MW-131 sealed August 2022

* = MW-2A pump pulled on 5/19/20 to release stuck check ball resulting in higher turbidity

Denotes reported concentration above MCL or GWPS

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Tricholoethane	1,1,2,2,-Tetrachloroethane	1,1,2,-Trichloroethane	1,1,-Dichloroethane	1,1,-Dichloroethene	1,2,3-Trichloropane	1,2-Dibromo-3-Chloropropane (DBCP)	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	70	200	0.3	5	140	7	0.0058	0.2	0.05	600	5	5	75	--	--	560	6300
MW-2A	3/26/08	<5.7	<3.0	<2.2	<1.7	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<5.7	<19
MW-2A	5/19/08	<5.7	<3.0	<2.2	<1.7	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	6/26/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	8/20/08	<5.7	<3.0	<2.2	<1.7	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	9/29/08	<5.7	<3.0	<2.2	<1.2	<3.0	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.6	<19
MW-2A	3/25/09	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	9/29/09	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-2A	9/27/11	<5.7	<3.0	<2.3	<1.3	<2.6	<4.9	<4.1	<9.2	<2.5	<3.4	<2.9	<1.5	<4.4	<9.8	<35	<3.1	<19
MW-2A	3/29/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-2A	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-2A	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	NT	NT	NT	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-2A[1]	5/11/23	NT	NT	NT	NT	NT	NT	<0.0058	<0.2	<0.05	NT	NT	NT	NT	NT	NT	NT	NT
MW-11	3/26/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	5/19/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	6/26/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	8/20/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	9/29/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	3/25/09	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	10/1/09	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	9/25/12	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-11	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-11	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-11	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromoethane	Ethylbenzene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	0.32	5	90	80	80	10	700	5	100	2800	80	--	70	--	80	70	700
MW-2A	3/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	5/19/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	6/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	8/20/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	9/29/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	3/25/09	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	9/29/09	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-2A	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<16	<4.3	<5.1	<2.6	<5.10	<2.8	<11	<2.7	<2.9	<3.1	<2.6	<6.0
MW-2A	3/29/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	11/10/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-2A[1]	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-11	3/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	5/19/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	6/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	8/20/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	9/29/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	3/25/09	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	10/1/09	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	9/25/12	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-11	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-11	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Iodomethane	Methlyene Chloride	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Xylenes, Total
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	--	5	100	5	1000	100	--	1.8	5	2000	--	2	10000
MW-2A	3/26/08	<5.0	<4.1	<10	<1.4	<2.5	<4.5	<2.2	<8.5	<3.2	<7.5	<5.2	<2.0	<3.7
MW-2A	5/19/08	<5.0	<4.1	<10	<1.4	<2.5	<4.5	<2.2	<8.5	<3.2	<7.5	<5.2	<2.0	<3.7
MW-2A	6/26/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-2A	8/20/08	<5.0	<4.1	<10	<1.4	<2.5	<4.5	<2.2	<8.5	<3.2	<7.5	<5.2	<2.0	<3.7
MW-2A	9/29/08	<5.0	<4.1	<10	<1.4	<2.5	<4.5	<2.2	<8.5	<3.2	<7.5	<3.4	<2.0	<3.7
MW-2A	3/25/09	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-2A	9/29/09	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-2A	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-2A	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-2A	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-2A	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-2A	3/29/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-2A	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-2A	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-2A[1]	5/11/23	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
MW-11	3/26/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	5/19/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	6/26/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	8/20/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	9/29/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	3/25/09	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	10/1/09	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	9/25/12	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-11	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-11	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-11	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Tricholoethane	1,1,2,2,-Tetrachloroethane	1,1,2,-Trichloroethane	1,1,-Dichloroethane	1,1,-Dichloroethene	1,2,3-Trichloropane	1,2-Dibromo-3-Chloropropane (DBCP)	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	70	200	0.3	5	140	7	0.0058	0.2	0.05	600	5	5	75	--	--	560	6300
MW-110	3/26/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	5/19/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	6/26/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	8/20/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	9/29/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	3/25/09	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	10/1/09	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-110	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-110	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-110	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-115	3/26/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	5/19/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	6/26/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	8/20/2008	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	9/29/08	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	3/25/2009	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	9/30/2009	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-115	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-115[2]	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromoethane	Ethylbenzene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	0.32	5	90	80	80	10	700	5	100	2800	80	--	70	--	80	70	700
MW-110	3/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	5/19/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	6/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	8/20/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	9/29/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	3/25/09	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	10/1/09	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-110	3/28/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-110	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	3/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	5/19/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	6/26/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	8/20/2008	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	9/29/08	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	3/25/2009	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	9/30/2009	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-115	3/28/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	6/2/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-115[2]	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Iodomethane	Methlyene Chloride	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Xylenes, Total
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	--	5	100	5	1000	100	--	1.8	5	2000	--	2	10000
MW-110	3/26/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	5/19/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	6/26/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	8/20/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	9/29/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	3/25/09	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	10/1/09	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-110	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-110	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-110	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-115	3/26/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	5/19/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	6/26/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	8/20/2008	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	9/29/08	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	3/25/2009	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	9/30/2009	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-115	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-115[2]	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Tricholoethane	1,1,2,2,-Tetrachloroethane	1,1,2,-Trichloroethane	1,1,-Dichloroethane	1,1,-Dichloroethene	1,2,3-Trichloropane	1,2-Dibromo-3-Chloropropane (DBCP)	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	70	200	0.3	5	140	7	0.0058	0.2	0.05	600	5	5	75	--	--	560	6300
MW-117	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-117	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-117	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-117	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-117	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-117	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-117	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-117	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-117	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-118	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-118	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-118	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-118	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-118	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-118	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-118	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-118	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-118	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-123	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-123	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-123	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-123	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-123	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-123	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-123	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-123	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-123	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-7A	9/29/2009	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-7A	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-7A	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-7A	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-7A	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-7A	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-7A	5/19/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-7A	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromoethane	Ethylbenzene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	0.32	5	90	80	80	10	700	5	100	2800	80	--	70	--	80	70	700
MW-117	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	11/10/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-117	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	11/10/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-118	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-123	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	9/29/2009	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-7A	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-7A	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-7A	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-7A	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-7A	3/28/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	11/10/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	5/19/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-7A	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Iodomethane	Methlyene Chloride	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Xylenes, Total
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	--	5	100	5	1000	100	--	1.8	5	2000	--	2	10000
MW-117	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-117	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-117	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-117	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-117	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-117	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-117	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-117	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-117	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-118	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-118	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-118	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-118	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-118	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-118	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-118	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-118	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-118	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-123	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-123	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-123	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-123	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-123	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-123	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-123	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-123	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-123	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-7A	9/29/2009	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-7A	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-7A	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-7A	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-7A	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-7A	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	11/10/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-7A	5/19/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-7A	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Tricholoethane	1,1,2,2,-Tetrachloroethane	1,1,2,-Trichloroethane	1,1,-Dichloroethane	1,1,-Dichloroethene	1,2,3-Trichloropane	1,2-Dibromo-3-Chloropropane (DBCP)	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	70	200	0.3	5	140	7	0.0058	0.2	0.05	600	5	5	75	--	--	560	6300
MW-130	9/29/2009	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-130	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	**27**	<34	<3.0	**65**
MW-130	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-130	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-130	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-130	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-130[2]	5/20/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-131	9/29/2009	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-131	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-131	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-131	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-131	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-131	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-131[2]	5/20/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-132	9/29/2009	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-132	3/31/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-132	9/22/10	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-132	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-132	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-132	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromoethane	Ethylbenzene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	0.32	5	90	80	80	10	700	5	100	2800	80	--	70	--	80	70	700
MW-130	9/29/2009	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-130	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-130	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-130	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-130	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-130	3/28/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	6/2/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-130[2]	5/20/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	9/29/2009	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-131	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-131	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-131	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-131	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-131	3/28/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	6/2/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-131[2]	5/20/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	9/29/2009	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-132	3/31/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-132	9/22/10	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-132	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	**5.2**	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-132	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	**5.2**	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-132	3/28/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	6/2/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	10/13/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Iodomethane	Methlyene Chloride	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Xylenes, Total
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	--	5	100	5	1000	100	--	1.8	5	2000	--	2	10000
MW-130	9/29/2009	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-130	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-130	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-130	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-130	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-130	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-130[2]	5/20/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-131	9/29/2009	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-131	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-131	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-131	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-131	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-131	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-131[2]	5/20/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-132	9/29/2009	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-132	3/31/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-132	9/22/10	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-132	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-132	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-132	3/28/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	6/2/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	10/13/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	1,1,1,2-Tetrachloroethane	1,1,1-Tricholoethane	1,1,2,2,-Tetrachloroethane	1,1,2,-Trichloroethane	1,1,-Dichloroethane	1,1,-Dichloroethene	1,2,3-Trichloropane	1,2-Dibromo-3-Chloropropane (DBCP)	1,2-Dibromoethane (EDB)	1,2-Dichlorobenzene	1,2-Dichloroethane	1,2-Dichloropropane	1,4-Dichlorobenzene	2-Butanone	2-Hexanone	4-Methyl-2-pentanone	Acetone
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	70	200	0.3	5	140	7	0.0058	0.2	0.05	600	5	5	75	--	--	560	6300
MW-132	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-132	5/20/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-132	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-133	9/29/2009	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-133	9/22/2010	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-133	6/16/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-133	9/27/11	<5.7	<3.0	<2.2	<1.2	<2.5	<4.9	<4.1	<9.1	<2.4	<3.3	<2.8	<1.4	<4.3	<9.7	<34	<3.0	<19
MW-133	3/29/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	10/14/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<0.50	<1.0	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<10
MW-133	5/20/20	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10	<5.0	<5.0	<25
MW-133	5/11/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-134	6/21/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-134	10/3/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-134	4/25/24	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-134	10/24/24	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-135	6/21/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-135	10/3/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-135	4/25/24	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-135	10/24/24	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-136	6/21/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-136	10/3/23	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-136	4/25/24	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.01	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0
MW-136	10/24/24	<1.0	<1.0	<0.3	<1.0	<1.0	<1.0	<0.0058	<0.2	<0.05	<1.0	<1.0	<1.0	<1.0	<10.0	<5.0	<5.0	<25.0

Notes:

Volatile Organic Compound (VOC) Parameters, as listed in IAC Chapter 113, Appendix I

MCL = U.S. EPA maximum contaminant level

GWPS = Iowa Statewide Groundwater Protection Standard for Contaminants in Groundwater (protected Groundwater Source)

NT = Not Tested

[1] = Sample reanalyzed for 3 VOC parameters with corrected reporting limits; initial analysis completed with incorrect reporting limits due to laboratory error.

[2] = Monitoring wells MW-115, MW-130, & MW-131 sealed August 2022

Denotes reported concentration above MCL or GWPS

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Acrylonitrile	Benzene	Bromochloromethane	Bromodichloromethane	Bromoform	Bromomethane	Carbon Disulfide	Carbon Tetrachloride	Chlorobenzene	Chloroethane	Chloroform	Chloromethane	cis-1,2-Dichloroethene	cis-1,3-Dichloropropene	Dibromochloromethane	Dibromoethane	Ethylbenzene
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	0.32	5	90	80	80	10	700	5	100	2800	80	--	70	--	80	70	700
MW-132	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	5/20/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-132	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	9/29/2009	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-133	9/22/2010	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-133	6/16/11	<70	<3.1	<3.2	<3.6	<3.8	<15	<4.2	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-133	9/27/11	<70	<3.1	<3.2	<3.6	<3.8	<15	**5.2**	<5.0	<2.5	<5.9	<2.7	<10	<2.7	<2.9	<3.0	<2.5	<6.0
MW-133	3/29/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	9/25/12	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	3/26/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	11/20/13	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	5/21/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	10/7/14	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	5/11/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	10/14/15	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	5/24/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	11/9/16	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	5/15/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	10/23/17	<5.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	5/20/20	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-133	5/11/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-134	6/21/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-134	10/3/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	**1.08**	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-134	4/25/24	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-134	10/24/24	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-135	6/21/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-135	10/3/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-135	4/25/24	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-135	10/24/24	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-136	6/21/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-136	10/3/23	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-136	4/25/24	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0
MW-136	10/24/24	<0.32	<1.0	<1.0	<1.0	<1.0	<2.5	<1.0	<1.0	<1.0	<2.5	<1.0	<1.25	<1.0	<1.0	<1.0	<1.0	<1.0

Notes:

Volatile Organic Compound (VOC) Parameters, as listed in IAC Chapter 113, Appendix I

MCL = U.S. EPA maximum contaminant level

GWPS = Iowa Statewide Groundwater Protection Standard for Contaminants in Groundwater (protected Groundwater Source)

NT = Not Tested

[1] = Sample reanalyzed for 3 VOC parameters with corrected reporting limits; initial analysis completed with incorrect reporting limits due to laboratory error.

[2] = Monitoring wells MW-115, MW-130, & MW-131 sealed August 2022

Denotes reported concentration above MCL or GWPS

Table 8 - Detection Monitoring Summary - Appendix I VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Location	Sample Date	Iodomethane	Methlyene Chloride	Styrene	Tetrachloroethene	Toluene	trans-1,2-Dichloroethene	trans-1,3-Dichloropropene	trans-1,4-Dichloro-2-butene	Trichloroethene	Trichlorofluoromethane	Vinyl Acetate	Vinyl Chloride	Xylenes, Total
	Units	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L	µg/L
MCL/GWPS	--	--	5	100	5	1000	100	--	1.8	5	2000	--	2	10000
MW-132	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-132	5/20/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-132	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-133	9/29/2009	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-133	9/22/2010	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-133	6/16/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-133	9/27/11	<5.0	<4.1	<10	<1.2	<2.5	<4.5	<2.2	<5.0	<3.2	<7.5	<2.3	<2.0	<3.0
MW-133	3/29/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	9/25/12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	3/26/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	11/20/13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	5/21/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	10/7/14	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	5/11/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	10/14/15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	5/24/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	11/9/16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	5/15/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	10/23/17	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<1.0	<5.0	<1.0	<2.0
MW-133	5/20/20	<10	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-133	5/11/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-134	6/21/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-134	10/3/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-134	4/25/24	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-134	10/24/24	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-135	6/21/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-135	10/3/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-135	4/25/24	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-135	10/24/24	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-136	6/21/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-136	10/3/23	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-136	4/25/24	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5
MW-136	10/24/24	<10.0	<2.5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<2.5	<5.0	<1.0	<1.5

Notes:

Volatile Organic Compound (VOC) Parameters, as listed in IAC Chapter 113, Appendix I

MCL = U.S. EPA maximum contaminant level

GWPS = Iowa Statewide Groundwater Protection Standard for Contaminants in Groundwater (protected Groundwater Source)

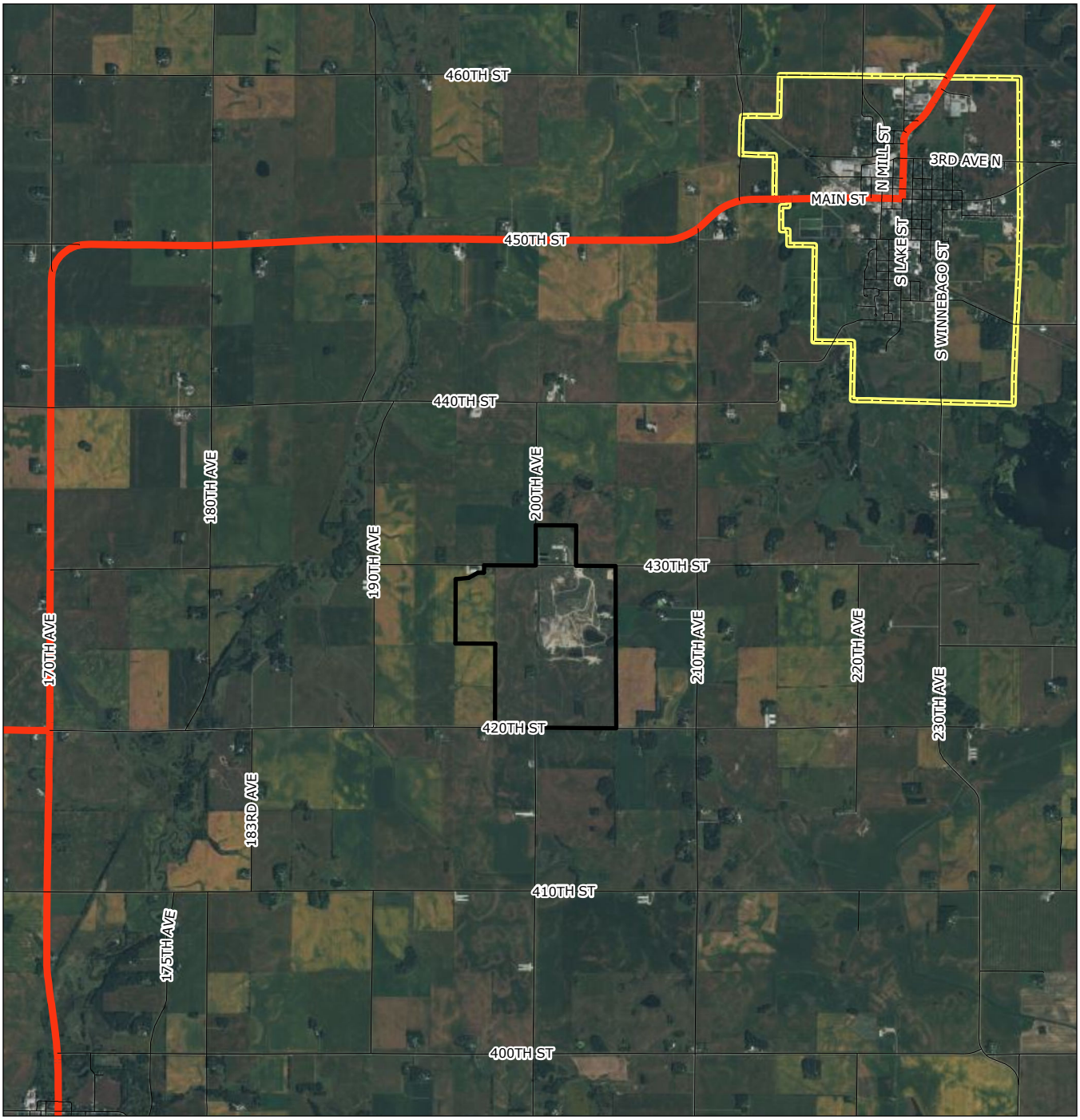
NT = Not Tested

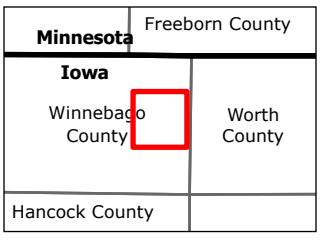
[1] = Sample reanalyzed for 3 VOC parameters with corrected reporting limits; initial analysis completed with incorrect reporting limits due to laboratory error.

[2] = Monitoring wells MW-115, MW-130, & MW-131 sealed August 2022

Denotes reported concentration above MCL or GWPS

Figures





Legend

- City of Lake Mills
- Landfill Property Boundary
- State Highway
- Local Road

0 2,500 5,000 Feet

(At original document size of 8.5x11)
1:60,000

N

Stantec

Project Location
T99N, R23W, S21
Lake Mills, Winnebago Co., IA

Prepared by BS on 2025-01-13

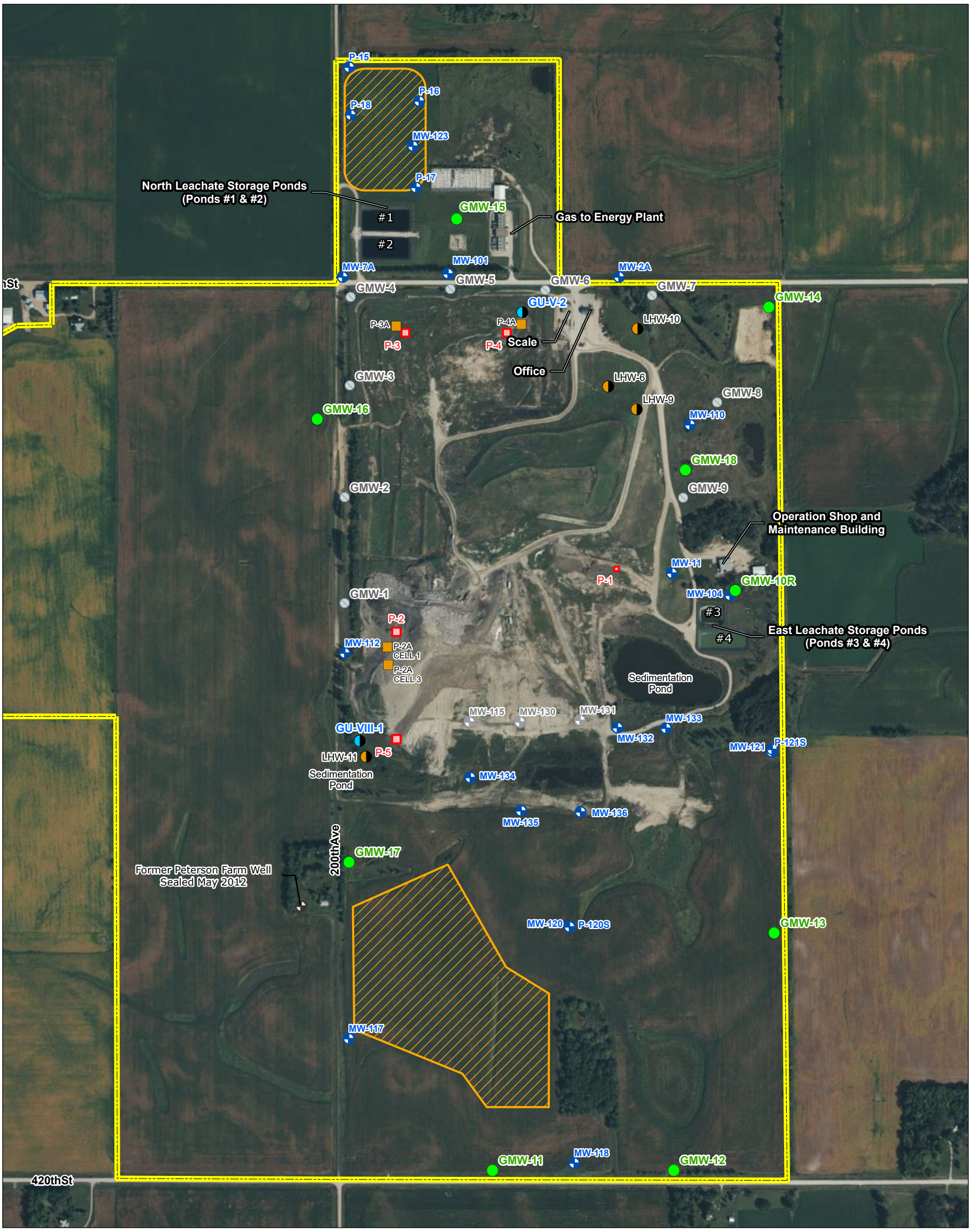
Client/Project
Waste Management Inc.
WM Central Disposal Landfill
2024 Annual Report

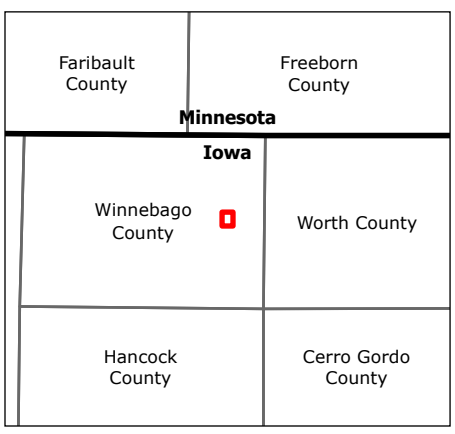
227702549

Figure No.
1

Title
Site Location Map

Notes
1. Coordinate System: NAD 1983 UTM Zone 15N
2. Data Sources: Bing Maps
3. Background: Bing Aerial Imagery





Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Bing Maps
3. Background: Bing Aerial Imagery

Legend

- Property Line
- Monitorable Well
- Sealed Monitorable Well
- Sealed Private Well
- Leachate Head Well
- Alternate Leachate Head Well
- Sealed Gas Monitoring Probe
- Groundwater Underdrain
- Subsurface Gas Monitoring Probe
- Leachate Sump
- Former Spray Irrigation Site (Permit Terminated 2017)

0 300 600 Feet

(At original document size of 11x17)
1:7,200

N

Stantec

Project Location
T99N, R23W, S21
Lake Mills, Winnebago Co., IA

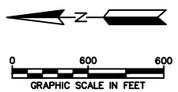
Prepared by JCS on 2025-01-13

Client/Project 227702549
Waste Management Inc.
WM Central Disposal Landfill
2024 Annual Report

Figure No.
2

Title
Landfill Monitoring Network

Plot Date & Time: 24 January 2025 3:16 PM



LEGEND

- FENCE LINE
- APPROXIMATE PROPERTY LINE
- ROAD
- SECONDARY ROAD
- BUILDING
- CULVERT
- 1300 EXISTING CONTOUR
- MW-104 MONITORABLE WELL
- MW-115 SEALED MONITORABLE WELL
- X GMW-8 GAS MONITORING WELL
- LHW-9 LEACHATE HEAD WELL
- GU-V-2 GROUNDWATER UNDERDRAIN
- PHASE/CELL BOUNDARY

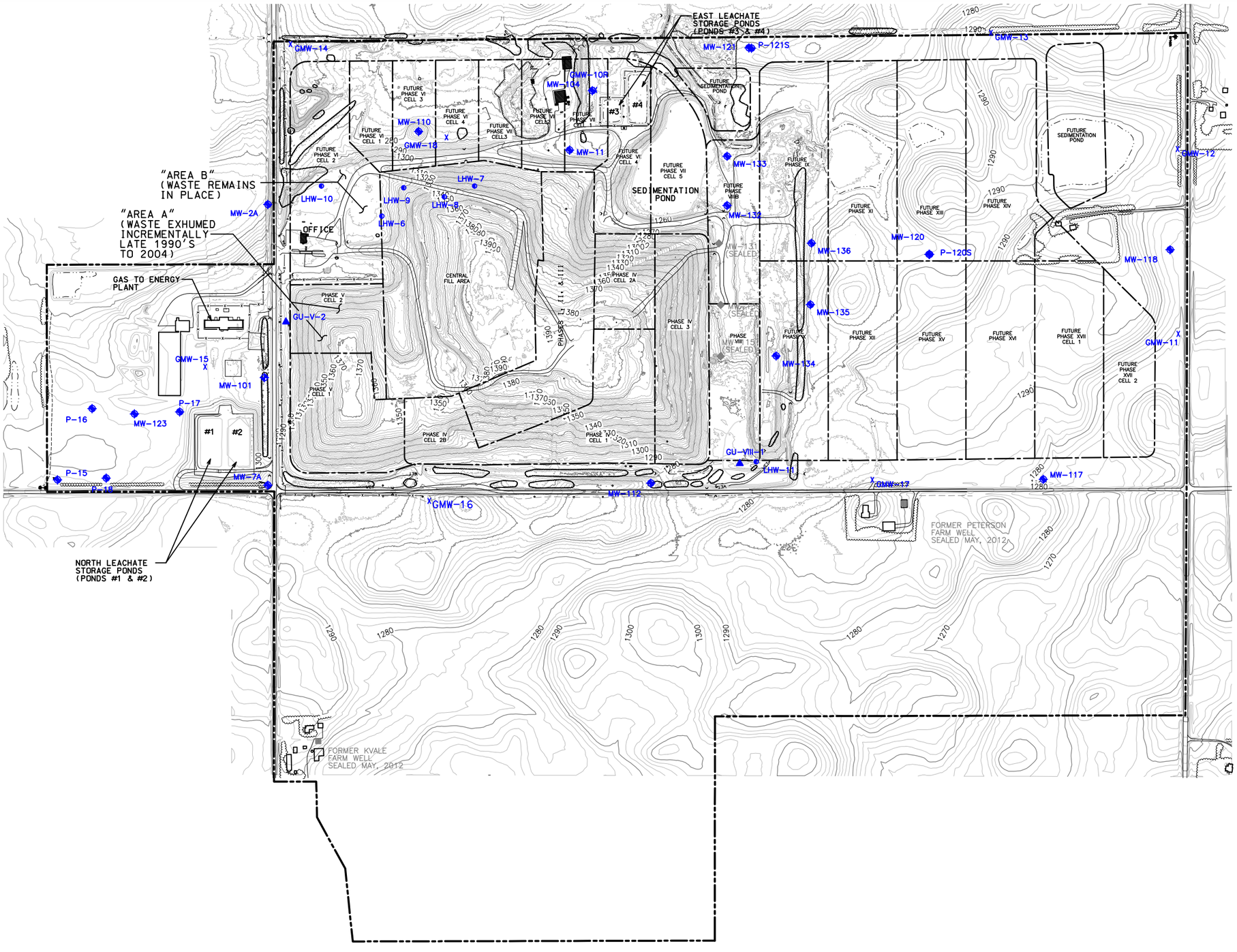
NOTES:

TOPOGRAPHY AND PLANIMETRIC FEATURES FOR A PORTION OF NORTH 40 ACRES, A PORTION OF SOUTH 160 ACRES, AND WEST PROPERTY BASED ON AERIAL PHOTO BY AEROMETRIC, INC. APRIL, 2014.

TOPOGRAPHY AND PLANIMETRIC FEATURES FOR NORTH 160 ACRES BASED ON AERIAL PHOTO BY WILLIAMS AERIAL & MAPPING, INC. APRIL 11, 2015. MOST RECENTLY UPDATED FEBRUARY 14, 2024.

ALL ON-SITE FACILITY AND MONITORING POINT ELEVATIONS ARE 0.92' LOWER THAN USGS BENCHMARKS.

PROPERTY LINE INFORMATION OBTAINED FROM CDS, INC.



REV	REVISION DESCRIPTION	DWN	APP	REV DATE

SEAL

PRIME CONSULTANT

Stantec

PROJECT TITLE
2024 ANNUAL WATER QUALITY MONITORING REPORT

CENTRAL DISPOSAL LANDFILL
CENTRAL DISPOSAL SYSTEMS

WINNEBAGO COUNTY, IOWA

SHEET TITLE
EXISTING CONDITIONS AND MONITORING LOCATIONS

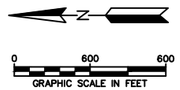
DWN BY	CHK'D	APP'D	DWG DATE
JJT	CDK	CJA	JAN. 2025

SCALE AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
227702549	FIGURE 3	0

I:\227702549\technical\Annual Reports\2024\drafting\cad\civil\Figure 3_Existing Conditions.dwg

Plot Date & Time: 29 January 2025 4:18 PM



LEGEND

- FENCE LINE
- APPROXIMATE PROPERTY LINE
- ROAD
- SECONDARY ROAD
- BUILDING
- CULVERT
- EXISTING CONTOUR
- MONITORABLE WELL
- SEALED MONITORABLE WELL
- GAS MONITORING WELL
- LEACHATE HEAD WELL
- GROUNDWATER UNDERDRAIN
- PHASE/CELL BOUNDARY
- GROUNDWATER CONTOUR
- INFERRED GROUNDWATER CONTOUR
- GROUNDWATER FLOW DIRECTION

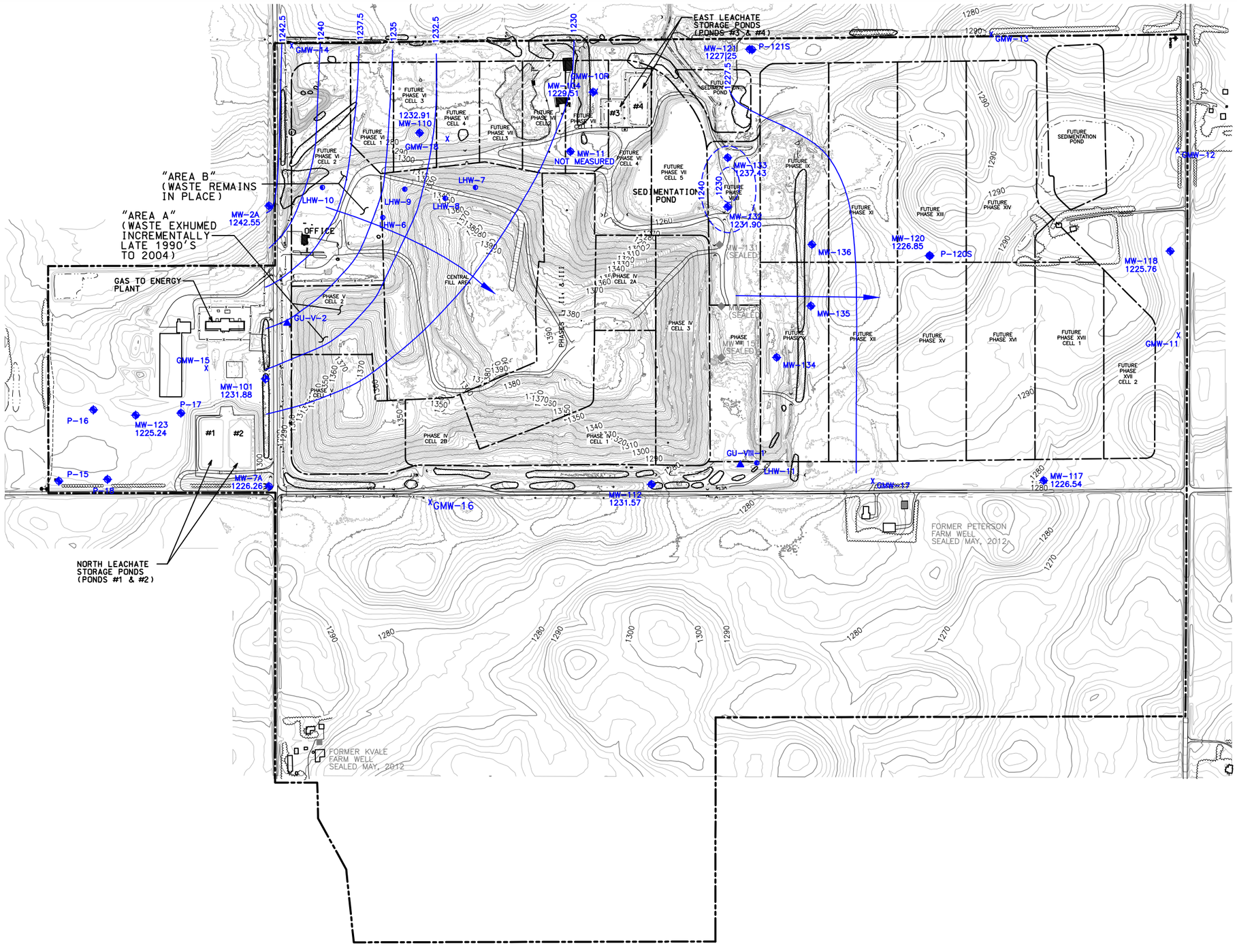
NOTES:

TOPOGRAPHY AND PLANIMETRIC FEATURES FOR A PORTION OF NORTH 40 ACRES, A PORTION OF SOUTH 160 ACRES, AND WEST PROPERTY BASED ON AERIAL PHOTO BY AEROMETRIC, INC. APRIL, 2014.

TOPOGRAPHY AND PLANIMETRIC FEATURES FOR NORTH 160 ACRES BASED ON AERIAL PHOTO BY WILLIAMS AERIAL & MAPPING, INC. APRIL 11, 2015. MOST RECENTLY UPDATED FEBRUARY 14, 2024.

ALL ON-SITE FACILITY AND MONITORING POINT ELEVATIONS ARE 0.92' LOWER THAN USGS BENCHMARKS.

PROPERTY LINE INFORMATION OBTAINED FROM CDS, INC.



REV	REVISION DESCRIPTION	DWN	APP	REV DATE

SEAL

PRIME CONSULTANT

Stantec

PROJECT TITLE
2024 ANNUAL WATER QUALITY MONITORING REPORT

CENTRAL DISPOSAL LANDFILL
CENTRAL DISPOSAL SYSTEMS

WINNEBAGO COUNTY, IOWA

SHEET TITLE
GROUNDWATER CONTOURS
JULY 19, 2024

DWN BY	CHK'D	APP'D	DWG DATE	JAN. 2025
JJT	CDK	CJA	SCALE	AS SHOWN

PROJECT NO.	SHEET NO.	REV NO.
227702549	FIGURE 4	0

I:\227702549\technical\Annual Reports\2024\drafting\cad\cdr\Figure 4_Fall GW Contours.dwg

Appendices

Appendix A Leachate Control System Performance (LCSPE) Report

Stantec

2024 LEACHATE CONTROL SYSTEM PERFORMANCE EVALUATION ANNUAL REPORT

Permit #95-SDP-1-71P

January 31, 2025

Prepared for:
Central Disposal Systems, Inc.
21265-430th Street
Lake Mills, Iowa 50450

Prepared by:
Stantec Consulting Services, Inc.
One Carlson Parkway, Suite 100
Plymouth, MN 55447

Project Number:
22772549

2024 Leachate Control System Performance Evaluation Annual Report
Signature Page
January 2025

I hereby certify that this report was prepared by me or under my direct supervision, and that I am a duly licensed Professional Engineer under the laws of the State of Iowa.

Megan Ambuehl

Megan Ambuehl, P.E.
State Registration No. 22598
License Renewal Date: 12/31/2026

1-31-2025
Date

Table of Contents

1 System Overview

1.1 Introduction

This Leachate Control System Performance Evaluation Annual Report for the Year 2024 for the Central Disposal Systems, Inc. (CDS) Landfill was prepared by Stantec Consulting Services, Inc. (Stantec) to document the activities related to the effectiveness of the Leachate Control System (LCS), in fulfillment of the Permit No. 95-SDP-1-72 (most recently issued on October 18, 2022 and revised February 27, 2024) Special Provision #2b, and Iowa Department of Natural Resources (IDNR) Code 113.7(5)b.(14)).

1.2 System Overview

The permitted Leachate Control System (LCS) at the landfill consists of these basic components:

- leachate collection in the landfill
- storage and pretreatment pond system
- leachate recirculation system in the lined area of Phase V (not used 2024)

The site formerly operated spray irrigation sites as well for leachate management; however, the spray irrigation site permit was terminated in 2017.

Leachate collected from the spoke system in the Central Fill Area, and from precipitation which infiltrates within the lined landfill footprint, is collected in the continuous, leachate drainage layer overlying the composite-lined cells. Perforated, high-density polyethylene (HDPE) piping intercepts the leachate flow in the drainage layer and conveys the leachate to five sumps (Phase I, Phase IV, and Phase V, Cell 1, and Phase V, Cell 2, and Phase VIII) designated as P-1, P-2, P-3, P-4, and P-5, respectively. Note that the operation of the P-5 sump was new in 2023, following completion of construction of Phase VIII. Pumps located in the sumps have the capacity to pump leachate at a minimum rate of 25 gallons per minute, and transducers are set to maintain less than 12 inches of leachate head on the liner. The leachate is pumped via HDPE sideslope riser pipes and a forcemain to one of two sets of storage ponds.

Both sets of ponds (north leachate ponds, and east leachate ponds) are designed to be operated in series, in parallel, or independent of each other. The ponds have been numbered 1 through 4, working north to south, as a means of clarity when sampling and reporting. The east set of ponds (#3 and #4) currently receive leachate from Phase I (P-1 sump). The leachate pond system in the north 40-acre parcel (#1 and #2) accepts leachate from Phases IV, V, and VIII (P-2, P-3, P-4, and P-5 sumps).

In 2013, the southern leachate pond of the east pond set (#4) was expanded to the east resulting in a volume capacity increase of 1.2 million gallons to total operating storage capacity of 1.8 million gallons. Construction of the leachate pond expansion was performed in October and November 2013 and a construction documentation report dated December 2013, and entitled “Construction Observation Report, 2013 Southeast Leachate Pond Expansion” by Barker Lemar, was submitted to the IDNR and subsequently approved via permit amendment.

Leachate from the ponds is pumped into trucks and hauled to wastewater treatment plants in accordance with the requirement of each treatment facility. In 2024, leachate was hauled to the Albert Lea, MN and Mason City, IA treatment facilities.

No leachate was recirculated or applied at the working face in 2024.

1.3 Changes to the Leachate System in 2024

There were some changes and improvements to the leachate collection system implemented in 2024. CDS is currently undergoing construction that includes a forcemain addition to redirect leachate from the east ponds to the northern ponds, providing more flexibility for site operations. They are also undergoing upgrades to the loadout of the north ponds. CDS also discontinued use of the leachate pilot/evaporation demo system in 2024. The final report for the project was previously submitted to the IDNR.

It is anticipated that the in-progress improvements discussed above will be documented separately to the IDNR or included in the 2025 annual report with infrastructure locations shown at that time. Since up to date record information for in-place infrastructure is not available due to the in progress work, the typical detailed system figure is not included herein. Primary infrastructure and monitoring locations are provided on the attached **Figure 1.**

2 Maintenance of System

2.1 Leachate Line Cleaning

Leachate collection system cleaning was performed on July 30th, and July 31st, 2024, by Superior Jetting of Zimmerman, MN. The leachate line cleaning report is included as **Appendix A**. Leachate line cleaning is required to be completed every three years; CDS plans to have the leachate lines cleaned within the required 3-year timeframe from the prior cleaning event (next cleaning presumably in 2027).

2.2 Miscellaneous Maintenance Activities 2024

Routine maintenance activities related to the leachate collection system and head monitoring system were performed at the landfill in 2024. Maintenance activities are listed below. Additional details regarding maintenance activities related to sump liquid level readings are discussed in **Section 3.1.2**:

January	o P1 periodically inoperable and float issues. P5 had panel swap.
February	o P1 periodically inoperable and continued float issues.
March	o P1 periodically inoperable and continued float issues.
April	o P1 pump was repaired. P3 was inoperable for a time. Additional repairs were completed.
May	o P5 was inoperable for a time. Additional repairs were completed.
August	o P1 had miscellaneous repairs.
November	o P4 was inoperable for a time. Additional repairs were completed.
December	o P2 had panel issue and was repaired. P1 had maintenance.

Five precipitous leachate seepages occurred within the landfill footprint in 2024. They are explained in detail below:

1. The first seepage event occurred on January 11th, 2024, when leachate seepage migrated off liner in the SE corner of the landfill. The predicted cause of the seep was a frozen dual extraction pump that removes liquid from an existing leachate seep trench. With the cold temperatures, the seep followed the path of least resistance to the surface of the landfill. CDS was able to get the leachate cleaned up and the area repaired including the ditch along the slope of the landfill.

2. The second seepage event transpired on April 22nd, 2024, when CDS noticed a leachate seep/overflow on the east side of the landfill near the P1 side slope riser vault. Release was caused by the pump failing during a rain event. The pump was subsequently replaced, and the area was cleaned by excavating and hauling impacted soils to the active area.

3. The third seepage event emerged on April 29th, 2024, when a seep was spotted off liner on the east side of the landfill near the collector identified as French Drain 1 (FD1). FD1 was an existing pipe for an air pump to dewater a rock trench. Over time the trench experienced heavy sediment

so the liquid could not reach the pump. This caused a large seep that was contained in the perimeter ditch of the landfill. The liquid leachate was pumped into a water truck and hauled to the leachate ponds. The area was left open to drain while monitored closely. A contractor was hired to clean up the impacted soils, install a new rock trench, and regrade the slope to promote drainage. The stormwater pond was tested after this event (no impacts detected).

4. The fourth seepage event occurred on May 10th, 2024, when the site identified leachate off liner in the west perimeter ditch of the landfill. The issue was identified at the P-2 sideslope riser in the southwest corner which had backed up and overflowed the containment structure. The leachate was contained in the ditch and was not allowed to drain to the stormwater pond. The leachate was pumped into the water truck and hauled to the leachate ponds. The impacted soils were then excavated and hauled to the active area.

5. The fifth seepage event occurred on December 16th, 2024, when the site identified leachate in the ditch starting in the north and around the southwest corner. The issue could not be identified at that moment, but the leachate was contained in the ditch. On December 20th, a condensate line that was broken was repaired as this was believed to be the cause of the leachate issue. During the week of December 30th, the leachate breached the containment in the southwest corner during a snowmelt and flowed to a culvert where it was stopped in the southeast corner. In the ensuing weeks, more leachate was again identified in the ditch. On January 7th, 2025, it was recognized that a break in the outside of the leachate forcemain east of P-3 was the root cause of the leachate issues. P-3 and P-4 were both shut off until a repair could be made. On January 9th, 2025, the forcemain was exposed and CDS discovered a flange that had rusted through. A new flange was installed, and the pumps were turned back on. Currently the leachate still sits in the ditch as weather has been a challenge in the cleanup, but the leachate remains contained in the ditch and is visually monitored regularly to confirm that containment.

3 Leachate Control System Performance Evaluation

3.1 Leachate Head Elevation Monitoring

3.1.1 OLD LEACHATE HEAD WELLS

A network of leachate head wells has historically been monitored for leachate elevations in the Central Fill Area and the old waste areas. Leachate head wells have been abandoned over time as filling progresses in these areas. It is noted that the abbreviations for leachate head wells have included both “LHW” and “LW” (i.e. LHW-9 is the same as LW-9). “LHW” is the preferred and most used abbreviation. Leachate head wells LHW-6, LHW-9, LHW-10, and LHW-11 have continued to be measured by Alliance Analytical Services (Alliance), formerly Interpoll Laboratories, and were measured once in 2024. Leachate head well LHW-9 monitors the Central Fill Area, LHW-6 and LHW-10 monitor leachate head in Old Waste Area “B”, and LHW-11 monitors leachate head in the recently constructed cell (Phase VIII). **Figure 1** shows the locations of LHW-6, LHW-9, LHW-10, and LHW-11.

The leachate elevation data for LHW-6, LHW-9, and LHW-10 as recorded as depth to water below the top of well casing, are summarized in **Table 1** and shown graphically in **Figure 2**. Note that LHW-10 was buried by site operations and no data was recorded for a number of years. Site landscaping/maintenance work in the area recovered the LHW location and monitoring resumed in 2018, as reflected on **Table 1** and **Figure 2**.

The historical measurements from LHW-9 included an anomalous spike in elevation beginning in June 1999. An explanation for this elevation spike was included in the 2016 report. Corrected leachate head measurements using the top-of-casing elevation of 1328.28 are provided on **Table 1** and **Figure 2**.

LHW-11 showed a significant change in leachate head elevation. The anomalous measurement for LHW-11 is likely related to the significant rain events that occurred in spring through early summer 2024 and is not indicative of actual head on liner based on the primary compliance point data. There has not been enough data collected at LHW-11 to identify a trend or inform on actual conditions at this time. Recorded data is reflected on **Table 1**.

3.1.1.1 Old Leachate Head Well Viability

The viability of the old leachate head wells has been questioned for some time as it is believed that they are not representative of true leachate head owing to factors such as their physical condition (all were installed in 1993) and infiltration of surface drainage along the well casings. As reported in the 2016 annual report, in 2016, CDS took several measures to address the leachate head well viability, including excavating soils and backfilling with bentonite around the LHW-9 casing and purging both LHW-9 and LHW-6. However, the recorded data since then continues to raise questions of the reliability of the data. The wells were installed in 1993 and over time have deteriorated, become obstructed at shallower depths, and do not provide viable or useful data regarding leachate head. Measurements appear to have

stabilized over the last few years; however, measured depth to water represents elevated measurements because of obstruction and surface water infiltrations and is not indicative of actual leachate head.

3.1.2 HEAD ON LINER

In accordance with Subrule 113.7(5) b (3) of the IAC, leachate head on the liner is monitored by a pressure transducer-controlled pump system in the sumps, with an LCD readout that is monitored in accordance with the site permit requirements. To allow for the proper operation of the pump, the allowable depth of leachate is the depth of the sump plus 1 foot. The depths of the sumps and corresponding maximum head levels are as follows:

	Sump Depth (inches)	Maximum Sump Leachate Level (inches)
Phase I Sump (P1)	24	36
Phase IV Sump (P2)	48	60
Phase V, Cell 1 Sump (P3)	48	60
Phase V, Cell 2, Sump (P4)	72	84
Phase VIII Sump (P5)	72	84

Leachate head levels at the sump locations were collected monthly in accordance with the site permit. MSW Landfill Criteria Technical Manual (EPA 530-R- 093-017) specifically acknowledges that the 12-inches (30-cm) head allowance is a design standard and may be exceeded for relatively short periods of time during the active life of a landfill. P1 had exceedances in January-April, July-August, and December 2024 at 91.5, 64.0, 99.5, 89.8, 48.1, 168.8, and 44.5 inches, respectively (exceedance level is 36.1 inches). These exceedances are due to overall P1 pump and float issues and the ongoing east side leachate pond issues, previously described in this report. From January through April, the pump was inoperable at times with consistent float issues causing the spike in readings. The pump was repaired later in the month of April where numbers then subsided under exceedance limit in the subsequent months. In July through August, P1 was shut off momentarily for repairs where numbers then decreased under exceedance limit once repairs were concluded. In December, P1 had maintenance later in the month causing the slight exceedance. P2 had one exceedance in December 2024 at 304.9 inches (exceedance level is 60 inches). This exceedance is attributed to a panel issue. This panel issue occurred early in December and was repaired. Readings showed that head levels subsided to under the exceedance levels again later in the month once repair was completed. Recorded data at P3 indicated negative values in March through May. The site confirmed that the transducer was bad and repairs/replacement was completed to correct the issue. P3 measurements were compliant for all other months in 2024. P4 and P5 measurements were compliant for all of 2024. The recorded leachate head

levels at the compliance points are included in **Table 2**, along with brief comments regarding maintenance activities (also noted in **Section 2.2**).

In addition to the primary leachate sumps, there are alternate leachate head monitoring points located in Phase IV, Cells 1 and 3 and Phase V, Cells 1 and 2. These locations, as well as the sumps, are indicated on **Figure 1**. Alternate head level monitoring point records are not available for 2024 due to equipment failure(s) at the alternate head level monitoring points and overall staff turnover (data was either not recorded or collected data cannot be found). CDS is working to address the equipment failure(s) and will replace with new measurement equipment in 2025 as well as work with staff to ensure a complete data record is kept.

Based on the data collected at the primary compliance points, when the leachate management system is consistently operating and maintained, leachate head level requirements are sustained at the site. Operational and equipment challenges in 2024 led to short-term exceedances as described above. CDS has a plan in place to modify system infrastructure in 2025 to correct the issues at the P1 location.

3.2 Leachate Removal

From January 1, 2024, to December 31, 2024, the following volumes of leachate were removed from the landfill:

Location	Sump Designation	Volume (gallons)
Phases I-III	P-1	2,319,360
Phase IV	P-2	3,391,020
Phase V, Cell 1	P-3	1,278,900
Phase V, Cell 2	P-4	1,466,460
Phase VIII	P-5	4,600,152
	Total	13,055,892

The following table illustrates the leachate generation rates for 2024 in a comparison to leachate generation from the previous 3 years:

Year	2024	2023	2022	2021
Leachate Generation (gal)	13,055,892*	6,105,397	10,216,636	6,003,562

*includes Phase VIII (P-5)

Note that CDS constructed a new cell in 2023 (Phase VIII) with the pumping system coming online in late 2023 and installed a dual extraction gas system at the site in 2022. Operation of the system increased the leachate production at the site compared to prior years, as shown in the above table. There was also a significant amount of rainfall received in 2024, compared to historic average annual precipitation. It is anticipated that the leachate generation will continue to normalize over time as the system is operated and gas wells are kept dewatered.

In 2024, 9,915,098 gallons of leachate were hauled to the Albert Lea, MN POTW and 602,861 gallons of leachate were hauled to the Mason City, IA POTW. In total, 10,517,959 gallons of leachate were hauled to POTWs.

Leachate generation information is also provided on attached **Table 3.**

3.3 Leachate Storage and Treatment Ponds

The east leachate ponds (#3 and #4) were each initially sized to provide 600,000 gallons of leachate storage above a 3-foot minimum operating depth and below a 14-foot operating depth. An additional 2-feet of freeboard is provided for a total pond depth of 16 feet. The southeastern pond in this set of ponds (#4) was expanded in 2013 to provide an operating storage capacity of 1.8 million gallons.

The north leachate storage ponds (#1 and #2) are each sized to provide 1,356,000 gallons of leachate storage above a 3-foot minimum operating depth and below a 10-foot maximum operating depth. An additional 2 feet was provided as freeboard for a total pond depth of 12 feet. However, the 2-foot freeboard is not intended for operational capacity, therefore, the maximum operating depth will not exceed 10 feet. The north leachate ponds have been used for the storage of the leachate from Phases IV and V since July 2006; Phase VIII was connected to the system in 2023.

As discussed in **Section 1.3**, CDS is currently in process of installing infrastructure to be able to pump all leachate generated onsite to the north ponds, to provide flexibility in site operations. The north leachate ponds remained in good working order throughout the year. The east leachate ponds continue to be utilized and were also in good working order in 2024.

3.4 Spray Irrigation Areas (Permit Terminated in 2017)

CDS elected to discontinue land application of leachate in 2014 and no leachate has been land applied since. The applicable IDNR permit was terminated in early 2017.

3.5 Leachate Recirculation System

CDS is permitted to recirculate leachate in accordance with the IDNR Permit No. 95-SDP-01-72, renewed October 18, 2022, revised December 8, 2023, and again revised February 27, 2024, Special Provision #7, if the permit conditions are met. In accordance with the Permit, leachate recirculation is authorized in those areas of Phase V that are 2H:1V away from the sideslope of the unlined area in accordance with

the approved leachate recirculation request, dated August 4, 2009. However, operations have moved away from this area and this leachate recirculation area is no longer viable.

CDS did not recirculate leachate in 2024.

3.6 Leachate Workface Spray Application

Leachate can be applied to the working face in accordance with Special Provision #7 if the permit conditions are met. In 2024, no leachate was applied to the working face.

3.7 Leachate Quality Testing Results

Leachate quality testing is required by each of the POTW leachate treatment agreements. The site maintains agreements with the Albert Lea, Northwood, and Mason City treatment facilities. The Albert Lea permit expired in December 2022, was renewed effective January 1, 2023, and is valid through December 31, 2027. A new agreement was executed in October 2020 with the Northwood treatment plant to allow for leachate disposal. The agreement is for a period of ten years with renewal available for successive 10-year terms. The current Mason City permit became effective in May 2024 and runs through May 2027; the updated agreement adjusted sampling parameters with Quarterly (List 1) and Semi Annual (List 2) parameter lists. In 2024, leachate was disposed at the Albert Lea and Mason City facilities.

Leachate sampling is performed as required per the leachate treatment agreements with the POTW facilities. Review of the analytical results from the October 2, 2024 leachate sampling identified an anomalous Polychlorinated Biphenyl (PCB) 1260 detection for the Leachate Pond #4 sample. However, Pace National indicated that there was matrix interference in the sample caused by sulfur. The matrix interference in the October 2024 Leachate Pond #4 sample caused by sulfur and the associated analytical issues created uncertainty in the validity of the reported PCB 1260 result. Resampling of Leachate Pond #4 was conducted on November 11, 2024. The November resampling results confirmed no PCB detections for Leachate Pond #4. Laboratory reports for the WWTP sampling events listed below have not been submitted to IDNR and are included in **Appendix B**.

- January 29 (1st Quarter – List 1 Quarterly parameters)
- April 4 (2nd Quarter – List 1 Quarterly & List 2 Semi Annual parameters)
- July 8 (3rd Quarter – List 1 Quarterly parameters)
- October 2 (4th Quarter – List 1 Quarterly & List 2 Semi Annual parameters)
- November 11 (Pond #4 resampling)

4 Conclusions and Recommendations

- CDS is currently undergoing construction that includes a forcemain addition to redirect leachate from the east ponds to the northern ponds. They are also undergoing upgrades to the loadout of the north ponds. The improvements will provide flexibility for site operations.
- CDS discontinued operation of the leachate pilot/evaporation demo system in 2024. The final report for the project was previously submitted to the IDNR.
- The leachate management system is currently working properly and effectively, as shown by the leachate monitoring data at the sumps (compliance points). Although there were exceedances in 2024, subsequent repair and maintenance activities stabilized the leachate levels to compliant levels.
- The alternative head level monitoring data is not available for 2024 due to equipment failure(s) at the alternate head level monitoring points and staff turnover. CDS is working to address the equipment failure and will replace with new measurement equipment in 2025.
- Leachate disposal methods in 2024 included hauling to the Albert Lea, MN WWTP and to the Mason City, IA WWTP.
- Leachate was not recirculated in the Phase V galleries in 2024 nor was leachate applied at the working face. Such activities are only allowable if permit conditions are met.
- The old leachate head wells LHW-6, LHW-9, and LHW-10 continue to be monitored, but they were installed in 1993 and over time have deteriorated, become obstructed at shallower depths, and do not provide viable or useful data. Leachate head well LHW-11 was just installed in 2023 in conjunction with the newly constructed cell (Phase VIII) and will continue to be monitored.
- Based on the leachate balance (the quantity hauled off site in comparison to the quantity pumped from the Phase I, IV, V, and VIII sumps) presented in **Table 3**, in 2024, there was more leachate generated and stored onsite than hauled to a treatment plant for disposal. Leachate generation can be partly attributed to the new cell (Phase VIII) coming online in addition to significant rain events compared to historic norms.

TABLES

Table 1
Leachate Head Well Level Elevations
Central Disposal Landfill
Lake Mills, Iowa
(Updated January 2025)

Leachate Headwell*	Date	TOC Elevation* (feet NGVD)	Depth to Leachate (feet)	Total Well Depth (feet)	Leachate Head Elevation (feet NGVD)	Previously Reported Leachate Head Elevation (feet NGVD)	Remarks
LHW-6	19-Oct-93	1310.30	24.89	25.40	1285.41		
LHW-6	17-Nov-93	1310.30	24.85		1285.45		
LHW-6	11-Jan-94	1310.30	24.75		1285.55		
LHW-6	17-Mar-94	1310.30	24.73		1285.57		
LHW-6	9-May-94	1310.30	24.58		1285.72		
LHW-6	30-Jun-94	1310.30	23.85		1286.45		
LHW-6	28-Jul-94	1310.30	24.41		1285.89		
LHW-6	23-Aug-94	1310.30	24.33		1285.97		
LHW-6	29-Jun-95	1310.30	22.85		1287.45		
LHW-6	27-Aug-95	1310.30	22.69		1287.61		
LHW-6	23-Sep-95	1310.30	22.85		1287.45		
LHW-6	25-Oct-95	1310.30	22.70		1287.60		
LHW-6	16-Nov-95	1310.30	22.80		1287.50		Pro-Top has been damaged
LHW-6	13-Dec-95	1310.30	24.10		1286.20		
LHW-6	30-Jan-96	1310.30	24.71		1285.59		
LHW-6	26-Feb-96	1310.30	25.10		1285.20		
LHW-6	18-Mar-96	1310.30	22.70		1287.60		
LHW-6	11-Apr-96	1310.30	22.72		1287.58		
LHW-6	17-May-96	1310.30	22.68		1287.62		
LHW-6	20-Jun-96	1310.30	22.61		1287.69		
LHW-6	26-Jul-96	1310.30	22.40		1287.90		
LHW-6	28-Aug-96	1310.30	22.40		1287.90		
LHW-6	27-Sep-96	1310.30	22.40		1287.90		
LHW-6	24-Oct-96	1310.30	22.30		1288.00		
LHW-6	24-Dec-96	1310.30	22.11		1288.19		
LHW-6	27-Jan-97	1310.30	22.10		1288.20		
LHW-6	26-Feb-97	1310.30	22.10		1288.20		
LHW-6	24-Mar-97	1310.30	22.28		1288.02		
LHW-6	18-Apr-97	1310.30	22.39		1287.91		
LHW-6	29-May-97	1310.30	22.18		1288.12		
LHW-6	24-Jun-97	1310.30	21.12		1289.18		
LHW-6	21-Jul-97	1310.30	22.71		1287.59		
LHW-6	21-Aug-97	1310.30	23.00		1287.30		
LHW-6	29-Sep-97	1310.30	22.80		1287.50		
LHW-6	29-Oct-97	1310.30	22.81		1287.49		
LHW-6	13-Nov-97	1310.30	22.85		1287.45		
LHW-6	19-Dec-97	1310.30	22.93		1287.37		
LHW-6	26-Jan-98	1310.30	22.98		1287.32		
LHW-6	19-Feb-98	1310.30	23.00		1287.30		
LHW-6	11-Mar-98	1310.30	23.41		1286.89		
LHW-6	15-Apr-98	1310.30	23.50		1286.80		
LHW-6	22-May-98	1310.30	23.47		1286.83		
LHW-6	30-Jun-98	1310.30	24.51		1285.79		
LHW-6	30-Jul-98	1310.30	24.60		1285.70		
LHW-6	26-Aug-98	1310.30	24.66		1285.64		
LHW-6	27-Sep-98	1310.30	22.04		1288.26		
LHW-6	30-Oct-98	1310.30	22.05		1288.25		
LHW-6	26-Nov-98	1310.30	22.08		1288.22		
LHW-6	28-Dec-98	1310.30	22.21		1288.09		
LHW-6	22-Mar-99	1310.30	21.50		1288.80		
LHW-6	28-Sep-99	1306.12	20.65		1285.47		
LHW-6	22-Dec-99	1306.12	20.32		1285.80		
LHW-6	23-Mar-00	1306.12	19.85		1286.27		
LHW-6	27-Jun-00	1306.12	19.50		1286.62		
LHW-6	25-Sep-00	1306.12	19.17		1286.95		
LHW-6	29-Dec-00	1306.12					Packed with snow (disregard)
LHW-6	27-Mar-01	1306.12	18.70		1287.42		
LHW-6	29-Jun-01	1306.12	16.75		1289.37		
LHW-6	7-Sep-01	1306.12	16.70		1289.42		
LHW-6	20-Dec-01	1306.12	17.40		1288.72		
LHW-6	29-Mar-02	1306.12	17.29		1288.83		
LHW-6	26-Jun-02	1306.12	17.21		1288.91		
LHW-6	26-Sep-02	1306.12	17.21		1288.91		
LHW-6	19-Dec-02	1306.12	16.43		1289.69		
LHW-6	18-Mar-03	1306.12	16.31		1289.81		
LHW-6	26-Jun-03	1306.12	15.96		1290.16		
LHW-6	29-Sep-03	1306.12	14.87		1291.25		
LHW-6	17-Dec-03	1306.12	14.91		1291.21		
LHW-6	18-Mar-04	1306.12	15.52		1290.60		
LHW-6	23-Jun-04	1306.12	15.23		1290.89		
LHW-6	20-Sep-04	1306.12	15.01		1291.11		
LHW-6	9-Dec-04	1306.12	13.90		1292.22		
LHW-6	29-Mar-05	1306.12	13.79		1292.33		
LHW-6	29-Jun-05	1306.12	14.42		1291.70		
LHW-6	20-Sep-05	1306.12	14.50		1291.62		
LHW-6	19-Dec-05	1306.12	14.29		1291.83		
LHW-6	21-Mar-06	1306.12	14.12		1292.00		
LHW-6	29-Jun-06	1306.12	14.00		1292.12		Outer casing measurement
LHW-6	27-Sep-06	1306.12	14.58		1291.54		Outer casing measurement
LHW-6		1306.12					
LHW-6	29-Mar-07	1306.12	12.91		1293.21		
LHW-6	29-Jun-07	temporarily abandoned					
LHW-6	26-Jun-08	1306.12	11.74		1294.38		Inner casing measurement
LHW-6	14-Jan-09	1306.12	11.86		1294.26		Inner casing measurement
LHW-6	25-Mar-09	1306.12	11.71		1294.41		
LHW-6	29-Jun-09	1306.12	11.92		1294.20		Inner casing measurement

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Lake Mills, Iowa
(Updated January 2025)

Leachate Headwell*	Date	TOC Elevation* (feet NGVD)	Depth to Leachate (feet)	Total Well Depth (feet)	Leachate Head Elevation (feet NGVD)	Previously Reported Leachate Head Elevation (feet NGVD)	Remarks
LHW-6	29-Sep-09	1306.12	12.95		1293.17		
LHW-6	30-Dec-09	1306.12	11.50		1294.62		
LHW-6	31-Mar-10	1306.12	10.60		1295.52		
LHW-6	29-Jun-10	1306.12	11.03		1295.09		Inner casing measurement
LHW-6	22-Sep-10	1306.12	10.90		1295.22		Outer casing measurement
LHW-6	20-Dec-10	1306.12	10.80		1295.32		
LHW-6	30-Mar-11	1306.12	10.49		1295.63		Outer casing measurement,'30/31-Mar-11
LHW-6	29-Jun-11	1306.12	7.55		1298.57		Inner casing measurement
LHW-6	28-Sep-11	1306.12	9.48		1296.64		Outer casing measurement
LHW-6	13-Dec-11	1306.12	9.70		1296.42		Inner casing measurement
LHW-6	28-May-12	1306.12	9.40		1296.72		
LHW-6	25-Jun-12	1306.12	9.30		1296.82		
LHW-6	25-Sep-12	1306.12	9.91		1296.21		
LHW-6	11-Dec-12	1306.12	9.70		1296.42		Inner casing measurement
LHW-6	24-Jun-13	1306.12	7.80		1298.32		
LHW-6	21-Nov-13	1306.12	8.95		1297.17		
LHW-6	21-May-14	1306.12	8.10		1298.02		Inner casing measurement
LHW-6	7-Oct-14	1306.12	7.71		1298.41		
LHW-6	2-Jun-15	1306.12	6.20		1299.92		Inner casing measurement
LHW-6	14-Oct-15	1306.12	7.15		1298.97		Inner casing measurement
LHW-6	24-May-16	1306.12	4.80		1301.32		
LHW-6	10-Nov-16	1306.12	4.14		1301.98		total depth measured at 25 feet
LHW-6	16-May-17	1306.12	2.87		1303.25		total depth measured at 25 feet
LHW-6	25-Oct-17	1306.12	4.25		1301.87		total depth measured at 25 feet
LHW-6	1-Aug-18	1306.12	3.33		1302.79		total depth measured at 25 feet
LHW-6	15-Oct-19	1306.12	3.40		1302.72		total depth measured at 25 feet
LHW-6	20-May-20	1306.12	2.00		1304.12		total depth measured at 25 feet
LHW-6	26-Jul-21	1306.12	4.70		1301.42		total depth measured at 25 feet
LHW-6	11-Nov-22	1306.12	5.19		1300.93		total depth measured at 25 feet
LHW-6	11-May-23	1306.12	5.00		1301.12		total depth measured at 25 feet
LHW-6	4-Dec-23	1306.12	6.30		1299.82		total depth measured at 25 feet
LHW-6	19-Jul-24	1306.12	4.50		1301.62		total depth measured at 25 feet
LHW-7	19-Oct-93		18.16				
LHW-7	17-Nov-93		18.29				
LHW-7	11-Jan-94		18.10				
LHW-7	17-Mar-94		17.90				
LHW-7	9-May-94		32.64				** casing extended 15 feet
LHW-7	30-Jun-94		47.00				
LHW-7	28-Jul-94		49.71				** casing extended 10 feet
LHW-7	23-Aug-94		41.50				
LHW-7	29-Jun-95	1332.84	45.85	53.40	1286.99		
LHW-7	27-Aug-95	1332.84	45.47		1287.37		
LHW-7	23-Sep-95	1332.84	45.99		1286.85		
LHW-7	25-Oct-95	1332.84	45.45		1287.39		
LHW-7	16-Nov-95	1332.84	45.53		1287.31		
LHW-7	13-Dec-95	1332.84	45.60		1287.24		
LHW-7	30-Jan-96	1332.84	44.89		1287.95		
LHW-7	26-Feb-96	1332.84	44.88		1287.96		
LHW-7	18-Mar-96	1332.84	45.55		1287.29		
LHW-7	11-Apr-96	1332.84	45.60		1287.24		
LHW-7	17-May-96	1332.84	45.62		1287.22		
LHW-7	20-Jun-96	1332.84	45.11		1287.73		
LHW-7	26-Jul-96	1332.84	45.83		1287.01		
LHW-7	28-Aug-96	1332.84	45.70		1287.14		
LHW-7	27-Sep-96	1332.84	45.30		1287.54		
LHW-7	24-Oct-96	1332.84	45.52		1287.32		
LHW-7	24-Dec-96	1332.84	45.81		1287.03		
LHW-7	27-Jan-97	1332.84	45.90		1286.94		
LHW-7	26-Feb-97	1332.84	45.30		1287.54		
LHW-7	24-Mar-97	1332.84	45.32		1287.52		
LHW-7	18-Apr-97	1332.84	45.40		1287.44		
LHW-7	29-May-97	1332.84	45.51		1287.33		
LHW-7	24-Jun-97	1332.84	45.51		1287.33		
LHW-7	21-Jul-97	1332.84	45.58		1287.26		
LHW-7	21-Aug-97	1332.84	45.65		1287.19		
LHW-7	29-Sep-97	1332.84	45.67		1287.17		
LHW-7	29-Oct-97	1332.84	45.69		1287.15		
LHW-7	13-Nov-97	1332.84	45.36		1287.48		
LHW-7	19-Dec-97	1332.84	45.37		1287.47		
LHW-7	26-Jan-98	1332.84	45.41		1287.43		
LHW-7	19-Feb-98	1332.84	45.42		1287.42		
LHW-7	11-Mar-98	1332.84	45.48		1287.36		
LHW-7	15-Apr-98	1332.84	45.50		1287.34		
LHW-7	22-May-98	1332.84	46.20		1286.64		
LHW-7	30-Jun-98	1332.84	47.00		1285.84		
LHW-7	30-Jul-98	1332.84	47.01		1285.83		
LHW-7	26-Aug-98	1332.84	47.05		1285.79		
LHW-7	27-Sep-98	1332.84	45.58		1287.26		
LHW-7	30-Oct-98	1332.84	45.53		1287.31		
LHW-7	26-Nov-98	1332.84	45.58		1287.26		
LHW-7	28-Dec-98	1332.84	45.60		1287.24		
LHW-7	22-Mar-99	1332.84	45.60		1287.24		
LHW-7	28-Sep-99	1333.49	45.60		1287.89		
LHW-7	22-Dec-99	1333.49	45.72		1287.77		
LHW-7	23-Mar-00	1333.49	45.62		1287.87		
LHW-7	27-Jun-00	1333.49	45.76		1287.73		

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Central Disposal Landfill
Lake Mills, Iowa
(Updated January 2025)

Leachate Headwell*	Date	TOC Elevation* (feet NGVD)	Depth to Leachate (feet)	Total Well Depth (feet)	Leachate Head Elevation (feet NGVD)	Previously Reported Leachate Head Elevation (feet NGVD)	Remarks
LHW-7	25-Sep-00	1333.49	45.78		1287.71		
LHW-7	29-Dec-00	1333.49	45.70		1287.79		
LHW-7	27-Mar-01	1333.49	45.79		1287.70		
LHW-7	29-Jun-01	1333.49	45.60		1287.89		
LHW-7	17-Sep-01	1333.49	45.62		1287.87		
LHW-7	20-Dec-01	1333.49	45.78		1287.71		
LHW-7	29-Mar-02	1333.49	42.50		1290.99		
LHW-7	26-Jun-02	1333.49	45.61		1287.88		
LHW-7	26-Sep-02	1333.49	45.63		1287.86		
LHW-7	19-Dec-02	1333.49	45.48		1288.01		
LHW-7	18-Mar-03	1333.49	45.79		1287.70		
LHW-7	26-Jun-03	1333.49	46.07		1287.42		
LHW-7	29-Sep-03	1333.49	45.82		1287.67		
LHW-7	17-Dec-03	1333.49	45.88		1287.61		
LHW-7	18-Mar-04	1333.49	46.01		1287.48		
LHW-7	23-Jun-04	1333.49	48.11		1285.38		
LHW-7	20-Sep-04	1333.49	45.95		1287.54		
LHW-7	9-Dec-04	1333.49	NA				Obstructed @ 19.3'
LHW-7	29-Mar-05	1333.49	NA				Obstructed @ 19.3'
LHW-7	29-Jun-05	1333.49	NA				DRY (Obstructed)
LHW-7	20-Sep-05	1333.49	NA				DRY (Obstructed)
LHW-7	19-Dec-05	1333.49	NA				DRY (Obstructed)
LHW-7	21-Mar-06	1333.49	NA				DRY (Obstructed)
LHW-7	29-Jun-06	1334.49	NA				DRY (Obstructed)
LHW-7	27-Sep-06	1334.49	NA				DRY (Obstructed @ 19.3')
LHW-7		1334.49	NA				
LHW-7	29-Mar-07	1334.49	NA				Obstructed
LHW-7	29-Jun-07	1334.49	NA				Dry
LHW-7	19-Sep-07	1334.49	NA				Dry
LHW-7	31-Mar-08	1334.49	NA				Dry
LHW-7	26-Jun-08	1334.49	NA				DRY (obstructed at 34.62)
LHW-7	2-Oct-08	1334.49	NA				Dry
LHW-7	14-Jan-09	1334.49	NA				Dry
LHW-7	25-Mar-09	1334.49	NA				obstructed at 19 feet
LHW-7	29-Jun-09	1334.49	NA				Dry
LHW-7	29-Sep-09	1334.49	NA				Dry
LHW-7	30-Dec-09	1334.49	NA				Dry
LHW-7	31-Mar-10	1334.49	NA				Dry
LHW-7	29-Jun-10	1334.49	NA				dry at 19 feet
LHW-7	22-Sep-10	1334.49	NA				dry at 19 feet
LHW-7	20-Dec-10	1334.49	NA				Dry
LHW-7	30-Mar-11	1334.49	NA				Dry
LHW-7	28-Sep-11	1334.49	NA				Dry
LHW-7	13-Dec-11	1334.49	NA				dry at 19 feet
LHW-7	28-May-12	1334.49	NA				Dry
LHW-7	25-Jun-12	1334.49	NA				Dry
LHW-7	25-Sep-12	1334.49	NA				casing broken off at grade
LHW-7	11-Dec-12	1334.49	NA				casing broken off at grade
LHW-7	16-May-17	1334.49	NA				Dry at 15 feet
LHW-7	25-Oct-17	1334.49	NA				could not locate
LHW-7	1-Aug-18	1334.49	NA				LHW is gone/buried due to site activities
LHW-8	19-Oct-93		23.33				
LHW-8	17-Nov-93		23.58				
LHW-8	11-Jan-94		18.47				** 5.52 ft of casing removed
LHW-8	17-Mar-94		18.80				
LHW-8	9-May-94		28.80				** casing extended 10 feet
LHW-8	30-Jun-94		28.80				
LHW-8	28-Jul-94		38.80				** casing extended 10 feet
LHW-8	23-Aug-94		38.80				
LHW-8	29-Jun-95	1335.22	DRY	35.10			
LHW-8	27-Aug-95	1335.22	DRY				
LHW-8	23-Sep-95	1335.22	DRY				
LHW-8	25-Oct-95	1335.22	DRY				
LHW-8	16-Nov-95	1335.22	DRY				
LHW-8	13-Dec-95	1335.22	DRY				
LHW-8	30-Jan-96	1335.22	DRY				
LHW-8	26-Feb-96	1335.22	DRY				
LHW-8	18-Mar-96	1335.22	DRY				
LHW-8	11-Apr-96	1335.22	DRY				
LHW-8	17-May-96	1335.22	DRY				
LHW-8	20-Jun-96	1335.22	DRY				
LHW-8	26-Jul-96	1335.22	DRY				
LHW-8	26-Aug-96	1335.22	DRY				
LHW-8	27-Sep-96	1335.22	DRY				
LHW-8	24-Oct-96	1335.22	DRY				
LHW-8	24-Dec-96	1335.22	DRY				
LHW-8	27-Jan-97	1335.22	DRY				
LHW-8	26-Feb-97	1335.22	Iced over-can't open				
LHW-8	24-Mar-97	1335.22	DRY				
LHW-8	18-Apr-97	1335.22	DRY				
LHW-8	29-May-97	1335.22	DRY				
LHW-8	24-Jun-97	1335.22	DRY				
LHW-8	21-Jul-97	1335.22	DRY				
LHW-8	21-Aug-97	1335.22	DRY				
LHW-8	29-Sep-97	1335.22	DRY				
LHW-8	29-Oct-97	1335.22	DRY				

Table 1
Leachate Head Well Level Elevations
Central Disposal Landfill
Lake Mills, Iowa
(Updated January 2025)

Leachate Headwell*	Date	TOC Elevation* (feet NGVD)	Depth to Leachate (feet)	Total Well Depth (feet)	Leachate Head Elevation (feet NGVD)	Previously Reported Leachate Head Elevation (feet NGVD)	Remarks
LHW-8	13-Nov-97	1335.22	DRY				
LHW-8	19-Dec-97	1335.22	DRY				
LHW-8	26-Jan-98	1335.22	DRY				
LHW-8	19-Feb-98	1335.22	DRY				
LHW-8	11-Mar-98	1335.22	DRY				
LHW-8	15-Apr-98	1335.22	DRY				
LHW-8	22-May-98	1335.22	DRY				
LHW-8	30-Jun-98	1335.22	DRY				
LHW-8	30-Jul-98	1335.22	DRY				
LHW-8	26-Aug-98	1335.22	DRY				
LHW-8	27-Sep-98	1335.22	DRY				
LHW-8	30-Oct-98	1335.22	DRY				
LHW-8	26-Nov-98	1335.22	DRY				
LHW-8	28-Dec-98	1335.22	DRY				
LHW-8	22-Mar-99	1335.22	34.90		1300.32		could hear leachate bubbling.
LHW-8	28-Sep-99	1343.75	DRY				
LHW-8	22-Dec-99	1343.75	DRY				
LHW-8	23-Mar-00	1343.75	DRY				
LHW-8	27-Jun-00	1343.75	DRY				
LHW-8	25-Sep-00	1343.75	DRY				
LHW-8	27-Mar-01	1343.75	DRY				
LHW-8	29-Jun-01	1343.75	DRY				
LHW-8	17-Sep-01	1343.75	DRY				
LHW-8	20-Dec-01	1343.75	DRY				
LHW-8	29-Mar-02	1343.75	DRY				
LHW-8	26-Jun-02	1343.75	DRY				
LHW-8	26-Sep-02	1343.75	DRY				
LHW-8	19-Dec-02	1343.75	DRY				
LHW-8	18-Mar-03	1343.75	DRY				
LHW-8	26-Jun-03	1343.75	DRY				
LHW-8	29-Sep-03	1343.75	DRY				
LHW-8	17-Dec-03	1343.75	DRY				
LHW-8	18-Mar-04	1343.75	DRY				
LHW-8	23-Jun-04	1343.75	DRY				
LHW-8	20-Sep-04	1343.75	8.17		1335.58		
LHW-8	9-Dec-04	1343.75	DRY				
LHW-8	29-Mar-05	1343.75	DRY				
LHW-8	29-Jun-05	1343.75	DRY				
LHW-8	20-Sep-05	1343.75	DRY				
LHW-8	19-Dec-05	1343.75	DRY				
LHW-8	21-Mar-06	1343.75	DRY				
LHW-8	29-Jun-06	1343.75	DRY				
LHW-8	27-Sep-06	1344.75	DRY				
LHW-8							
LHW-8	29-Mar-07	1344.75	Obstructed				
LHW-8	29-Jun-07	Temporarily abandoned					
LHW-8	2-Oct-08	1344.75	DRY				
LHW-8	14-Jan-09	1344.75	DRY				
LHW-8	25-Mar-09	1344.75	DRY				obstructed at 34.8 feet
LHW-8	29-Jun-09	1344.75	DRY				obstructed at 34.8 feet
LHW-8	29-Sep-09	1344.75	DRY				
LHW-8	30-Dec-09	1344.75	DRY				obstructed at 34.6
LHW-8	31-Mar-10	1344.75	34.58		1310.17		
LHW-8	29-Jun-10	1344.75	35.80				dry at 34.8
LHW-8	22-Sep-10	1344.75	34.65		1310.10		
LHW-8	20-Dec-10	1344.75	34.20		1310.55		
LHW-8	30-Mar-11	1344.75	33.57		1311.18		'30/31-Mar-11
LHW-8	29-Jun-11	1344.75	33.80		1310.95		
LHW-8	28-Sep-11	1344.75	34.40		1310.35		
LHW-8	28-May-12	1344.75	Buried				Buried - unable to measure
LHW-8	11-Dec-12	1344.75	Buried				Buried - unable to measure
LHW-9	19-Oct-93		13.25				
LHW-9	17-Nov-93		13.42				
LHW-9	11-Jan-94		13.80				
LHW-9	17-Mar-94		13.20				
LHW-9	9-May-94		16.61				** casing extended 4.5 feet
LHW-9	30-Jun-94		16.46				
LHW-9	28-Jul-94		16.46				
LHW-9	23-Aug-94		16.35				
LHW-9	29-Jun-95	1328.28	34.90	47.00	1293.38	1277.65	
LHW-9	27-Aug-95	1328.28	34.79		1293.49	1277.76	
LHW-9	23-Sep-95	1328.28	31.60		1296.68	1280.95	
LHW-9	25-Oct-95	1328.28	34.90		1293.38	1277.65	
LHW-9	16-Nov-95	1328.28	34.74		1293.54	1277.81	
LHW-9	13-Dec-95	1328.28	34.78		1293.50	1277.77	
LHW-9	30-Jan-96	1328.28	DRY				
LHW-9	26-Feb-96	1328.28	DRY				
LHW-9	18-Mar-96	1328.28	34.90		1293.38	1277.65	Incorrect TOC elevation (1312.55) was used up to June 1999; previously reported elevations were based on the incorrect elevation. TOC elevation has been updated to 1328.28.
LHW-9	11-Apr-96	1328.28	DRY				
LHW-9	17-May-96	1328.28	DRY				
LHW-9	20-Jun-96	1328.28	DRY				
LHW-9	26-Jul-96	1328.28	34.70		1293.58	1277.85	
LHW-9	28-Aug-96	1328.28	34.85		1293.43	1277.70	
LHW-9	27-Sep-96	1328.28	34.45		1293.83	1278.10	
LHW-9	24-Oct-96	1328.28	34.60		1293.68	1277.95	

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Central Disposal Landfill
Lake Mills, Iowa
(Updated January 2025)

Leachate Headwell*	Date	TOC Elevation* (feet NGVD)	Depth to Leachate (feet)	Total Well Depth (feet)	Leachate Head Elevation (feet NGVD)	Previously Reported Leachate Head Elevation (feet NGVD)	Remarks
LHW-9	24-Dec-96	1328.28	35.06		1293.22	1277.49	
LHW-9	27-Jan-97	1328.28	35.01		1293.27	1277.54	
LHW-9	26-Feb-97	1328.28	34.30		1293.98	1278.25	
LHW-9	24-Mar-97	1328.28	34.26		1294.02	1278.29	
LHW-9	18-Apr-97	1328.28	34.10		1294.18	1278.45	
LHW-9	29-May-97	1328.28	34.10		1294.18	1278.45	
LHW-9	24-Jun-97	1328.28	34.08		1294.20	1278.47	
LHW-9	21-Jul-97	1328.28	33.61		1294.67	1278.94	
LHW-9	21-Aug-97	1328.28	33.79		1294.49	1278.76	
LHW-9	29-Sep-97	1328.28	33.70		1294.58	1278.85	
LHW-9	29-Oct-97	1328.28	33.70		1294.58	1278.85	
LHW-9	13-Nov-97	1328.28	33.66		1294.62	1278.89	
LHW-9	19-Dec-97	1328.28	33.60		1294.68	1278.95	
LHW-9	26-Jan-98	1328.28	33.62		1294.66	1278.93	Incorrect TOC elevation (1312.55) was used up to June 1999; previously reported elevations were based on the incorrect elevation. TOC elevation has been updated to 1328.28.
LHW-9	19-Feb-98	1328.28	33.68		1294.60	1278.87	
LHW-9	11-Mar-98	1328.28	33.70		1294.58	1278.85	
LHW-9	15-Apr-98	1328.28	33.71		1294.57	1278.84	
LHW-9	22-May-98	1328.28	33.91		1294.37	1278.64	
LHW-9	30-Jun-98	1328.28	33.98		1294.30	1278.57	
LHW-9	30-Jul-98	1328.28	34.02		1294.26	1278.53	
LHW-9	26-Aug-98	1328.28	34.06		1294.22	1278.49	
LHW-9	27-Sep-98	1328.28	32.87		1295.41	1279.68	
LHW-9	30-Oct-98	1328.28	32.94		1295.34	1279.61	
LHW-9	26-Nov-98	1328.28	32.91		1295.37	1279.64	
LHW-9	28-Dec-98	1328.28	32.98		1295.30	1279.57	
LHW-9	22-Mar-99	1328.28	32.80		1295.48	1279.75	
LHW-9	28-Sep-99	1328.28	32.02		1296.26		
LHW-9	22-Dec-99	1328.28	32.14		1296.14		
LHW-9	23-Mar-00	1328.28	32.40		1295.88		
LHW-9	27-Jun-00	1328.28	33.61		1294.67		
LHW-9	25-Sep-00	1328.28	33.58		1294.70		
LHW-9	29-Dec-00	1328.28	32.61		1295.67		
LHW-9	27-Mar-01	1328.28	32.61		1295.67		
LHW-9	29-Jun-01	1328.28	31.99		1296.29		
LHW-9	17-Sep-01	1328.28	31.91		1296.37		
LHW-9	20-Dec-01	1328.28	31.89		1296.39		
LHW-9	29-Mar-02	1328.28	31.19		1297.09		
LHW-9	26-Jun-02	1328.28	31.52		1296.76		
LHW-9	19-Dec-02	1328.28	32.42		1295.86		
LHW-9	18-Mar-03	1328.28	32.40		1295.88		
LHW-9	26-Jun-03	1328.28	30.83		1297.45		
LHW-9	29-Sep-03	1328.28	30.98		1297.30		
LHW-9	17-Dec-03	1328.28	31.00		1297.28		
LHW-9	18-Mar-04	1328.28	31.21		1297.07		
LHW-9	23-Jun-04	1328.28	30.80		1297.48		
LHW-9	20-Sep-04	1328.28	30.63		1297.65		
LHW-9	9-Dec-04	1328.28	31.39		1296.89		
LHW-9	29-Mar-05	1328.28	31.18		1297.10		
LHW-9	29-Jun-05	1328.28	30.85		1297.43		
LHW-9	20-Sep-05	1328.28	30.90		1297.38		
LHW-9	19-Dec-05	1328.28	31.83		1296.45		
LHW-9	21-Mar-06	1328.28	30.52		1297.76		
LHW-9	29-Jun-06	1328.28	30.99		1297.29		
LHW-9	27-Sep-06	1328.28	31.1		1297.18		
LHW-9							
LHW-9	29-Mar-07	1328.28	30.7		1297.55		
LHW-9	29-Jun-07	1328.28	30.3		1297.97		
LHW-9	19-Sep-07	1328.28	29.1		1299.22		
LHW-9	31-Mar-08	1328.28	29.0		1299.33		
LHW-9	26-Jun-08	1328.28	28.9		1299.38		
LHW-9	2-Oct-08	1328.28	30.20		1298.08		
LHW-9	14-Jan-09	1328.28	30.01		1298.27		
LHW-9	25-Mar-09	1328.28	29.02		1299.26		
LHW-9	29-Jun-09	1328.28	28.56		1299.72		
LHW-9	29-Sep-09	1328.28	30.30		1297.98		
LHW-9	30-Dec-09	1328.28	29.30		1298.98		
LHW-9	31-Mar-10	1328.28	29.30		1298.98		
LHW-9	29-Jun-10	1328.28	29.40		1298.88		
LHW-9	22-Sep-10	1328.28	29.00		1299.28		
LHW-9	20-Dec-10	1328.28	29.85		1298.43		
LHW-9	30-Mar-11	1328.28	29.52		1298.76		'30/31-Mar-11
LHW-9	29-Jun-11	1328.28	28.30		1299.98		
LHW-9	28-Sep-11	1328.28	28.30		1299.98		
LHW-9	13-Dec-11	1328.28	30.70		1297.58		
LHW-9	28-May-12	1328.28	30.00		1298.28		
LHW-9	25-Jun-12	1328.28	28.80		1299.48		
LHW-9	25-Sep-12	1328.28	29.20		1299.08		
LHW-9	11-Dec-12	1328.28	29.80		1298.48		
LHW-9	24-Jun-13	1328.28	21.90		1306.38		
LHW-9	21-Nov-13	1328.28	26.90		1301.38		
LHW-9	21-May-14	1328.28	17.66		1310.62		
LHW-9	7-Oct-14	1328.28	17.90		1310.38		
LHW-9	2-Jun-15	1328.28	17.95		1310.33		

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Central Disposal Landfill
Lake Mills, Iowa
(Updated January 2025)

Leachate Headwell*	Date	TOC Elevation* (feet NGVD)	Depth to Leachate (feet)	Total Well Depth (feet)	Leachate Head Elevation (feet NGVD)	Previously Reported Leachate Head Elevation (feet NGVD)	Remarks
LHW-9	14-Oct-15	1328.28	19.21		1309.07		
LHW-9	24-May-16	1328.28	18.20		1310.08		
LHW-9	10-Nov-16	1328.28	12.80		1315.48		total depth measurements indicates obstruction @ 18.5 ft
LHW-9	16-May-17	1328.28	11.35		1316.93		total depth measured at 40 feet
LHW-9	25-Oct-17	1328.28	12.53		1315.75		total depth measured at 40 feet
LHW-9	1-Aug-18	1328.28	12.30		1315.98		total depth measured at 40 feet
LHW-9	15-Oct-19	1328.28	12.00		1316.28		total depth measured at 40 feet
LHW-9	20-May-20	1328.28	10.90		1317.38		total depth measured at 40 feet
LHW-9	26-Jul-21	1328.28	12.40		1315.88		total depth measured at 40 feet
LHW-9	11-Nov-22	1328.28	13.20		1315.08		total depth measured at 40 feet
LHW-9	11-May-23	1328.28	13.00		1315.28		total depth measured at 40 feet
LHW-9	4-Dec-23	1328.28	14.00		1314.28		total depth measured at 40 feet
LHW-9	19-Jul-24	1328.28	11.20		1317.08		total depth measured at 40 feet
LHW-10	19-Oct-93	1309.56	13.80	26.95	1295.76		
LHW-10	17-Nov-93	1309.56	13.84		1295.72		
LHW-10	11-Jan-94	1309.56	13.80		1295.76		
LHW-10	17-Mar-94	1309.56	13.78		1295.78		
LHW-10	9-May-94	1309.56	13.63		1295.93		
LHW-10	30-Jun-94	1309.56	13.35		1296.21		
LHW-10	28-Jul-94	1309.56	13.63		1295.93		
LHW-10	23-Aug-94	1309.56	13.46		1296.10		
LHW-10	29-Jun-95	1309.56	12.74		1296.82		
LHW-10	27-Aug-95	1309.56	12.66		1296.90		
LHW-10	23-Sep-95	1309.56	12.81		1296.75		
LHW-10	25-Oct-95	1309.56	12.80		1296.76		
LHW-10	16-Nov-95	1309.56	12.83		1296.73		
LHW-10	13-Dec-95	1309.56	12.47		1297.09		
LHW-10	30-Jan-96	1309.56	12.49		1297.07		
LHW-10	26-Feb-96	1309.56	12.50		1297.06		
LHW-10	18-Mar-96	1309.56	12.95		1296.61		
LHW-10	11-Apr-96	1309.56	12.98		1296.58		
LHW-10	17-May-96	1309.56	12.90		1296.66		
LHW-10	20-Jun-96	1309.56	12.70		1296.86		
LHW-10	26-Jul-96	1309.56	12.90		1296.66		
LHW-10	28-Aug-96	1309.56	12.74		1296.82		
LHW-10	27-Sep-96	1309.56	12.85		1296.71		
LHW-10	24-Oct-96	1309.56	12.90		1296.66		
LHW-10	24-Dec-96	1309.56	13.00		1296.56		
LHW-10	27-Jan-97	1309.56	13.00		1296.56		
LHW-10	26-Feb-97	1309.56	12.70		1296.86		
LHW-10	24-Mar-97	1309.56	12.80		1296.76		
LHW-10	18-Apr-97	1309.56	12.90		1296.66		
LHW-10	29-May-97	1309.56	12.88		1296.68		
LHW-10	24-Jun-97	1309.56	12.45		1297.11		
LHW-10	21-Jul-97	1309.56	12.00		1297.56		
LHW-10	21-Aug-97	1309.56	12.10		1297.46		
LHW-10	29-Sep-97	1309.56	12.04		1297.52		
LHW-10	29-Oct-97	1309.56	12.10		1297.46		
LHW-10	13-Nov-97	1309.56	12.10		1297.46		
LHW-10	19-Dec-97	1309.56	12.12		1297.44		
LHW-10	26-Jan-98	1309.56	12.15		1297.41		
LHW-10	19-Feb-98	1309.56	12.18		1297.38		
LHW-10	11-Mar-98	1309.56	12.20		1297.36		
LHW-10	15-Apr-98	1309.56	12.30		1297.26		
LHW-10	22-May-98	1309.56	13.31		1296.25		
LHW-10	30-Jun-98	1309.56	12.41		1297.15		
LHW-10	30-Jul-98	1309.56	12.46		1297.10		
LHW-10	26-Aug-98	1309.56	12.52		1297.04		
LHW-10	27-Sep-98	1309.56	10.90		1298.66		
LHW-10	30-Oct-98	1309.56	10.63		1298.93		
LHW-10	26-Nov-98	1309.56	9.81		1299.75		
LHW-10	28-Dec-98	1309.56	9.86		1299.70		
LHW-10	22-Mar-99	1309.56	10.70		1298.86		
LHW-10	28-Sep-99	1306.26	9.42		1296.84		
LHW-10	22-Dec-99	1306.26	9.82		1296.44		
LHW-10	23-Mar-00	1306.26	10.11		1296.15		
LHW-10	27-Jun-00	1306.26	9.62		1296.64		
LHW-10	25-Sep-00	1306.26	9.62		1296.64		
LHW-10	29-Dec-00	1306.26	9.81		1296.45		
LHW-10	27-Mar-01	1306.26	9.71		1296.55		
LHW-10	29-Jun-01	1306.26	8.12		1298.14		
LHW-10	17-Sep-01	1306.26	8.50		1297.76		
LHW-10	20-Dec-01	1306.26	8.64		1297.62		
LHW-10	29-Mar-02	1306.26	4.91		1301.35		
LHW-10	26-Jun-02	1306.26	9.31		1296.95		
LHW-10	26-Sep-02	1306.26	8.50		1297.76		
LHW-10	19-Dec-02	1306.26	9.12		1297.14		
LHW-10	18-Mar-03	1306.26	10.01		1296.25		
LHW-10	26-Jun-03	1306.26	8.73		1297.53		
LHW-10	29-Sep-03	1306.26	9.43		1296.83		
LHW-10	17-Dec-03	1306.26	9.49		1296.77		
LHW-10	18-Apr-04	1306.26	9.79		1296.47		
LHW-10	23-Jun-04	1306.26	8.15		1298.11		
LHW-10	20-Sep-04	1306.26	7.93		1298.33		
LHW-10	9-Dec-04	1306.26	8.62		1297.64		

Table 1
Leachate Head Well Level Elevations
Central Disposal Landfill
Lake Mills, Iowa
(Updated January 2025)

Leachate Headwell*	Date	TOC Elevation* (feet NGVD)	Depth to Leachate (feet)	Total Well Depth (feet)	Leachate Head Elevation (feet NGVD)	Previously Reported Leachate Head Elevation (feet NGVD)	Remarks
LHW-10	29-Mar-05	1306.26	9.32		1296.94		
LHW-10	29-Jun-05	1306.26	7.98		1298.28		
LHW-10	20-Sep-05	1306.26	8.62		1297.64		
LHW-10	19-Dec-05	1306.26	8.49		1297.77		
LHW-10	21-Mar-06	1306.26	9.04		1297.22		
LHW-10	29-Jun-06	1306.26	8.79		1297.47		
LHW-10	27-Sep-06	1306.26	9.12		1297.14		
LHW-10	29-Mar-07	1306.26	8.60		1297.66		
LHW-10	29-Jun-07	1306.26	8.64		1297.62		
LHW-10	19-Sep-07	1306.26	7.78		1298.48		
LHW-10	31-Mar-08	1306.26	8.50		1297.76		
LHW-10	26-Jun-08	1306.26	7.38		1298.88		
LHW-10	2-Oct-08	1306.26	8.55		1297.71		
LHW-10	14-Jan-09	1306.26	9.00		1297.26		
LHW-10	25-Mar-09	1306.26	8.58		1297.68		
LHW-10	29-Jun-09	1306.26	7.15		1299.11		
LHW-10	29-Sep-09	1306.26	8.32		1297.94		
LHW-10	30-Dec-09	1306.26	8.20		1298.06		
LHW-10	31-Mar-10	1306.26	7.25		1299.01		
LHW-10	29-Jun-10	1306.26	7.32		1298.94		
LHW-10	22-Sep-10	1306.26	8.11		1298.15		
LHW-10	20-Dec-10	1306.26	8.68		1297.58		
LHW-10	30-Mar-11	1306.26	9.09		1297.17		'30/31-Mar-11
LHW-10	29-Jun-11	1306.26	7.25		1299.01		
LHW-10	28-Sep-11	1306.26	8.75		1297.51		
LHW-10	13-Dec-11	1306.26	8.85		1297.41		
LHW-10	28-May-12	1306.26	9.10		1297.16		
LHW-10	1-Aug-18	1306.26	3.60		1302.66		
LHW-10	15-Oct-19	1306.26	2.10		1304.16		
LHW-10	20-May-20	1306.26	2.00		1304.26		
LHW-10	26-Jul-21	1306.26	4.60		1301.66		
LHW-10	11-Nov-22	1306.26	5.41		1300.85		
LHW-10	11-May-23	1306.26	5.20		1301.06		
LHW-10	4-Dec-23	1306.26	5.80		1300.46		
LHW-10	19-Jul-24	1306.26	4.30		1301.96		
LHW-11	4-Dec-23	1283.32	146.00	150.00	1137.32		
LHW-11	19-Jul-24	1283.32	7.00	150.00	1276.32		

Note:
*Leachate Head Wells have histroically been identified with "LW" or "LHW" designations (i.e. LW-9 or LHW-9).
NA = Not Avaliable (not measured, ostructed, damaged, not accessible).

Table 2

2024 Leachate Sumps Liquid Level

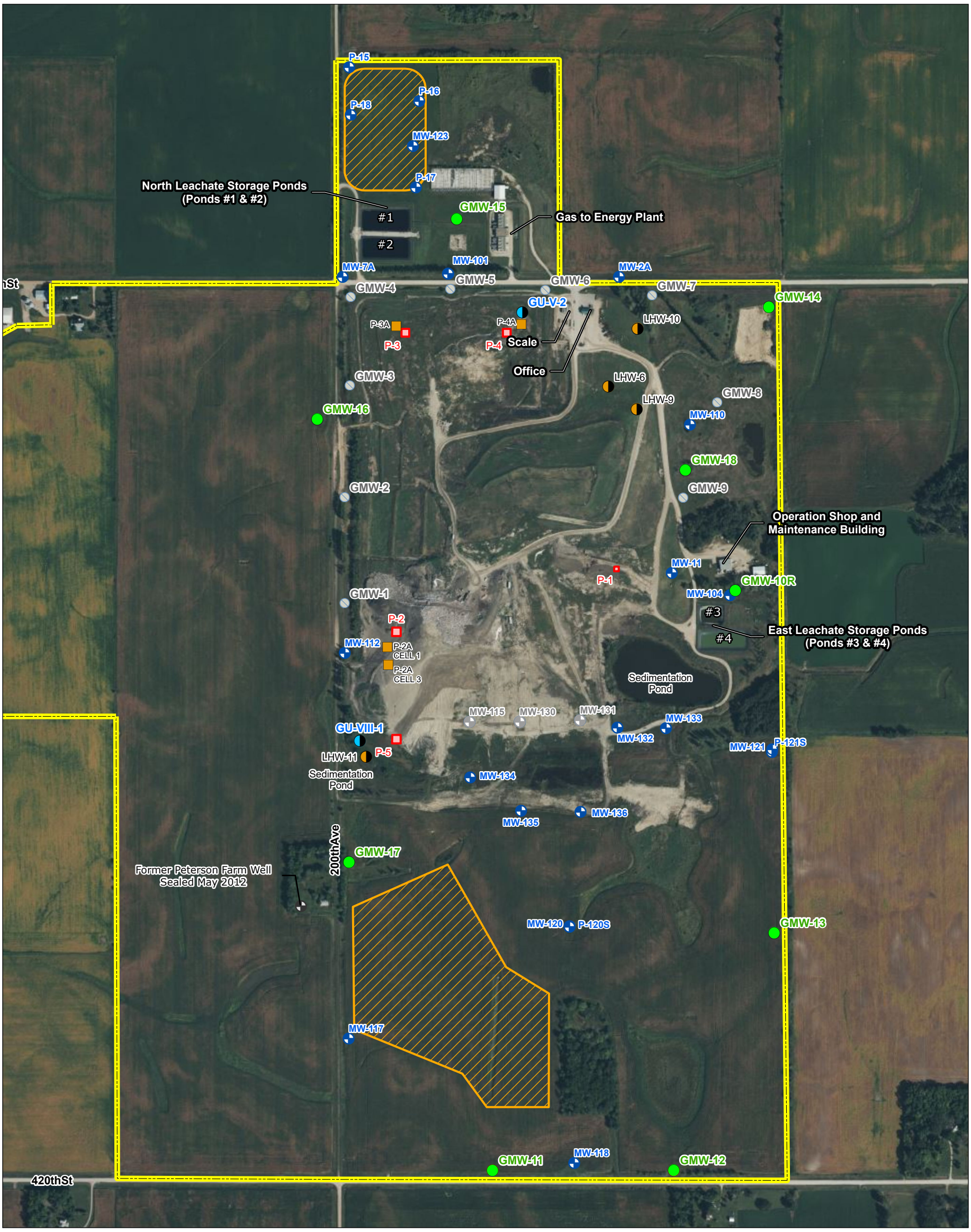
	P1	P2	P3	P4	P5	
Date	**Phase I Sump Liquid Level. Point of Compliance. Exceedance Level is 36.1 inches**	**Phase IV Sump Liquid Level. Point of Compliance. Exceedance Level is 60.1**	**Phase V Cell 1 Sump Liquid Level. Point of Compliance. Exceedance Level is 60 inches.**	**Phase V Cell 2 Sump Liquid Level. Point of Compliance. Exceedance level is 84 inches**	**Phase VIII Sump Liquid Level. Point of Compliance. Exceedance level is 84 inches**	**Comments**
January	91.5	47.4	45.3	23.5	37.7	P1 was down and float having issues P5 had panel swap
February	64.0	43.2	41.3	24.0	50.9	P1 was down and float having issues
March	99.5	57.0		24.9	43.6	P1 was down and float having issues
April	89.8	47.4		25.7	49.1	P1 was down and float having issues, P1 pump repair, P1 was fixed later this month P3 was down
May	29.9	45.8		24.7	53.1	P5 was down later this month
June	35.6	39.3	41.0	22.0	50.2	
July	48.1	42.5	42.7	21.8	52.6	
August	168.8	40.8	44.2	20.9	49.9	P1 shut off for repairs early this month, head level subsided under exceedance later in month
September	31.9	43.9	40.2	17.9	49.1	
October	27.3	46.5	39.4	26.6	49.3	
November	28.2	40.6	37.1	32.7	49.7	P4 was down most of this month
December	44.5	304.9	38.7	29.3	51.0	P2 had panel issue and was repaired, head levels subsided under exceedance later in month P1 had maintenance later in month

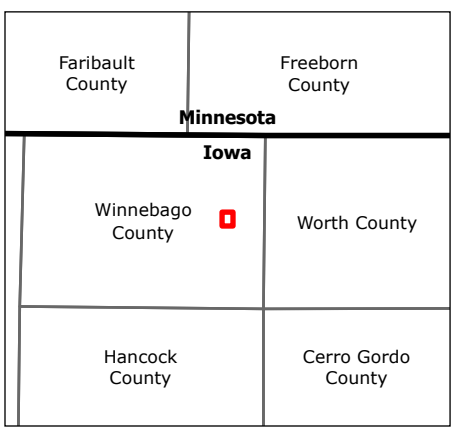
NR = Not Recorded

Table 3
Summary of 2024 Leachate Collection and Disposal
Central Disposal Landfill

Leachate Disposed (gallons)		10,517,959
Total leachate recirculated in Phase V gallery	0	
Total leachate spray irrigated at the north site (permit terminated)	0	
Total leachate spray irrigated at the south site (permit terminated)	0	
Total leachate applied to Central Fill Area workface	0	
Total leachate hauled to Albert Lea, MN POTW	9,915,098	
Total leachate hauled to Northwood, IA POTW	0	
Total leachate hauled to Mason City, IA POTW	602,861	
Leachate Collected (gallons)		13,055,892
Total recorded leachate pumped from Phase I sump (P-1)	2,319,360	
Total recorded leachate pumped from Phase IV sump (P-2)	3,391,020	
Total recorded leachate pumped from Phase V, Cell 1 sump (P-3)	1,278,900	
Total recorded leachate pumped from Phase V, Cell 2 sump (P-4)	1,466,460	
Total recorded leachate pumped from Phase VIII sump (P-5)	4,600,152	

FIGURES





Legend

- Property Line
- Monitorable Well
- Sealed Monitorable Well
- Sealed Private Well
- Leachate Head Well
- Alternate Leachate Head Well
- Sealed Gas Monitoring Probe
- Groundwater Underdrain
- Subsurface Gas Monitoring Probe
- Leachate Sump
- Former Spray Irrigation Site (Permit Terminated 2017)

0 300 600 Feet

(At original document size of 11x17)
1:7,200

N

Stantec

Project Location
T99N, R23W, S21
Lake Mills, Winnebago Co., IA

Prepared by JCS on 2025-01-13

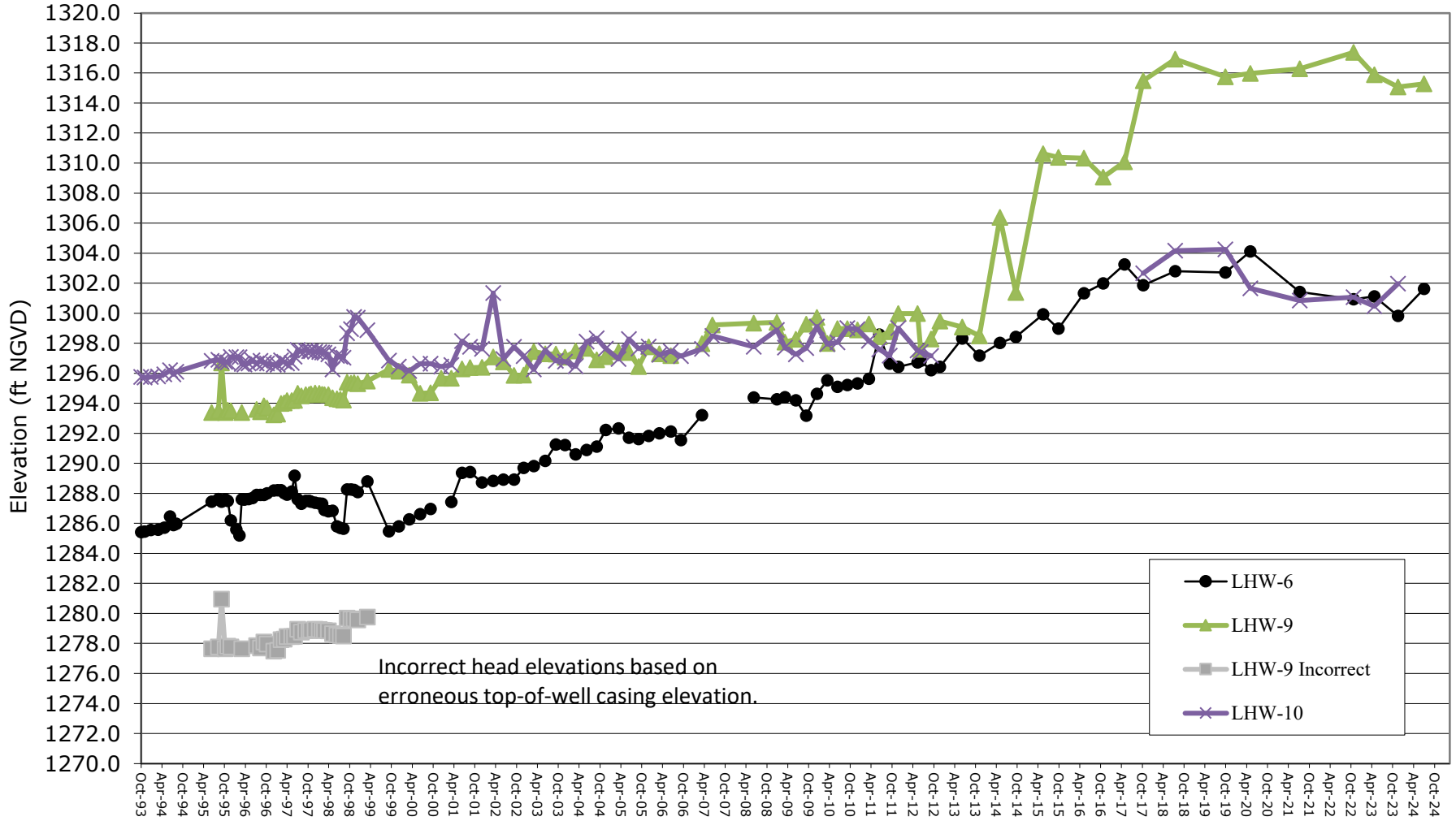
Client/Project
227702549
Waste Management Inc.
WM Central Disposal Landfill
2024 Annual Report

Figure No.
1

Title
Landfill Monitoring Network

Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Bing Maps
3. Background: Bing Aerial Imagery

Figure 2
Central Disposal Landfill - Lake Mills, Iowa
Leachate Head Well Elevations LHW-6, LHW-9, LHW-10



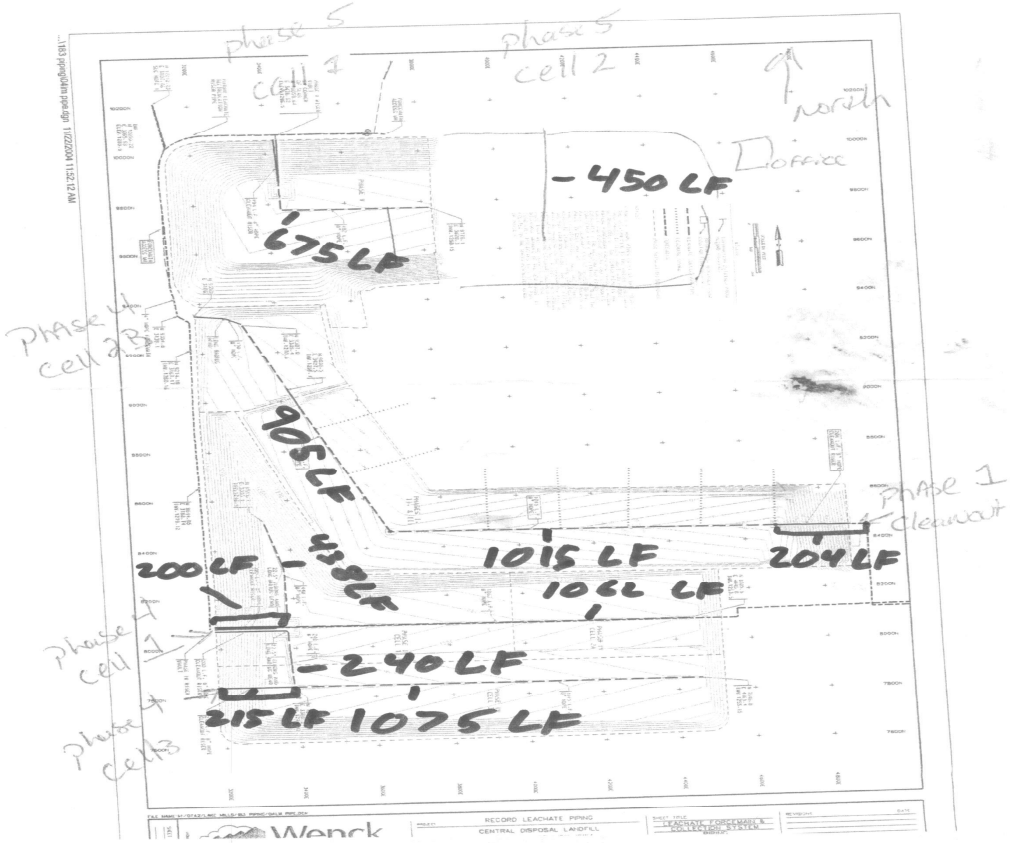
\\us0242-ppfss01\shared_projects\227702549\technical\Annual Reports\2024\LCSPE\Excel Tables\Table 1 Updated

APPENDIX A – 2024 LEACHATE LINE CLEANING REPORT

Customer Service Report

Customer:	WM-Central Disposal	**Report Number:**	1669
		Date(s):	7/30 & 7/31/2024
Contact:	Maria Wolfe, Engineer		
Address:	21264 430th Street	**Page:**	1 of 3
	Lake Mills, IA 50450	**On-Site Hours:**	14.5
		Mob. Hours:	--

Description: Jet Leachate Collection System



No.	Leachate Pipe	Length Jetted	Comments
1	Phase 5 Cell 2	450	
2	Phase 5 Cell 1	675	
3	Phase 1	1000	
4	Phase 4 Cell 2B	600	
5	Phase 4 Cell 1	650	
6	Phase 4 Cell 1 Header N	650	
7	Phase 4 Cell 1 Header S	380	
8	Phase 4 Cell 3	--	Not Jet, no access, pump installed in cleanout
9	Phase 8 (New Cell)	900	

Comments

July 30, 2024 **Arrived at Site: 7:00 AM**

- Jet leachate collection pipe Phase 8 (New Cell) to the distance indicated above. No problems encountered.
- Jet leachate collection pipe Phase 4 Cell 1 Header South to the distance indicated above. No problems encountered.
- Jet leachate collection pipe Phase 4 Cell 1 main line to the distance indicated above. No problems encountered.
- Jet leachate collection pipe Phase 4 Cell 1 Header North to the distance indicated above. No problems encountered.
- Jet leachate collection pipe Phase 4 Cell 2B to the distance indicated above. Jetting hose stopped at same distance as March, 2024 jetting.
- Jet leachate collection pipe Phase 1 to the distance indicated above. No problems encountered.
- Jet forcemain from check valve in manhole to the north to a distance of 450'. Minor "leachate rock" in pipe. Confined space procedures followed.
- Jet forcemain from check valve in manhole to the south to a distance of 25'. Jetting hose stopped at vault. Confined space procedures followed.

Left Site: 5:30 PM

July 31, 2024 **Arrived at Site: 7:00 AM**

- Jet leachate collection pipe Phase 5 Cell 2 to the distance indicated above. No problems encountered.
- Jet leachate collection pipe Phase 5 Cell 1 to the distance indicated above. No problems encountered.

Left Site: 11:00 AM

APPENDIX B – 2024 LEACHATE LABORATORY ANALYTICAL REPORTS

ANALYTICAL REPORT

February 16, 2024

Revised Report

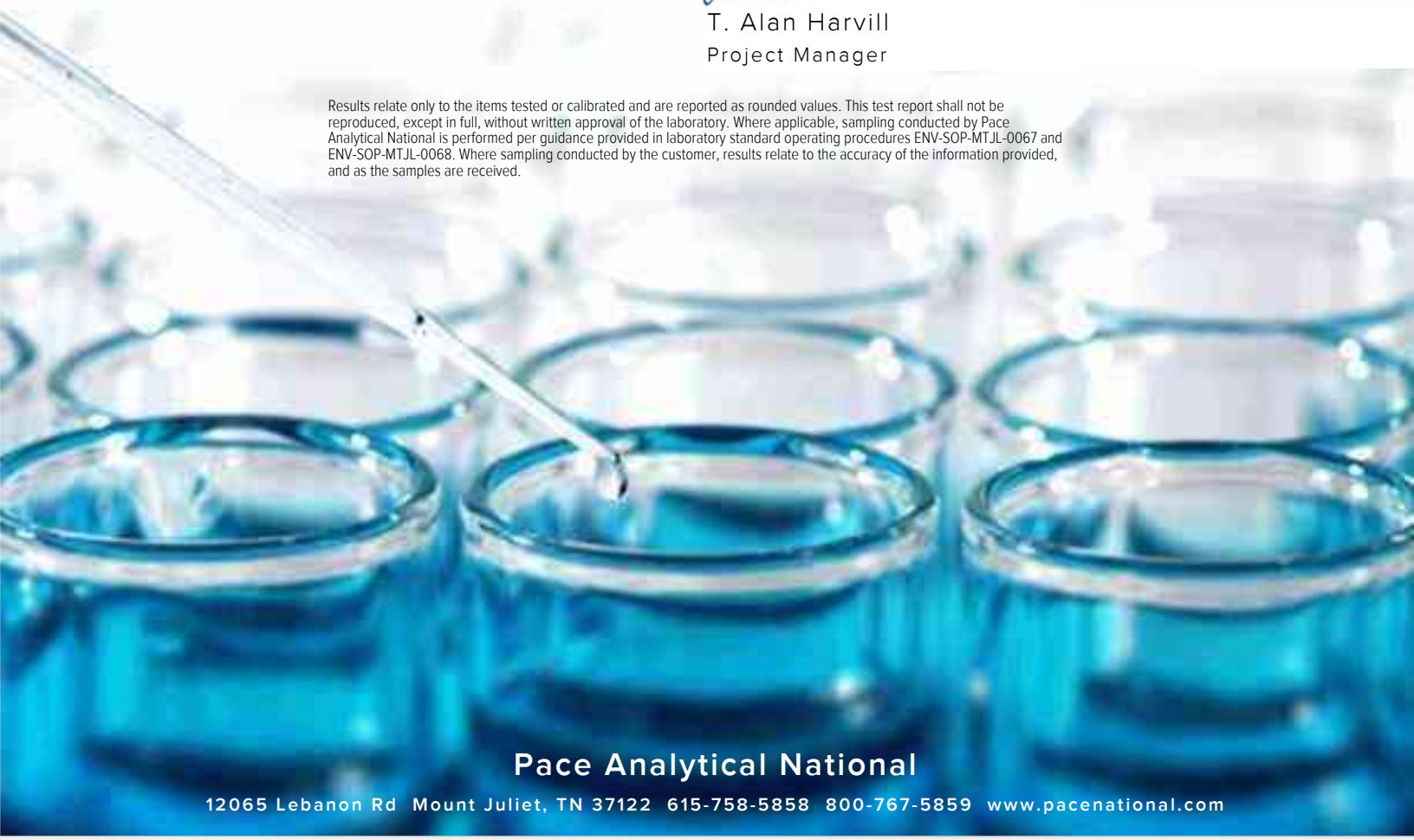
Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1700229
Samples Received:	01/30/2024
Project Number:	500
Description:	Qrtly WWTP-Leachate List 1(1,4,7,10)
Site:	IA02
Report To:	Todd Halbersma 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

N LEACH PONDS RAW L1700229-01 GW

Collected by: Mike H | Collected date/time: 01/29/24 11:15 | Received date/time: 01/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2216365	1	02/05/24 17:55	02/05/24 17:55	UNP	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2216347	1	01/30/24 21:33	01/30/24 23:17	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2218312	1	02/02/24 00:36	02/02/24 21:44	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2219700	1	02/05/24 10:22	02/05/24 10:22	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2216775	10	01/31/24 13:26	01/31/24 13:26	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2218141	10	02/01/24 17:22	02/05/24 17:55	UNP	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2216365	1	01/30/24 23:42	01/30/24 23:42	AEC	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2216986	20	01/31/24 12:57	01/31/24 17:37	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2216095	1	01/30/24 15:31	02/04/24 12:38	EAO	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2216310	1	01/30/24 17:34	01/30/24 17:34	ARV	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2217417	1	01/31/24 19:29	02/01/24 10:07	UNP	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2217299	1	02/01/24 11:40	02/01/24 11:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2215954	1	01/31/24 02:55	01/31/24 02:55	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2215954	5	01/31/24 03:09	01/31/24 03:09	ASM	Mt. Juliet, TN
Mercury by Method 7470A	WG2215056	1	01/30/24 17:45	01/31/24 10:10	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2216957	1	01/31/24 12:53	01/31/24 20:15	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2218056	1	02/01/24 14:42	02/01/24 14:42	JCP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2216649	1	01/31/24 21:37	02/01/24 21:05	DSH	Mt. Juliet, TN

S LEACH PONDS RAW L1700229-02 GW

Collected by: Mike H | Collected date/time: 01/29/24 11:45 | Received date/time: 01/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2216365	1	02/05/24 18:06	02/05/24 18:06	UNP	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2216347	1	01/30/24 21:33	01/30/24 23:17	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2218312	1	02/02/24 00:36	02/02/24 21:44	DAL	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2219700	1	02/05/24 10:34	02/05/24 10:34	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2216775	200	01/31/24 13:27	01/31/24 13:27	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2218141	80	02/01/24 17:22	02/05/24 18:06	UNP	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2216365	1	01/30/24 23:44	01/30/24 23:44	AEC	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2216986	100	01/31/24 12:57	01/31/24 19:13	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2216095	10	01/30/24 15:49	02/04/24 12:44	EAO	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2216310	1	01/30/24 17:35	01/30/24 17:35	ARV	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2217417	4	01/31/24 19:05	02/01/24 10:10	UNP	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2217299	1	02/01/24 11:40	02/01/24 11:40	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2215954	10	01/31/24 03:22	01/31/24 03:22	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2215954	100	01/31/24 03:36	01/31/24 03:36	ASM	Mt. Juliet, TN
Mercury by Method 7470A	WG2216431	10	01/31/24 16:09	02/01/24 12:25	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2216957	9	01/31/24 12:53	01/31/24 20:17	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2216996	5	01/31/24 16:00	01/31/24 16:00	JCP	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2216649	5	01/31/24 21:37	02/01/24 22:56	DSH	Mt. Juliet, TN

N LEACH PONDS RAW L1700229-03 Waste

Collected by: Mike H | Collected date/time: 01/29/24 11:15 | Received date/time: 01/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2216672	1	02/14/24 08:34	02/14/24 08:34	JS	Mt. Juliet, TN
Mercury by Method 7470A	WG2218094	1	02/01/24 13:17	02/02/24 11:22	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2218178	1	02/01/24 15:02	02/02/24 10:14	JTM	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

S LEACH PONDS RAW L1700229-04 Waste

Collected by: Mike H
Collected date/time: 01/29/24 11:45
Received date/time: 01/30/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2216672	1	02/14/24 08:34	02/14/24 08:34	JS	Mt. Juliet, TN
Mercury by Method 7470A	WG2218094	1	02/01/24 13:17	02/02/24 11:25	AKB	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2218178	1	02/01/24 15:02	02/02/24 10:16	JTM	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Report Revision History

Level II Report - Version 1: 02/08/24 16:26

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Revised to report TCLP on separate dashnumbers.

Sample Delivery Group (SDG) Narrative

The laboratory analysis was performed from an unpreserved, insufficiently or inadequately preserved sample.

Batch	Method	Lab Sample ID
WG2216957	6010C	L1700229-02
WG2218312	1664B	L1700229-02

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

Batch	Method	Lab Sample ID
WG2216310	7196A	L1700229-01, 02
WG2217299	9040C	L1700229-01, 02

Wet Chemistry by Method 351.2

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG2218141	(MS) R4030028-6, (MSD) R4030028-7	Kjeldahl Nitrogen, TKN

Wet Chemistry by Method 9012B

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2217417	(DUP) R4028670-3, (DUP) R4028670-6, L1700229-01	Cyanide

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2217417	(MSD) R4028670-5	Cyanide

Wet Chemistry by Method 9056A

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2215954	(MS) R4028188-7, (MSD) R4028188-8	Chloride

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2215954	(MS) R4028188-7, (MSD) R4028188-8	Sulfate

Metals (ICP) by Method 6010C

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2216957	(MS) R4028461-4	Calcium

Volatile Organic Compounds (GC/MS) by Method 8260C

The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.

Batch	Lab Sample ID	Analytes
WG2216996	L1700229-02	1,2-Dibromo-3-Chloropropane, Bromomethane and trans-1,4-Dichloro-2-butene
WG2218056	L1700229-01	1,2,3-Trichloropropane and trans-1,4-Dichloro-2-butene

The associated batch QC was above the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG2216996	(LCS) R4028661-1, (LCSD) R4028661-2, L1700229-02	Chloroform, Vinyl acetate and Vinyl chloride

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG2218056	(LCSD) R4029237-2, L1700229-01	Acetone

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG2216649	(LCSD) R4029077-2, L1700229-01, 02	2,4,5-Trichlorophenol, 2,4,6-Trichlorophenol, 2-Nitrophenol, 4,6-Dinitro-2-methylphenol, Benzoic acid and Pentachlorophenol

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.95	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	70.4		0.100	1	02/05/2024 17:55	WG2216365

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	ND		4.00	1	01/30/2024 23:17	WG2216347

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	02/02/2024 21:44	WG2218312

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	416		20.0	1	02/05/2024 10:22	WG2219700
Alkalinity,Bicarbonate	416		20.0	1	02/05/2024 10:22	WG2219700

Sample Narrative:

L1700229-01 WG2219700: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	53.8		0.317	10	01/31/2024 13:26	WG2216775

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	69.7		0.350	10	02/05/2024 17:55	WG2218141

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	0.714		0.100	1	01/30/2024 23:42	WG2216365

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	1.07		0.0200	20	01/31/2024 17:37	WG2216986

Wet Chemistry by Method 5210 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
BOD	9.11		3.33	1	02/04/2024 12:38	WG2216095

Wet Chemistry by Method 7196A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chromium,Hexavalent	ND	T8	0.0100	1	01/30/2024 17:34	WG2216310

Wet Chemistry by Method 9012B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND	P1	0.0100	1	02/01/2024 10:07	WG2217417

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	7.95	T8	1	02/01/2024 11:40	WG2217299

Sample Narrative:

L1700229-01 WG2217299: 7.95 at 19.1C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	274		1.00	5	01/31/2024 03:09	WG2215954
Sulfate	9.23		5.00	1	01/31/2024 02:55	WG2215954

Mercury by Method 7470A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	01/31/2024 10:10	WG2215056

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.0100	1	01/31/2024 20:15	WG2216957
Arsenic	ND		0.0100	1	01/31/2024 20:15	WG2216957
Barium	0.101		0.00500	1	01/31/2024 20:15	WG2216957
Beryllium	ND		0.00200	1	01/31/2024 20:15	WG2216957
Cadmium	ND		0.00200	1	01/31/2024 20:15	WG2216957
Calcium	19.0		1.00	1	01/31/2024 20:15	WG2216957
Chromium	0.0171		0.0100	1	01/31/2024 20:15	WG2216957
Cobalt	ND		0.0100	1	01/31/2024 20:15	WG2216957
Copper	0.0188		0.0100	1	01/31/2024 20:15	WG2216957
Lead	ND		0.00500	1	01/31/2024 20:15	WG2216957
Magnesium	10.8		1.00	1	01/31/2024 20:15	WG2216957
Molybdenum	ND		0.0100	1	01/31/2024 20:15	WG2216957
Nickel	0.0289		0.0100	1	01/31/2024 20:15	WG2216957
Potassium	51.0		1.00	1	01/31/2024 20:15	WG2216957
Selenium	ND		0.0250	1	01/31/2024 20:15	WG2216957
Silver	ND		0.00600	1	01/31/2024 20:15	WG2216957
Sodium	199		1.00	1	01/31/2024 20:15	WG2216957
Thallium	ND		0.0200	1	01/31/2024 20:15	WG2216957
Vanadium	ND		0.0200	1	01/31/2024 20:15	WG2216957
Zinc	0.123		0.0500	1	01/31/2024 20:15	WG2216957

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
1,1,1,2-Tetrachloroethane	ND		1.00	1	02/01/2024 14:42	WG2218056
1,1,1-Trichloroethane	ND		1.00	1	02/01/2024 14:42	WG2218056
1,1,2,2-Tetrachloroethane	ND		1.00	1	02/01/2024 14:42	WG2218056
1,1,2-Trichloroethane	ND		1.00	1	02/01/2024 14:42	WG2218056
1,1-Dichloroethane	ND		1.00	1	02/01/2024 14:42	WG2218056
1,1-Dichloroethene	ND		1.00	1	02/01/2024 14:42	WG2218056
1,2,3-Trichloropropane	ND	C3	2.50	1	02/01/2024 14:42	WG2218056
1,2-Dibromo-3-Chloropropane	ND		2.50	1	02/01/2024 14:42	WG2218056
1,2-Dibromoethane	ND		1.00	1	02/01/2024 14:42	WG2218056
1,2-Dichloroethane	ND		1.00	1	02/01/2024 14:42	WG2218056
1,2-Dichloropropane	ND		1.00	1	02/01/2024 14:42	WG2218056
2-Butanone (MEK)	ND		10.0	1	02/01/2024 14:42	WG2218056
2-Chloroethyl vinyl ether	ND		50.0	1	02/01/2024 14:42	WG2218056
2-Hexanone	ND		5.00	1	02/01/2024 14:42	WG2218056
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	02/01/2024 14:42	WG2218056
Acetone	ND	J3	25.0	1	02/01/2024 14:42	WG2218056
Acrylonitrile	ND		5.00	1	02/01/2024 14:42	WG2218056
Benzene	ND		1.00	1	02/01/2024 14:42	WG2218056
Bromochloromethane	ND		1.00	1	02/01/2024 14:42	WG2218056
Bromodichloromethane	ND		1.00	1	02/01/2024 14:42	WG2218056
Bromoform	ND		1.00	1	02/01/2024 14:42	WG2218056
Bromomethane	ND		2.50	1	02/01/2024 14:42	WG2218056
Carbon disulfide	ND		1.00	1	02/01/2024 14:42	WG2218056
Carbon tetrachloride	ND		1.00	1	02/01/2024 14:42	WG2218056
Chlorobenzene	ND		1.00	1	02/01/2024 14:42	WG2218056
Chloroethane	ND		2.50	1	02/01/2024 14:42	WG2218056
Chloroform	ND		1.00	1	02/01/2024 14:42	WG2218056
Chloromethane	ND		1.25	1	02/01/2024 14:42	WG2218056
Dibromochloromethane	ND		1.00	1	02/01/2024 14:42	WG2218056
Dibromomethane	ND		1.00	1	02/01/2024 14:42	WG2218056
Ethylbenzene	ND		1.00	1	02/01/2024 14:42	WG2218056
Iodomethane	ND		10.0	1	02/01/2024 14:42	WG2218056
Methylene Chloride	ND		2.50	1	02/01/2024 14:42	WG2218056
Styrene	ND		1.00	1	02/01/2024 14:42	WG2218056
Tetrachloroethene	ND		1.00	1	02/01/2024 14:42	WG2218056
Toluene	ND		1.00	1	02/01/2024 14:42	WG2218056
Trichloroethene	ND		1.00	1	02/01/2024 14:42	WG2218056
Trichlorofluoromethane	ND		2.50	1	02/01/2024 14:42	WG2218056
Vinyl acetate	ND		5.00	1	02/01/2024 14:42	WG2218056
Vinyl chloride	ND		1.00	1	02/01/2024 14:42	WG2218056
Xylenes, Total	ND		2.00	1	02/01/2024 14:42	WG2218056
cis-1,2-Dichloroethene	ND		1.00	1	02/01/2024 14:42	WG2218056
cis-1,3-Dichloropropene	ND		1.00	1	02/01/2024 14:42	WG2218056
trans-1,2-Dichloroethene	ND		1.00	1	02/01/2024 14:42	WG2218056
trans-1,3-Dichloropropene	ND		1.00	1	02/01/2024 14:42	WG2218056
trans-1,4-Dichloro-2-butene	ND	C3	5.00	1	02/01/2024 14:42	WG2218056
(S) 4-Bromofluorobenzene	*106*			*77.0-126*	*02/01/2024 14:42*	WG2218056
(S) Toluene-d8	*110*			*80.0-120*	*02/01/2024 14:42*	WG2218056
(S) 1,2-Dichloroethane-d4	*95.6*			*70.0-130*	*02/01/2024 14:42*	WG2218056

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND	J3	0.0100	1	02/01/2024 21:05	WG2216649
2,4,6-Trichlorophenol	ND	J3	0.0100	1	02/01/2024 21:05	WG2216649
2,4-Dichlorophenol	ND		0.0100	1	02/01/2024 21:05	WG2216649
2,4-Dimethylphenol	ND		0.0100	1	02/01/2024 21:05	WG2216649
2,4-Dinitrophenol	ND		0.0100	1	02/01/2024 21:05	WG2216649
2-Chlorophenol	ND		0.0100	1	02/01/2024 21:05	WG2216649
2-Nitrophenol	ND	J3	0.0100	1	02/01/2024 21:05	WG2216649
4,6-Dinitro-2-methylphenol	ND	J3	0.0100	1	02/01/2024 21:05	WG2216649
4-Chloro-3-methylphenol	ND		0.0100	1	02/01/2024 21:05	WG2216649
4-Nitrophenol	ND		0.0100	1	02/01/2024 21:05	WG2216649
Benzoic acid	ND	J3	0.0500	1	02/01/2024 21:05	WG2216649
Pentachlorophenol	ND	J3	0.0100	1	02/01/2024 21:05	WG2216649
(S) Phenol-d5	*24.2*			*10.0-120*	*02/01/2024 21:05*	WG2216649
(S) p-Terphenyl-d14	*44.1*			*10.0-128*	*02/01/2024 21:05*	WG2216649
(S) Nitrobenzene-d5	*67.6*			*10.0-127*	*02/01/2024 21:05*	WG2216649
(S) 2-Fluorophenol	*34.2*			*10.0-120*	*02/01/2024 21:05*	WG2216649
(S) 2-Fluorobiphenyl	*60.1*			*10.0-130*	*02/01/2024 21:05*	WG2216649
(S) 2,4,6-Tribromophenol	*76.3*			*10.0-155*	*02/01/2024 21:05*	WG2216649

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	7.63	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	1020		0.100	1	02/05/2024 18:06	WG2216365

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	36.6		4.00	1	01/30/2024 23:17	WG2216347

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	02/02/2024 21:44	WG2218312

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	5480		20.0	1	02/05/2024 10:34	WG2219700
Alkalinity,Bicarbonate	5480		20.0	1	02/05/2024 10:34	WG2219700

Sample Narrative:

L1700229-02 WG2219700: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	867		6.34	200	01/31/2024 13:27	WG2216775

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	1020		2.80	80	02/05/2024 18:06	WG2218141

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	0.154		0.100	1	01/30/2024 23:44	WG2216365

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	11.0		0.100	100	01/31/2024 19:13	WG2216986

Wet Chemistry by Method 5210 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
BOD	209		33.3	10	02/04/2024 12:44	WG2216095

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	01/30/2024 17:35	WG2216310

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.0138		0.0100	4	02/01/2024 10:10	WG2217417

Sample Narrative:

L1700229-02 WG2217417: Dilution due to sample matrix(sulfide interference)

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	7.87	T8	1	02/01/2024 11:40	WG2217299

Sample Narrative:

L1700229-02 WG2217299: 7.87 at 19.1C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	2570		5.19	100	01/31/2024 03:36	WG2215954
Sulfate	19.4		5.00	10	01/31/2024 03:22	WG2215954

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000490	10	02/01/2024 12:25	WG2216431

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0675	9	01/31/2024 20:17	WG2216957
Arsenic	ND		0.0585	9	01/31/2024 20:17	WG2216957
Barium	0.189		0.0153	9	01/31/2024 20:17	WG2216957
Beryllium	ND		0.00630	9	01/31/2024 20:17	WG2216957
Cadmium	ND		0.00630	9	01/31/2024 20:17	WG2216957
Calcium	887		1.00	9	01/31/2024 20:17	WG2216957
Chromium	0.0129		0.0126	9	01/31/2024 20:17	WG2216957
Cobalt	ND		0.0207	9	01/31/2024 20:17	WG2216957
Copper	0.0769		0.0477	9	01/31/2024 20:17	WG2216957
Lead	ND		0.0171	9	01/31/2024 20:17	WG2216957
Magnesium	115		1.00	9	01/31/2024 20:17	WG2216957
Molybdenum	0.232		0.0144	9	01/31/2024 20:17	WG2216957
Nickel	ND		0.0441	9	01/31/2024 20:17	WG2216957
Potassium	54.1		1.00	9	01/31/2024 20:17	WG2216957
Selenium	ND		0.0666	9	01/31/2024 20:17	WG2216957
Silver	ND		0.0252	9	01/31/2024 20:17	WG2216957
Sodium	1150		1.00	9	01/31/2024 20:17	WG2216957
Thallium	ND		0.0585	9	01/31/2024 20:17	WG2216957
Vanadium	0.139		0.0216	9	01/31/2024 20:17	WG2216957
Zinc	ND		0.0531	9	01/31/2024 20:17	WG2216957

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	5	01/31/2024 16:00	WG2216996
1,1,1-Trichloroethane	ND		1.00	5	01/31/2024 16:00	WG2216996
1,1,2,2-Tetrachloroethane	ND		1.00	5	01/31/2024 16:00	WG2216996
1,1,2-Trichloroethane	ND		1.00	5	01/31/2024 16:00	WG2216996
1,1-Dichloroethane	ND		1.00	5	01/31/2024 16:00	WG2216996
1,1-Dichloroethene	ND		1.00	5	01/31/2024 16:00	WG2216996
1,2,3-Trichloropropane	ND		2.50	5	01/31/2024 16:00	WG2216996
1,2-Dibromo-3-Chloropropane	ND	C3	2.50	5	01/31/2024 16:00	WG2216996
1,2-Dibromoethane	ND		1.00	5	01/31/2024 16:00	WG2216996
1,2-Dichloroethane	ND		1.00	5	01/31/2024 16:00	WG2216996
1,2-Dichloropropane	ND		1.00	5	01/31/2024 16:00	WG2216996
2-Butanone (MEK)	272		10.0	5	01/31/2024 16:00	WG2216996
2-Chloroethyl vinyl ether	ND		50.0	5	01/31/2024 16:00	WG2216996
2-Hexanone	ND		5.00	5	01/31/2024 16:00	WG2216996
4-Methyl-2-pentanone (MIBK)	7.03		5.00	5	01/31/2024 16:00	WG2216996
Acetone	445		25.0	5	01/31/2024 16:00	WG2216996
Acrylonitrile	ND		5.00	5	01/31/2024 16:00	WG2216996
Benzene	ND		1.00	5	01/31/2024 16:00	WG2216996
Bromochloromethane	ND		1.00	5	01/31/2024 16:00	WG2216996
Bromodichloromethane	ND		1.00	5	01/31/2024 16:00	WG2216996
Bromoform	ND		1.00	5	01/31/2024 16:00	WG2216996
Bromomethane	ND	C3	2.50	5	01/31/2024 16:00	WG2216996
Carbon disulfide	ND		1.00	5	01/31/2024 16:00	WG2216996
Carbon tetrachloride	ND		1.00	5	01/31/2024 16:00	WG2216996
Chlorobenzene	ND		1.00	5	01/31/2024 16:00	WG2216996
Chloroethane	ND		2.50	5	01/31/2024 16:00	WG2216996
Chloroform	ND	J4	1.00	5	01/31/2024 16:00	WG2216996
Chloromethane	ND		1.25	5	01/31/2024 16:00	WG2216996
Dibromochloromethane	ND		1.00	5	01/31/2024 16:00	WG2216996
Dibromomethane	ND		1.00	5	01/31/2024 16:00	WG2216996
Ethylbenzene	2.24		1.00	5	01/31/2024 16:00	WG2216996
Iodomethane	ND		10.0	5	01/31/2024 16:00	WG2216996
Methylene Chloride	ND		5.35	5	01/31/2024 16:00	WG2216996
Styrene	ND		1.00	5	01/31/2024 16:00	WG2216996
Tetrachloroethene	ND		1.00	5	01/31/2024 16:00	WG2216996
Toluene	2.54		2.06	5	01/31/2024 16:00	WG2216996
Trichloroethene	ND		1.00	5	01/31/2024 16:00	WG2216996
Trichlorofluoromethane	ND		2.50	5	01/31/2024 16:00	WG2216996
Vinyl acetate	ND	J4	5.00	5	01/31/2024 16:00	WG2216996
Vinyl chloride	ND	J4	1.00	5	01/31/2024 16:00	WG2216996
Xylenes, Total	7.72		2.00	5	01/31/2024 16:00	WG2216996
cis-1,2-Dichloroethene	ND		1.00	5	01/31/2024 16:00	WG2216996
cis-1,3-Dichloropropene	ND		1.00	5	01/31/2024 16:00	WG2216996
trans-1,2-Dichloroethene	ND		1.00	5	01/31/2024 16:00	WG2216996
trans-1,3-Dichloropropene	ND		1.11	5	01/31/2024 16:00	WG2216996
trans-1,4-Dichloro-2-butene	ND	C3	5.00	5	01/31/2024 16:00	WG2216996
(S) 4-Bromofluorobenzene	*104*			*77.0-126*	*01/31/2024 16:00*	WG2216996
(S) Toluene-d8	*97.7*			*80.0-120*	*01/31/2024 16:00*	WG2216996
(S) 1,2-Dichloroethane-d4	*91.5*			*70.0-130*	*01/31/2024 16:00*	WG2216996

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND	J3	0.0100	5	02/01/2024 22:56	WG2216649
2,4,6-Trichlorophenol	ND	J3	0.0100	5	02/01/2024 22:56	WG2216649
2,4-Dichlorophenol	ND		0.0100	5	02/01/2024 22:56	WG2216649
2,4-Dimethylphenol	ND		0.0100	5	02/01/2024 22:56	WG2216649
2,4-Dinitrophenol	ND		0.0297	5	02/01/2024 22:56	WG2216649
2-Chlorophenol	ND		0.0100	5	02/01/2024 22:56	WG2216649
2-Nitrophenol	ND	J3	0.0100	5	02/01/2024 22:56	WG2216649
4,6-Dinitro-2-methylphenol	ND	J3	0.0100	5	02/01/2024 22:56	WG2216649
4-Chloro-3-methylphenol	ND		0.0100	5	02/01/2024 22:56	WG2216649
4-Nitrophenol	ND		0.0100	5	02/01/2024 22:56	WG2216649
Benzoic acid	ND	J3	0.0500	5	02/01/2024 22:56	WG2216649
Pentachlorophenol	ND	J3	0.0100	5	02/01/2024 22:56	WG2216649
(S) Phenol-d5	*42.7*			*10.0-120*	*02/01/2024 22:56*	WG2216649
(S) p-Terphenyl-d14	*14.6*			*10.0-128*	*02/01/2024 22:56*	WG2216649
(S) Nitrobenzene-d5	*89.3*			*10.0-127*	*02/01/2024 22:56*	WG2216649
(S) 2-Fluorophenol	*35.1*			*10.0-120*	*02/01/2024 22:56*	WG2216649
(S) 2-Fluorobiphenyl	*38.1*			*10.0-130*	*02/01/2024 22:56*	WG2216649
(S) 2,4,6-Tribromophenol	*66.8*			*10.0-155*	*02/01/2024 22:56*	WG2216649

Sample Narrative:

L1700229-02 WG2216649: Dilution due to matrix

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		2/14/2024 8:34:53 AM	WG2216672

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	02/02/2024 11:22	WG2218094

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	02/02/2024 10:14	WG2218178
Barium, TCLP	0.105		0.100	100	1	02/02/2024 10:14	WG2218178
Cadmium, TCLP	ND		0.100	1	1	02/02/2024 10:14	WG2218178
Chromium, TCLP	ND		0.100	5	1	02/02/2024 10:14	WG2218178
Lead, TCLP	ND		0.100	5	1	02/02/2024 10:14	WG2218178
Selenium, TCLP	ND		0.100	1	1	02/02/2024 10:14	WG2218178
Silver, TCLP	ND		0.100	5	1	02/02/2024 10:14	WG2218178

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		2/14/2024 8:34:54 AM	WG2216672

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	02/02/2024 11:25	WG2218094

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	02/02/2024 10:16	WG2218178
Barium, TCLP	0.646		0.100	100	1	02/02/2024 10:16	WG2218178
Cadmium, TCLP	ND		0.100	1	1	02/02/2024 10:16	WG2218178
Chromium, TCLP	0.156		0.100	5	1	02/02/2024 10:16	WG2218178
Lead, TCLP	ND		0.100	5	1	02/02/2024 10:16	WG2218178
Selenium, TCLP	ND		0.100	1	1	02/02/2024 10:16	WG2218178
Silver, TCLP	ND		0.100	5	1	02/02/2024 10:16	WG2218178

Method Blank (MB)

(MB) R4028221-1 01/30/24 23:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1699142-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1699142-01 01/30/24 23:17 • (DUP) R4028221-3 01/30/24 23:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	240	248	1	3.28		10

L1700229-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1700229-02 01/30/24 23:17 • (DUP) R4028221-4 01/30/24 23:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	36.6	34.9	1	4.79		10

Laboratory Control Sample (LCS)

(LCS) R4028221-2 01/30/24 23:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	844	109	85.0-115	

Method Blank (MB)

(MB) R4029390-1 02/02/24 21:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	ND		1.16	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4029390-2 02/02/24 21:44 • (LCSD) R4029390-3 02/02/24 21:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	36.4	35.9	91.0	89.8	78.0-114			1.38	20

L1700170-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1700170-01 02/02/24 21:44 • (MS) R4029390-4 02/02/24 21:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	33.2	83.0	1	78.0-114	

Method Blank (MB)

(MB) R4029883-2 02/05/24 09:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0
Alkalinity,Bicarbonate	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1700652-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700652-01 02/05/24 10:16 • (DUP) R4029883-3 02/05/24 10:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	452	450	1	0.413		20
Alkalinity,Bicarbonate	452	450	1	0.413		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1700927-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700927-01 02/05/24 12:26 • (DUP) R4029883-4 02/05/24 12:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	95.1	95.2	1	0.0728		20
Alkalinity,Bicarbonate	95.1	95.2	1	0.0728		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4029883-1 02/05/24 09:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	104	104	90.0-110	

Laboratory Control Sample (LCS)

(LCS) R4029883-1 02/05/24 09:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4028257-1 01/31/24 12:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

L1700139-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700139-01 01/31/24 12:15 • (DUP) R4028257-3 01/31/24 12:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

L1700302-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700302-01 01/31/24 12:35 • (DUP) R4028257-5 01/31/24 12:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.303	0.293	1	3.36		10

Laboratory Control Sample (LCS)

(LCS) R4028257-2 01/31/24 12:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.24	96.5	90.0-110	

L1700139-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1700139-01 01/31/24 12:15 • (MS) R4028257-4 01/31/24 12:19

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	ND	4.90	98.1	1	90.0-110	

L1700302-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700302-01 01/31/24 12:35 • (MS) R4028257-6 01/31/24 12:38 • (MSD) R4028257-7 01/31/24 12:40

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	0.303	5.16	5.27	97.2	99.3	1	90.0-110			2.07	10

Method Blank (MB)

(MB) R4030028-1 02/05/24 17:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	0.244	J	0.0350	0.250

L1700981-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700981-01 02/05/24 18:04 • (DUP) R4030028-5 02/05/24 17:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	1.01	1.06	1	4.83		20

L1700978-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700978-01 02/05/24 18:02 • (DUP) R4030028-8 02/05/24 18:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	27.6	27.6	2	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4030028-2 02/05/24 17:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	13.4	109	80.0-120	

L1700464-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1700464-01 02/05/24 17:27 • (MS) R4030028-3 02/05/24 17:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	0.400	5.29	97.8	1	90.0-110	

L1700981-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700981-01 02/05/24 18:04 • (MS) R4030028-6 02/05/24 17:50 • (MSD) R4030028-7 02/05/24 17:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	1.01	8.15	8.03	143	140	1	90.0-110	J5	J5	1.48	20

L1700981-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700981-01 02/05/24 18:04 • (MS) R4030028-6 02/05/24 17:50 • (MSD) R4030028-7 02/05/24 17:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %

Sample Narrative:

MS: spike failed due to sample matrix

MSD: spike failed due to sample matrix

Method Blank (MB)

(MB) R4028037-1 01/30/24 22:24

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	0.0240		0.0197	0.100

L1699409-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1699409-02 01/30/24 22:33 • (DUP) R4028037-3 01/30/24 22:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	2.12	2.11	1	0.284		20

L1700106-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700106-01 01/30/24 23:09 • (DUP) R4028037-5 01/30/24 23:11

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	8.82	8.80	5	0.170		20

Laboratory Control Sample (LCS)

(LCS) R4028037-2 01/30/24 22:26

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.58	103	90.0-110	

L1699409-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1699409-02 01/30/24 22:33 • (MS) R4028037-4 01/30/24 22:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	2.12	4.59	98.8	1	90.0-110	

L1700106-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700106-01 01/30/24 23:09 • (MS) R4028037-6 01/30/24 23:13 • (MSD) R4028037-7 01/30/24 23:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	8.82	11.2	11.3	95.8	98.5	5	90.0-110			0.605	20

Method Blank (MB)

(MB) R4028443-1 01/31/24 17:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	ND		0.00100	0.00300

L1700229-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1700229-02 01/31/24 19:13 • (DUP) R4028443-9 01/31/24 19:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	11.0	10.7	100	2.76		20

Laboratory Control Sample (LCS)

(LCS) R4028443-2 01/31/24 17:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	0.0722	0.0647	89.6	78.9-121	

L1700229-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700229-02 01/31/24 19:13 • (MS) R4028443-10 01/31/24 19:16 • (MSD) R4028443-11 01/31/24 19:18

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2.50	11.0	13.4	13.3	96.0	92.0	100	90.0-110			0.749	20

Method Blank (MB)

(MB) R4029690-1 02/04/24 09:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
BOD	ND		0.200	0.200

L1700139-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700139-01 02/04/24 11:59 • (DUP) R4029690-3 02/04/24 12:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	ND	ND	1	0		30

Laboratory Control Sample (LCS)

(LCS) R4029690-2 02/04/24 11:54

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	193	97.6	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4029690-4 02/04/24 12:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	220	111	84.6-115	

Method Blank (MB)

(MB) R4027945-1 01/30/24 17:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	ND		0.00300	0.0100

L1699285-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1699285-02 01/30/24 17:31 • (DUP) R4027945-3 01/30/24 17:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4027945-2 01/30/24 17:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.495	99.0	80.0-120	

L1700320-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700320-01 01/30/24 17:35 • (MS) R4027945-4 01/30/24 17:36 • (MSD) R4027945-5 01/30/24 17:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	0.0130	0.534	0.527	104	103	1	75.0-125			1.32	20

Method Blank (MB)

(MB) R4028670-1 02/01/24 10:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	ND		0.00180	0.00500

L1700229-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700229-01 02/01/24 10:07 • (DUP) R4028670-3 02/01/24 10:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	200	P1	20

L1700810-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700810-01 02/01/24 10:42 • (DUP) R4028670-6 02/01/24 10:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	25.1	P1	20

Laboratory Control Sample (LCS)

(LCS) R4028670-2 02/01/24 10:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.0975	97.5	87.1-120	

L1700683-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700683-01 02/01/24 10:26 • (MS) R4028670-4 02/01/24 10:27 • (MSD) R4028670-5 02/01/24 10:29

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0902	0.0881	90.2	88.1	1	90.0-110		J6	2.36	20

Sample Narrative:

MS: spike failed due to sample matrix

L1700668-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700668-01 02/01/24 11:40 • (DUP) R4028743-3 02/01/24 11:40

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.39	6.39	1	0.000		1

Sample Narrative:

OS: 6.39 at 18.2C

DUP: 6.39 at 18.2C

Laboratory Control Sample (LCS)

(LCS) R4028743-1 02/01/24 11:40

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 19.5C

Method Blank (MB)

(MB) R4028188-1 01/30/24 21:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.320		0.0519	1.00
Sulfate	0.614	J	0.0774	5.00

L1700106-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1700106-01 01/30/24 22:24 • (DUP) R4028188-6 01/30/24 22:38

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	341	338	1	0.660	E	15
Sulfate	137	136	1	1.01		15

L1700182-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1700182-02 01/31/24 01:47 • (DUP) R4028188-9 01/31/24 02:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	6.29	6.28	1	0.0716		15
Sulfate	5.44	5.17	1	5.13		15

Laboratory Control Sample (LCS)

(LCS) R4028188-2 01/30/24 21:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.3	101	80.0-120	
Sulfate	40.0	40.4	101	80.0-120	

L1700106-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700106-01 01/30/24 22:24 • (MS) R4028188-7 01/30/24 22:51 • (MSD) R4028188-8 01/30/24 23:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	341	313	310	0.000	0.000	1	80.0-120	E V	E V	0.959	15
Sulfate	40.0	137	151	151	34.6	34.0	1	80.0-120	J6	J6	0.134	15

Sample Narrative:

MS: Cl/SO4 spike failed due to sample matrix

L1700106-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700106-01 01/30/24 22:24 • (MS) R4028188-7 01/30/24 22:51 • (MSD) R4028188-8 01/30/24 23:05

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %

MSD: Cl/SO4 spike failed due to sample matrix

L1700182-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1700182-02 01/31/24 01:47 • (MS) R4028188-10 01/31/24 02:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	6.29	45.5	98.1	1	80.0-120	
Sulfate	40.0	5.44	46.0	101	1	80.0-120	

Method Blank (MB)

(MB) R4028194-1 01/31/24 09:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	ND		0.0000490	0.000200

Laboratory Control Sample (LCS)

(LCS) R4028194-2 01/31/24 09:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00305	102	80.0-120	

L1700235-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700235-02 01/31/24 09:33 • (MS) R4028194-3 01/31/24 09:35 • (MSD) R4028194-4 01/31/24 09:38

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00304	0.00305	101	102	1	75.0-125			0.375	20

Method Blank (MB)

(MB) R4028813-1 02/01/24 12:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	ND		0.0000490	0.000200

Laboratory Control Sample (LCS)

(LCS) R4028813-2 02/01/24 12:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00327	109	80.0-120	

L1700368-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700368-20 02/01/24 12:12 • (MS) R4028813-3 02/01/24 12:20 • (MSD) R4028813-4 02/01/24 12:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00323	0.00317	108	106	1	75.0-125			1.88	20

Method Blank (MB)

(MB) R4029208-1 02/02/24 10:47

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury, TCLP	ND		0.0000490	0.0100

Laboratory Control Sample (LCS)

(LCS) R4029208-2 02/02/24 10:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury, TCLP	0.0300	0.0293	97.7	80.0-120	

L1700199-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700199-06 02/02/24 10:51 • (MS) R4029208-3 02/02/24 10:54 • (MSD) R4029208-4 02/02/24 10:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0290	0.0292	96.7	97.4	1	75.0-125			0.683	20

L1700209-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700209-02 02/02/24 10:59 • (MS) R4029208-5 02/02/24 11:01 • (MSD) R4029208-6 02/02/24 11:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0293	0.0287	97.6	95.5	1	75.0-125			2.15	20

Method Blank (MB)

(MB) R4028461-1 01/31/24 20:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	ND		0.00750	0.0100
Arsenic	ND		0.00650	0.0100
Barium	ND		0.00170	0.00500
Beryllium	ND		0.000700	0.00200
Cadmium	ND		0.000700	0.00200
Calcium	ND		0.0463	1.00
Chromium	ND		0.00140	0.0100
Cobalt	ND		0.00230	0.0100
Copper	ND		0.00530	0.0100
Lead	ND		0.00190	0.00500
Magnesium	ND		0.0111	1.00
Molybdenum	ND		0.00160	0.00500
Nickel	ND		0.00490	0.0100
Potassium	0.122		0.102	1.00
Selenium	ND		0.00740	0.0100
Silver	ND		0.00280	0.00500
Sodium	0.400		0.0985	1.00
Thallium	ND		0.00650	0.0100
Vanadium	ND		0.00240	0.0200
Zinc	ND		0.00590	0.0500

Laboratory Control Sample (LCS)

(LCS) R4028461-2 01/31/24 20:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1.00	0.975	97.5	80.0-120	
Arsenic	1.00	0.961	96.1	80.0-120	
Barium	1.00	1.01	101	80.0-120	
Beryllium	1.00	0.983	98.3	80.0-120	
Cadmium	1.00	0.981	98.1	80.0-120	
Calcium	10.0	10.1	101	80.0-120	
Chromium	1.00	0.987	98.7	80.0-120	
Cobalt	1.00	0.954	95.4	80.0-120	
Copper	1.00	1.02	102	80.0-120	
Lead	1.00	0.961	96.1	80.0-120	
Magnesium	10.0	9.88	98.8	80.0-120	
Molybdenum	1.00	0.991	99.1	80.0-120	
Nickel	1.00	0.948	94.8	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4028461-2 01/31/24 20:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Potassium	10.0	10.2	102	80.0-120	
Selenium	1.00	0.912	91.2	80.0-120	
Silver	0.200	0.191	95.3	80.0-120	
Sodium	10.0	10.3	103	80.0-120	
Thallium	1.00	1.01	101	80.0-120	
Vanadium	1.00	0.972	97.2	80.0-120	
Zinc	1.00	0.976	97.6	80.0-120	

L1700434-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700434-01 01/31/24 20:06 • (MS) R4028461-4 01/31/24 20:09 • (MSD) R4028461-5 01/31/24 20:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	ND	0.982	1.01	98.2	101	1	75.0-125			2.77	20
Arsenic	1.00	0.0134	1.01	1.04	99.5	103	1	75.0-125			2.95	20
Barium	1.00	0.344	1.33	1.35	98.2	100	1	75.0-125			1.64	20
Beryllium	1.00	ND	0.999	1.01	99.9	101	1	75.0-125			1.46	20
Cadmium	1.00	ND	0.983	1.01	98.3	101	1	75.0-125			2.30	20
Calcium	10.0	201	208	209	73.8	82.1	1	75.0-125	V		0.398	20
Chromium	1.00	ND	0.981	1.00	98.0	100	1	75.0-125			2.30	20
Cobalt	1.00	ND	0.975	0.998	97.5	99.8	1	75.0-125			2.25	20
Copper	1.00	ND	1.01	1.03	101	103	1	75.0-125			1.83	20
Lead	1.00	ND	0.973	0.992	97.3	99.2	1	75.0-125			1.90	20
Magnesium	10.0	40.5	50.2	50.3	96.3	98.2	1	75.0-125			0.390	20
Molybdenum	1.00	ND	0.985	1.01	98.3	101	1	75.0-125			2.70	20
Nickel	1.00	ND	0.976	1.00	97.6	100	1	75.0-125			2.73	20
Potassium	10.0	7.64	17.8	17.8	101	102	1	75.0-125			0.278	20
Selenium	1.00	ND	0.983	1.01	96.9	99.5	1	75.0-125			2.53	20
Silver	0.200	ND	0.201	0.204	101	102	1	75.0-125			1.44	20
Sodium	10.0	13.1	21.8	22.2	87.1	90.5	1	75.0-125			1.54	20
Thallium	1.00	ND	1.01	1.03	101	103	1	75.0-125			1.04	20
Vanadium	1.00	ND	0.972	0.986	97.2	98.6	1	75.0-125			1.39	20
Zinc	1.00	ND	0.976	1.00	97.6	100	1	75.0-125			2.80	20

Method Blank (MB)

(MB) R4029222-1 02/02/24 09:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic, TCLP	ND		0.00650	0.100
Barium, TCLP	0.00189		0.00170	0.100
Cadmium, TCLP	ND		0.0463	0.100
Chromium, TCLP	ND		0.00140	0.100
Lead, TCLP	0.00345		0.00190	0.100
Selenium, TCLP	ND		0.00740	0.100
Silver, TCLP	0.00569		0.00280	0.100

Laboratory Control Sample (LCS)

(LCS) R4029222-2 02/02/24 09:48

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic, TCLP	10.0	9.80	98.0	80.0-120	
Barium, TCLP	10.0	9.76	97.6	80.0-120	
Cadmium, TCLP	10.0	9.69	96.9	80.0-120	
Chromium, TCLP	10.0	9.70	97.0	80.0-120	
Lead, TCLP	10.0	9.81	98.1	80.0-120	
Selenium, TCLP	10.0	9.98	99.8	80.0-120	
Silver, TCLP	2.00	1.94	96.8	80.0-120	

L1700199-10 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700199-10 02/02/24 09:50 • (MS) R4029222-4 02/02/24 09:53 • (MSD) R4029222-5 02/02/24 09:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	9.66	9.81	96.6	98.1	1	75.0-125			1.51	20
Barium, TCLP	10.0	1.24	11.0	11.0	97.6	97.6	1	75.0-125			0.0293	20
Cadmium, TCLP	10.0	ND	9.65	9.73	96.5	97.3	1	75.0-125			0.918	20
Chromium, TCLP	10.0	ND	9.57	9.70	95.7	97.0	1	75.0-125			1.37	20
Lead, TCLP	10.0	ND	9.80	9.88	97.3	98.1	1	75.0-125			0.783	20
Selenium, TCLP	10.0	ND	9.94	10.0	99.4	100	1	75.0-125			0.922	20
Silver, TCLP	2.00	ND	1.90	1.93	95.0	96.3	1	75.0-125			1.39	20

L1700209-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1700209-02 02/02/24 09:56 • (MS) R4029222-6 02/02/24 09:58 • (MSD) R4029222-7 02/02/24 09:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	9.60	9.49	96.0	94.9	1	75.0-125			1.16	20
Barium, TCLP	10.0	ND	10.0	9.95	100	99.5	1	75.0-125			0.643	20
Cadmium, TCLP	10.0	ND	9.71	9.69	97.1	96.9	1	75.0-125			0.245	20
Chromium, TCLP	10.0	ND	9.88	9.81	98.8	98.1	1	75.0-125			0.658	20
Lead, TCLP	10.0	ND	9.65	9.68	96.5	96.8	1	75.0-125			0.368	20
Selenium, TCLP	10.0	ND	9.33	9.28	93.3	92.8	1	75.0-125			0.569	20
Silver, TCLP	2.00	ND	1.93	1.93	96.7	96.3	1	75.0-125			0.354	20

Method Blank (MB)

(MB) R4028661-4 01/31/24 10:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.120	0.500
1,1,1-Trichloroethane	ND		0.0940	0.500
1,1,2,2-Tetrachloroethane	ND		0.130	0.500
1,1,2-Trichloroethane	ND		0.186	0.500
1,1-Dichloroethane	ND		0.114	0.500
1,1-Dichloroethene	ND		0.188	0.500
1,2,3-Trichloropropane	ND		0.247	2.50
1,2-Dibromo-3-Chloropropane	ND		0.325	2.50
1,2-Dibromoethane	ND		0.193	0.500
1,2-Dichloroethane	ND		0.108	0.500
1,2-Dichloropropane	ND		0.190	0.500
2-Butanone (MEK)	ND		1.28	5.00
2-Chloroethyl vinyl ether	ND		0.575	50.0
2-Hexanone	ND		0.757	5.00
4-Methyl-2-pentanone (MIBK)	ND		0.823	5.00
Acetone	ND		1.05	25.0
Acrylonitrile	ND		0.873	5.00
Benzene	ND		0.0896	0.500
Bromochloromethane	ND		0.145	0.500
Bromodichloromethane	ND		0.0800	0.500
Bromoform	ND		0.186	0.500
Bromomethane	ND		0.157	2.50
Carbon disulfide	ND		0.101	0.500
Carbon tetrachloride	ND		0.159	0.500
Chlorobenzene	ND		0.140	0.500
Chloroethane	ND		0.141	2.50
Chloroform	0.129	J	0.0860	0.500
Chloromethane	ND		0.153	1.25
Dibromochloromethane	ND		0.128	0.500
Dibromomethane	ND		0.117	0.500
Ethylbenzene	ND		0.158	0.500
Iodomethane	2.12	J	0.377	10.0
Methylene Chloride	ND		1.07	2.50
Styrene	ND		0.117	0.500
Tetrachloroethene	ND		0.199	0.500
Toluene	ND		0.412	0.500
Trichloroethene	ND		0.153	0.500
Trichlorofluoromethane	ND		0.130	2.50
Vinyl acetate	ND		0.645	5.00
Vinyl chloride	ND		0.118	0.500

Method Blank (MB)

(MB) R4028661-4 01/31/24 10:24

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	ND		0.316	1.50
cis-1,2-Dichloroethene	ND		0.0933	0.500
cis-1,3-Dichloropropene	ND		0.0976	0.500
trans-1,2-Dichloroethene	ND		0.152	0.500
trans-1,3-Dichloropropene	ND		0.222	0.500
trans-1,4-Dichloro-2-butene	ND		0.257	5.00
(S) 4-Bromofluorobenzene	*98.8*			*77.0-126*
(S) Toluene-d8	*101*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*96.6*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4028661-1 01/31/24 08:43 • (LCSD) R4028661-2 01/31/24 09:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	4.13	4.41	82.6	88.2	75.0-125			6.56	20
1,1,1-Trichloroethane	5.00	5.39	5.78	108	116	73.0-124			6.98	20
1,1,2,2-Tetrachloroethane	5.00	4.81	4.92	96.2	98.4	65.0-130			2.26	20
1,1,2-Trichloroethane	5.00	4.90	5.08	98.0	102	80.0-120			3.61	20
1,1-Dichloroethane	5.00	5.56	6.04	111	121	70.0-126			8.28	20
1,1-Dichloroethene	5.00	5.82	6.17	116	123	71.0-124			5.84	20
1,2,3-Trichloropropane	5.00	4.68	4.81	93.6	96.2	73.0-130			2.74	20
1,2-Dibromo-3-Chloropropane	5.00	3.57	3.66	71.4	73.2	58.0-134			2.49	20
1,2-Dibromoethane	5.00	4.52	4.72	90.4	94.4	80.0-122			4.33	20
1,2-Dichloroethane	5.00	5.66	5.92	113	118	70.0-128			4.49	20
1,2-Dichloropropane	5.00	5.41	5.87	108	117	77.0-125			8.16	20
2-Butanone (MEK)	25.0	24.9	24.7	99.6	98.8	44.0-160			0.806	20
2-Chloroethyl vinyl ether	25.0	30.2	33.8	121	135	51.0-160			11.2	20
2-Hexanone	25.0	21.9	21.6	87.6	86.4	67.0-149			1.38	20
4-Methyl-2-pentanone (MIBK)	25.0	24.3	24.4	97.2	97.6	68.0-142			0.411	20
Acetone	25.0	26.9	25.4	108	102	19.0-160			5.74	27
Acrylonitrile	25.0	28.1	28.6	112	114	55.0-149			1.76	20
Benzene	5.00	5.69	6.17	114	123	70.0-123			8.09	20
Bromochloromethane	5.00	5.64	5.85	113	117	76.0-122			3.66	20
Bromodichloromethane	5.00	5.33	5.64	107	113	75.0-120			5.65	20
Bromoform	5.00	4.14	4.34	82.8	86.8	68.0-132			4.72	20
Bromomethane	5.00	3.89	4.51	77.8	90.2	10.0-160			14.8	25
Carbon disulfide	5.00	5.79	6.32	116	126	61.0-128			8.75	20
Carbon tetrachloride	5.00	5.32	5.93	106	119	68.0-126			10.8	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4028661-1 01/31/24 08:43 • (LCSD) R4028661-2 01/31/24 09:04

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chlorobenzene	5.00	4.56	4.79	91.2	95.8	80.0-121			4.92	20
Chloroethane	5.00	6.16	7.08	123	142	47.0-150			13.9	20
Chloroform	5.00	5.46	6.08	109	122	73.0-120		J4	10.7	20
Chloromethane	5.00	6.30	7.11	126	142	41.0-142			12.1	20
Dibromochloromethane	5.00	4.43	4.58	88.6	91.6	77.0-125			3.33	20
Dibromomethane	5.00	5.38	5.36	108	107	80.0-120			0.372	20
Ethylbenzene	5.00	4.65	4.94	93.0	98.8	79.0-123			6.05	20
Iodomethane	25.0	22.9	29.3	91.6	117	33.0-147			24.5	26
Methylene Chloride	5.00	5.76	5.95	115	119	67.0-120			3.25	20
Styrene	5.00	5.11	5.45	102	109	73.0-130			6.44	20
Tetrachloroethene	5.00	4.81	4.96	96.2	99.2	72.0-132			3.07	20
Toluene	5.00	4.67	4.99	93.4	99.8	79.0-120			6.63	20
Trichloroethene	5.00	5.26	5.70	105	114	78.0-124			8.03	20
Trichlorofluoromethane	5.00	5.97	6.35	119	127	59.0-147			6.17	20
Vinyl acetate	25.0	47.3	47.1	189	188	11.0-160	J4	J4	0.424	20
Vinyl chloride	5.00	6.59	7.10	132	142	67.0-131	J4	J4	7.45	20
Xylenes, Total	15.0	13.4	14.4	89.3	96.0	79.0-123			7.19	20
cis-1,2-Dichloroethene	5.00	5.26	5.72	105	114	73.0-120			8.38	20
cis-1,3-Dichloropropene	5.00	5.22	5.61	104	112	80.0-123			7.20	20
trans-1,2-Dichloroethene	5.00	5.37	5.93	107	119	73.0-120			9.91	20
trans-1,3-Dichloropropene	5.00	4.49	4.73	89.8	94.6	78.0-124			5.21	20
trans-1,4-Dichloro-2-butene	5.00	3.45	3.62	69.0	72.4	33.0-144			4.81	20
(S) 4-Bromofluorobenzene				*99.1*	*99.6*	*77.0-126*				
(S) Toluene-d8				*96.8*	*95.8*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*97.1*	*96.8*	*70.0-130*				

Method Blank (MB)

(MB) R4029237-4 02/01/24 10:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.120	0.500
1,1,1-Trichloroethane	ND		0.0940	0.500
1,1,2,2-Tetrachloroethane	ND		0.130	0.500
1,1,2-Trichloroethane	ND		0.186	0.500
1,1-Dichloroethane	ND		0.114	0.500
1,1-Dichloroethene	ND		0.188	0.500
1,2,3-Trichloropropane	ND		0.247	2.50
1,2-Dibromo-3-Chloropropane	ND		0.325	2.50
1,2-Dibromoethane	ND		0.193	0.500
1,2-Dichloroethane	ND		0.108	0.500
1,2-Dichloropropane	ND		0.190	0.500
2-Butanone (MEK)	ND		1.28	5.00
2-Chloroethyl vinyl ether	ND		0.575	50.0
2-Hexanone	ND		0.757	5.00
4-Methyl-2-pentanone (MIBK)	ND		0.823	5.00
Acetone	ND		1.05	25.0
Acrylonitrile	ND		0.873	5.00
Benzene	ND		0.0896	0.500
Bromochloromethane	ND		0.145	0.500
Bromodichloromethane	ND		0.0800	0.500
Bromoform	ND		0.186	0.500
Bromomethane	ND		0.157	2.50
Carbon disulfide	ND		0.101	0.500
Carbon tetrachloride	ND		0.159	0.500
Chlorobenzene	ND		0.140	0.500
Chloroethane	ND		0.141	2.50
Chloroform	0.140	J	0.0860	0.500
Chloromethane	ND		0.153	1.25
Dibromochloromethane	ND		0.128	0.500
Dibromomethane	ND		0.117	0.500
Ethylbenzene	ND		0.158	0.500
Iodomethane	ND		0.377	10.0
Methylene Chloride	ND		1.07	2.50
Styrene	ND		0.117	0.500
Tetrachloroethene	ND		0.199	0.500
Toluene	ND		0.412	0.500
Trichloroethene	ND		0.153	0.500
Trichlorofluoromethane	ND		0.130	2.50
Vinyl acetate	ND		0.645	5.00
Vinyl chloride	ND		0.118	0.500

Method Blank (MB)

(MB) R4029237-4 02/01/24 10:47

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	ND		0.316	1.50
cis-1,2-Dichloroethene	ND		0.0933	0.500
cis-1,3-Dichloropropene	ND		0.0976	0.500
trans-1,2-Dichloroethene	ND		0.152	0.500
trans-1,3-Dichloropropene	ND		0.222	0.500
trans-1,4-Dichloro-2-butene	ND		0.257	5.00
(S) 4-Bromofluorobenzene	*105*			*77.0-126*
(S) Toluene-d8	*109*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*89.5*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4029237-1 02/01/24 09:26 • (LCSD) R4029237-2 02/01/24 09:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	5.94	5.93	119	119	75.0-125			0.168	20
1,1,1-Trichloroethane	5.00	4.32	4.20	86.4	84.0	73.0-124			2.82	20
1,1,2,2-Tetrachloroethane	5.00	4.05	3.97	81.0	79.4	65.0-130			2.00	20
1,1,2-Trichloroethane	5.00	5.46	5.05	109	101	80.0-120			7.80	20
1,1-Dichloroethane	5.00	4.61	4.53	92.2	90.6	70.0-126			1.75	20
1,1-Dichloroethene	5.00	4.74	4.73	94.8	94.6	71.0-124			0.211	20
1,2,3-Trichloropropane	5.00	3.96	3.90	79.2	78.0	73.0-130			1.53	20
1,2-Dibromo-3-Chloropropane	5.00	4.60	4.51	92.0	90.2	58.0-134			1.98	20
1,2-Dibromoethane	5.00	5.49	5.56	110	111	80.0-122			1.27	20
1,2-Dichloroethane	5.00	4.45	4.41	89.0	88.2	70.0-128			0.903	20
1,2-Dichloropropane	5.00	4.29	4.36	85.8	87.2	77.0-125			1.62	20
2-Butanone (MEK)	25.0	21.9	19.6	87.6	78.4	44.0-160			11.1	20
2-Chloroethyl vinyl ether	25.0	22.9	22.1	91.6	88.4	51.0-160			3.56	20
2-Hexanone	25.0	24.3	23.0	97.2	92.0	67.0-149			5.50	20
4-Methyl-2-pentanone (MIBK)	25.0	27.9	26.4	112	106	68.0-142			5.52	20
Acetone	25.0	29.3	20.4	117	81.6	19.0-160		J3	35.8	27
Acrylonitrile	25.0	26.6	23.9	106	95.6	55.0-149			10.7	20
Benzene	5.00	4.79	4.74	95.8	94.8	70.0-123			1.05	20
Bromochloromethane	5.00	5.29	5.39	106	108	76.0-122			1.87	20
Bromodichloromethane	5.00	4.42	4.36	88.4	87.2	75.0-120			1.37	20
Bromoform	5.00	5.30	5.57	106	111	68.0-132			4.97	20
Bromomethane	5.00	4.52	4.64	90.4	92.8	10.0-160			2.62	25
Carbon disulfide	5.00	4.33	4.49	86.6	89.8	61.0-128			3.63	20
Carbon tetrachloride	5.00	4.64	4.49	92.8	89.8	68.0-126			3.29	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4029237-1 02/01/24 09:26 • (LCSD) R4029237-2 02/01/24 09:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chlorobenzene	5.00	5.83	5.90	117	118	80.0-121			1.19	20
Chloroethane	5.00	4.41	4.47	88.2	89.4	47.0-150			1.35	20
Chloroform	5.00	4.44	4.39	88.8	87.8	73.0-120			1.13	20
Chloromethane	5.00	4.70	4.95	94.0	99.0	41.0-142			5.18	20
Dibromochloromethane	5.00	5.30	5.44	106	109	77.0-125			2.61	20
Dibromomethane	5.00	4.48	4.51	89.6	90.2	80.0-120			0.667	20
Ethylbenzene	5.00	5.84	6.00	117	120	79.0-123			2.70	20
Iodomethane	25.0	27.3	27.5	109	110	33.0-147			0.730	26
Methylene Chloride	5.00	5.02	5.19	100	104	67.0-120			3.33	20
Styrene	5.00	5.82	5.58	116	112	73.0-130			4.21	20
Tetrachloroethene	5.00	6.29	6.10	126	122	72.0-132			3.07	20
Toluene	5.00	5.07	5.23	101	105	79.0-120			3.11	20
Trichloroethene	5.00	5.24	5.32	105	106	78.0-124			1.52	20
Trichlorofluoromethane	5.00	5.06	4.90	101	98.0	59.0-147			3.21	20
Vinyl acetate	25.0	38.4	37.1	154	148	11.0-160			3.44	20
Vinyl chloride	5.00	4.04	4.19	80.8	83.8	67.0-131			3.65	20
Xylenes, Total	15.0	17.9	17.6	119	117	79.0-123			1.69	20
cis-1,2-Dichloroethene	5.00	4.86	4.92	97.2	98.4	73.0-120			1.23	20
cis-1,3-Dichloropropene	5.00	4.41	4.47	88.2	89.4	80.0-123			1.35	20
trans-1,2-Dichloroethene	5.00	4.74	4.89	94.8	97.8	73.0-120			3.12	20
trans-1,3-Dichloropropene	5.00	4.94	4.91	98.8	98.2	78.0-124			0.609	20
trans-1,4-Dichloro-2-butene	5.00	2.81	3.38	56.2	67.6	33.0-144			18.4	20
(S) 4-Bromofluorobenzene				*105*	*105*	*77.0-126*				
(S) Toluene-d8				*109*	*108*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*89.0*	*89.0*	*70.0-130*				

Method Blank (MB)

(MB) R4029077-3 02/01/24 18:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4,5-Trichlorophenol	ND		0.000236	0.0100
2,4,6-Trichlorophenol	ND		0.000100	0.0100
2,4-Dichlorophenol	ND		0.000102	0.0100
2,4-Dimethylphenol	ND		0.0000636	0.0100
2,4-Dinitrophenol	ND		0.00593	0.0100
2-Chlorophenol	ND		0.000133	0.0100
2-Nitrophenol	ND		0.000117	0.0100
4,6-Dinitro-2-methylphenol	ND		0.00112	0.0100
4-Chloro-3-methylphenol	ND		0.000131	0.0100
4-Nitrophenol	ND		0.000143	0.0100
Benzoic acid	ND		0.00170	0.0500
Pentachlorophenol	ND		0.000313	0.0100
(S) Phenol-d5	*20.5*			*10.0-120*
(S) p-Terphenyl-d14	*70.5*			*10.0-128*
(S) Nitrobenzene-d5	*62.3*			*10.0-127*
(S) 2-Fluorophenol	*33.6*			*10.0-120*
(S) 2-Fluorobiphenyl	*59.0*			*10.0-130*
(S) 2,4,6-Tribromophenol	*65.5*			*10.0-155*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4029077-1 02/01/24 17:48 • (LCSD) R4029077-2 02/01/24 18:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4,5-Trichlorophenol	0.0500	0.0387	0.0278	77.4	55.6	44.0-120		J3	32.8	22
2,4,6-Trichlorophenol	0.0500	0.0362	0.0262	72.4	52.4	42.0-120		J3	32.1	23
2,4-Dichlorophenol	0.0500	0.0332	0.0267	66.4	53.4	36.0-120			21.7	26
2,4-Dimethylphenol	0.0500	0.0431	0.0356	86.2	71.2	33.0-120			19.1	26
2,4-Dinitrophenol	0.0500	0.0336	0.0276	67.2	55.2	10.0-120			19.6	39
2-Chlorophenol	0.0500	0.0278	0.0228	55.6	45.6	25.0-120			19.8	35
2-Nitrophenol	0.0500	0.0342	0.0241	68.4	48.2	31.0-120		J3	34.6	29
4,6-Dinitro-2-methylphenol	0.0500	0.0398	0.0301	79.6	60.2	38.0-138		J3	27.8	25
4-Chloro-3-methylphenol	0.0500	0.0345	0.0297	69.0	59.4	40.0-120			15.0	21
4-Nitrophenol	0.0500	0.0130	0.0126	26.0	25.2	10.0-120			3.13	33
Benzoic acid	0.100	0.0154	0.0277	15.4	27.7	10.0-120		J3	57.1	40
Pentachlorophenol	0.0500	0.0222	0.0154	44.4	30.8	23.0-120		J3	36.2	25
(S) Phenol-d5				*23.8*	*22.3*	*10.0-120*				
(S) p-Terphenyl-d14				*69.7*	*52.7*	*10.0-128*				
(S) Nitrobenzene-d5				*67.3*	*43.8*	*10.0-127*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4029077-1 02/01/24 17:48 • (LCSD) R4029077-2 02/01/24 18:10

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) 2-Fluorophenol				*38.0*	*34.3*	*10.0-120*				
(S) 2-Fluorobiphenyl				*66.5*	*41.2*	*10.0-130*				
(S) 2,4,6-Tribromophenol				*83.5*	*60.0*	*10.0-155*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Report to: **Todd Halbersma**

Email To: chris.kaiser@stantec.com;cory.anderson2@stan

Project Description: Qrtly WWTP-Leachate List 1(1,4,7,10)

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **500**

Lab Project # **WMCENIA-00003**

Collected by (print): Mike Hanson

Site/Facility ID # **IA02**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270 100ml Amb NoPres	ALK,Cl,SO4, pH 125mlHDPE-NoPres	BODLL 1L-HDPE-NoPres	CN 250mlHDPEAmb-NaOH	CR6 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3,NO2NO3,PT-LL,TKN 250mlHDPE-H2SO4	OGHEX 1L-Cl-WT-HCl	TCLP Mtls 1L-Cl-NoPres	TSS 1L-HDPE NoPres	Remarks	Sample # (lab only)
						Pres Chk				✓		<2	<2					
LEACHATE POND #1 RAW		GW		1/29/24	1115	15	X	X	X	X	X	X	X	X	X	X		-01
~~LEACHATE POND #2~~		GW				~~15~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		
LEACHATE POND #3 RAW		GW		1/29/24	1145	15	X	X	X	X	X	X	X	X	X	X		-02
~~LEACHATE POND #4~~		GW				~~15~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~		

Chain of Custody Page 1 of 2

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1700269

Table #

Acctnum: **WMCENIA**
Template: **T237544**
Prelogin: **P1045212**
PM: **364 - T. Alan Harvill**
PB: 1/26/24 CAM
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	1/29/24	1530	FedEx	2
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 0.8 °C Bottles Received:
				1.3 30
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Christopher L. Gallen	1/30/24 0900

If preservation required by Login: Date/Time

Hold: Condition: NCF / OK

Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page 2 of 2

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Report to: **Todd Halbersma**

Email To: chris.kaiser@stantec.com;cory.anderson2@stan

Project Description: Qrtly WWTP-Leachate List 1(1,4,7,10)

City/State Collected:

Please Circle: PT MT CT ET

Phone: 763-479-5185

Client Project # 500

Lab Project # WMCENIA-00003

Collected by (print): Mike Hum[illegible]

Site/Facility ID # IA02

P.O. #

Collected by (signature): [signature]

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

SDG # L1700220

Table #

Acctnum: WMCENIA
Template: T237544
Prelogin: P1045212
PM: 364 - T. Alan Harvill
PB: 12/26/23 Cam
Shipped Via: FedEX Ground

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LLAP9C 40mlAmb-HCl	Remarks	Sample # (lab only)
LEACHATE POND #1 RAW		GW		1/29/24	1115	15	X		-01
~~LEACHATE POND #2~~		GW				~~15~~	~~X~~		
LEACHATE POND #3 RAW		GW		1/29/24	1145	15	X		-02
~~LEACHATE POND #4~~		GW				~~15~~	~~X~~		

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other________

Remarks:

pH ______ Temp ______
Flow ______ Other ______

Samples returned via: __ UPS __ FedEx __ Courier ________

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: _NP _Y _N
COC Signed/Accurate: _Y _N
Bottles arrive intact: _Y _N
Correct bottles used: _Y _N
Sufficient volume sent: _Y _N
If Applicable
VOA Zero Headspace: _Y _N
Preservation Correct/Checked: _Y _N
RAD Screen <0.5 mR/hr: _Y _N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)		
[signature]	1/29/24	1530	Fed Ex	Trip Blank Received: Yes / (No) HCL / MeoH TBR	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: [illegible] °C 1.3=1.0 Bottles Received: 30	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) [signature]	Date: [illegible] Time: [illegible]	Hold: Condition: NCF / OK

L1700229

Tracking Numbers	Temperature
7210211088 12	1.3+0
7210211088 23	.9+0

Name

Date

Central Disposal AAS - 2024 - 0123 ~~#677~~

1/29/24 MCH KMS 0800-0830 Prep

0830-1430 Driving (one)

Qtrly Leachate

Ponds Frozen | Pond 5 empty

	pH	cond
Leachate 1 RAW	8.95	2494
Leachate 5 RAW	7.63	15400

No Field Data Sheets

1430 - 1600 Post job / shipping

ANALYTICAL REPORT

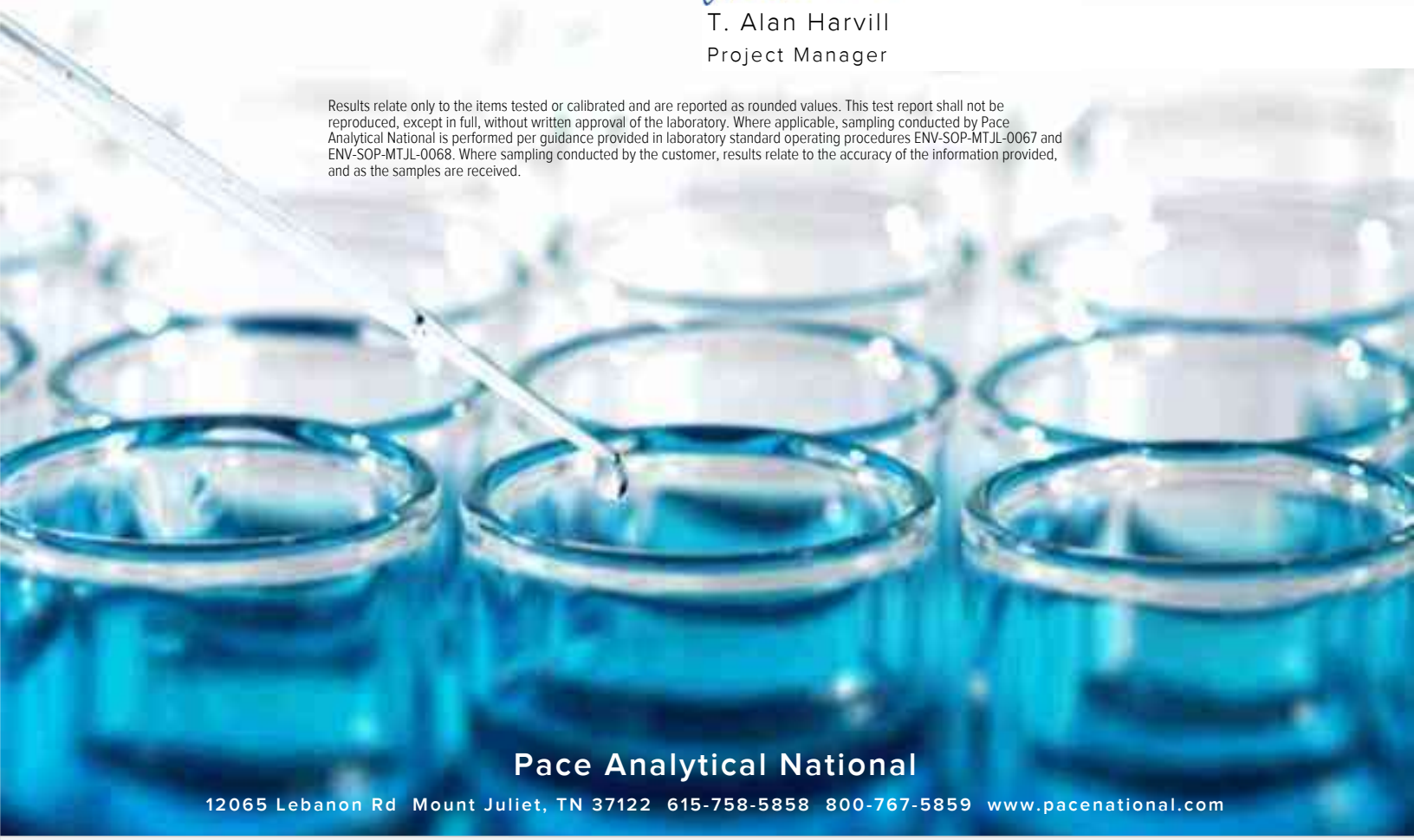
April 26, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1722613
Samples Received:	04/05/2024
Project Number:	500
Description:	Qrtly WWTP-Leachate List 1(1,4,7,10)
Site:	IA02
Report To:	Todd Halbersma 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

LEACHATE POND #1 L1722613-01 GW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:00 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2264415	1	04/11/24 14:50	04/11/24 14:50	CAT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2263548	1	04/10/24 17:31	04/10/24 18:42	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2262815	1	04/08/24 23:50	04/10/24 17:41	WAW	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2262069	1	04/08/24 09:05	04/08/24 09:05	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2262950	1	04/10/24 11:57	04/10/24 11:57	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2263070	1	04/09/24 11:30	04/09/24 19:52	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2264415	1	04/11/24 14:50	04/11/24 14:50	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2261265	20	04/05/24 14:01	04/05/24 22:22	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2261332	1	04/05/24 16:39	04/10/24 11:28	HMH	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2261260	1	04/05/24 16:03	04/05/24 16:03	ARV	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2267015	1	04/15/24 09:00	04/16/24 15:26	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2261471	1	04/05/24 21:20	04/05/24 21:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2262434	1	04/11/24 15:55	04/11/24 15:55	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2261622	1	04/07/24 18:50	04/08/24 16:42	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2263290	1	04/11/24 10:49	04/11/24 19:19	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2262762	1	04/12/24 12:36	04/12/24 12:36	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2263382	1.02	04/09/24 16:21	04/12/24 22:18	JRM	Mt. Juliet, TN

LEACHATE POND #1 L1722613-02 Waste

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:00 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2261419	1	04/05/24 16:58	04/05/24 16:58	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2261986	1	04/06/24 19:07	04/08/24 13:35	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2262363	1	04/09/24 12:33	04/10/24 09:28	DJS	Mt. Juliet, TN

LEACHATE POND #2 L1722613-03 GW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:15 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2264415	1	04/11/24 14:51	04/11/24 14:51	CAT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2263548	1	04/10/24 17:31	04/10/24 18:42	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2262815	1	04/08/24 23:50	04/10/24 17:41	WAW	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2262069	1	04/08/24 09:11	04/08/24 09:11	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2262950	200	04/10/24 11:59	04/10/24 11:59	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2263070	100	04/09/24 11:30	04/09/24 21:14	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2264415	5	04/11/24 14:51	04/11/24 14:51	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2261265	100	04/05/24 14:01	04/05/24 22:03	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2261332	10	04/05/24 16:45	04/10/24 11:36	HMH	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2261260	1	04/05/24 16:04	04/05/24 16:04	ARV	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2267015	5	04/15/24 09:00	04/16/24 15:32	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2261471	1	04/05/24 21:20	04/05/24 21:20	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2262434	10	04/11/24 16:33	04/11/24 16:33	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2262434	20	04/11/24 16:46	04/11/24 16:46	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2262591	10	04/09/24 10:07	04/10/24 09:07	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2263290	1	04/11/24 10:49	04/11/24 19:21	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2263290	5	04/11/24 10:49	04/11/24 23:14	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2261817	5	04/06/24 19:59	04/06/24 19:59	ACG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2263382	5	04/09/24 16:21	04/10/24 04:46	DSH	Mt. Juliet, TN

LEACHATE POND #2 L1722613-04 Waste

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:15 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2261419	1	04/05/24 16:58	04/05/24 16:58	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2261986	1	04/06/24 19:07	04/08/24 14:01	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2262363	1	04/09/24 12:33	04/10/24 09:04	DJS	Mt. Juliet, TN

LEACHATE POND #3 L1722613-05 GW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:45 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2264415	1	04/11/24 14:52	04/11/24 14:52	CAT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2263548	1	04/10/24 17:31	04/10/24 18:42	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2262815	1	04/08/24 23:50	04/10/24 17:41	WAW	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2262069	1	04/08/24 09:16	04/08/24 09:16	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2262950	200	04/10/24 12:00	04/10/24 12:00	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2263535	100	04/09/24 21:02	04/10/24 22:26	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2264415	5	04/11/24 14:52	04/11/24 14:52	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2261265	50	04/05/24 14:01	04/05/24 22:05	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2261332	10	04/05/24 16:48	04/10/24 11:47	HMH	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2261260	1	04/05/24 16:05	04/05/24 16:05	ARV	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2267015	5	04/15/24 09:00	04/16/24 15:33	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2261475	1	04/06/24 17:50	04/06/24 17:50	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2262434	20	04/11/24 19:17	04/11/24 19:17	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2262434	5	04/11/24 16:59	04/11/24 16:59	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2262591	10	04/09/24 10:07	04/10/24 09:09	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2263290	1	04/11/24 10:49	04/11/24 19:23	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2263290	5	04/11/24 10:49	04/11/24 23:16	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2261817	5	04/06/24 20:20	04/06/24 20:20	ACG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2263382	5	04/09/24 16:21	04/10/24 05:07	DSH	Mt. Juliet, TN

LEACHATE POND #3 L1722613-06 Waste

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:45 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2261419	1	04/05/24 16:58	04/05/24 16:58	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2261986	1	04/06/24 19:07	04/08/24 14:04	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2262363	1	04/09/24 12:33	04/10/24 09:06	DJS	Mt. Juliet, TN

LEACHATE POND #4 L1722613-07 GW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 13:00 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2264415	1	04/11/24 14:54	04/11/24 14:54	CAT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2263548	1	04/10/24 17:31	04/10/24 18:42	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2262815	1	04/08/24 23:50	04/10/24 17:41	WAW	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2262069	1	04/08/24 09:20	04/08/24 09:20	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2262950	200	04/10/24 12:06	04/10/24 12:06	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2263535	100	04/09/24 21:02	04/10/24 22:27	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2264415	5	04/11/24 14:54	04/11/24 14:54	CAT	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2261265	50	04/05/24 14:01	04/05/24 22:06	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2261332	1	04/05/24 16:56	04/10/24 11:51	HMH	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2261260	1	04/05/24 16:05	04/05/24 16:05	ARV	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2267015	5	04/15/24 09:00	04/16/24 15:35	CAT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2261475	1	04/06/24 17:50	04/06/24 17:50	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2262434	20	04/11/24 19:42	04/11/24 19:42	DLH	Mt. Juliet, TN

LEACHATE POND #4 L1722613-07 GW

Collected by: Kenneth Smith
Collected date/time: 04/04/24 13:00
Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 9056A	WG2262434	5	04/11/24 19:29	04/11/24 19:29	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2262591	10	04/09/24 10:07	04/10/24 09:27	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2263290	1	04/11/24 10:49	04/11/24 19:28	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2263290	5	04/11/24 10:49	04/11/24 23:18	JTM	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2261817	5	04/06/24 20:40	04/06/24 20:40	ACG	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2263382	5	04/09/24 16:21	04/10/24 05:29	DSH	Mt. Juliet, TN

LEACHATE POND #4 L1722613-08 Waste

Collected by: Kenneth Smith
Collected date/time: 04/04/24 13:00
Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2261419	1	04/05/24 16:58	04/05/24 16:58	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2261986	1	04/06/24 19:07	04/08/24 14:06	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2262363	1	04/09/24 12:33	04/10/24 09:07	DJS	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Sample Delivery Group (SDG) Narrative

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

Batch	Method	Lab Sample ID
WG2261260	7196A	L1722613-01, 03, 05, 07
WG2261471	9040C	L1722613-01, 03
WG2261475	9040C	L1722613-05, 07

The laboratory analysis was performed from an unpreserved, insufficiently or inadequately preserved sample.

Batch	Method	Lab Sample ID
WG2262815	1664B	L1722613-03, 05, 07

Wet Chemistry by Method 351.2

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG2263070	(MS) R4055748-4, (MSD) R4055748-5	Kjeldahl Nitrogen, TKN

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2263070	(MS) R4055748-6, L1722613-01	Kjeldahl Nitrogen, TKN

Wet Chemistry by Method 5210 B-2011

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2261332	(DUP) R4056094-3	BOD

Wet Chemistry by Method 9012B

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2267015	(DUP) R4058384-5, (DUP) R4058384-6, L1722613-01	Cyanide

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2267015	(MS) R4058384-3, (MSD) R4058384-4	Cyanide

Wet Chemistry by Method 9056A

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2262434	(MS) R4058922-7, (MS) R4058922-4, (MSD) R4058922-5, L1722613-01	Sulfate

Volatile Organic Compounds (GC/MS) by Method 8260C

The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.

Batch	Lab Sample ID	Analytes
WG2261817	L1722613-03	1,2-Dichloroethane, Bromomethane, Chloroethane, Iodomethane, trans-1,3-Dichloropropene, trans-1,4-Dichloro-2-butene and Vinyl chloride
WG2261817	L1722613-05	1,2-Dichloroethane, Bromomethane, Chloroethane, Iodomethane, trans-1,3-Dichloropropene, trans-1,4-Dichloro-2-butene and Vinyl chloride
WG2261817	L1722613-07	1,2-Dichloroethane, Bromomethane, Chloroethane, Iodomethane, trans-1,3-Dichloropropene, trans-1,4-Dichloro-2-butene and Vinyl chloride
WG2262762	L1722613-01	2-Butanone (MEK), 2-Chloroethyl vinyl ether, 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Acetone, Acrylonitrile, Bromomethane, Iodomethane and trans-1,4-Dichloro-2-butene

The associated batch QC was below the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG2261817	(LCS) R4055149-1, L1722613-03, 05, 07	Bromomethane and Iodomethane

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	11.29	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	5.50		0.100	1	04/11/2024 14:50	WG2264415

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	13.0		4.00	1	04/10/2024 18:42	WG2263548

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	04/10/2024 17:41	WG2262815

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	81.8		20.0	1	04/08/2024 09:05	WG2262069
Alkalinity,Bicarbonate	43.5		20.0	1	04/08/2024 09:05	WG2262069

Sample Narrative:

L1722613-01 WG2262069: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	1.19		0.100	1	04/10/2024 11:57	WG2262950

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	5.46	J6	0.250	1	04/09/2024 19:52	WG2263070

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	1	04/11/2024 14:50	WG2264415

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	0.622		0.0200	20	04/05/2024 22:22	WG2261265

Wet Chemistry by Method 5210 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
BOD	30.0		10.0	1	04/10/2024 11:28	WG2261332

Wet Chemistry by Method 7196A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chromium,Hexavalent	ND	T8	0.0100	1	04/05/2024 16:03	WG2261260

Wet Chemistry by Method 9012B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND	P1	0.0100	1	04/16/2024 15:26	WG2267015

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	9.57	T8	1	04/05/2024 21:20	WG2261471

Sample Narrative:

L1722613-01 WG2261471: 9.57 at 18.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	38.8		1.00	1	04/11/2024 15:55	WG2262434
Sulfate	61.7	J6	5.00	1	04/11/2024 15:55	WG2262434

Mercury by Method 7470A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000200	1	04/08/2024 16:42	WG2261622

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.0100	1	04/11/2024 19:19	WG2263290
Arsenic	ND		0.0100	1	04/11/2024 19:19	WG2263290
Barium	0.0222		0.00500	1	04/11/2024 19:19	WG2263290
Beryllium	ND		0.00200	1	04/11/2024 19:19	WG2263290
Cadmium	ND		0.00200	1	04/11/2024 19:19	WG2263290
Calcium	33.2		1.00	1	04/11/2024 19:19	WG2263290
Chromium	0.0117		0.0100	1	04/11/2024 19:19	WG2263290
Cobalt	ND		0.0100	1	04/11/2024 19:19	WG2263290
Copper	ND		0.0100	1	04/11/2024 19:19	WG2263290
Lead	ND		0.00500	1	04/11/2024 19:19	WG2263290
Magnesium	8.70		1.00	1	04/11/2024 19:19	WG2263290
Molybdenum	ND		0.0100	1	04/11/2024 19:19	WG2263290
Nickel	ND		0.0100	1	04/11/2024 19:19	WG2263290
Potassium	9.31		1.00	1	04/11/2024 19:19	WG2263290
Selenium	ND		0.0250	1	04/11/2024 19:19	WG2263290
Silver	ND		0.00600	1	04/11/2024 19:19	WG2263290
Sodium	33.0		1.00	1	04/11/2024 19:19	WG2263290
Thallium	ND		0.0200	1	04/11/2024 19:19	WG2263290
Vanadium	ND		0.0200	1	04/11/2024 19:19	WG2263290
Zinc	ND		0.0500	1	04/11/2024 19:19	WG2263290

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	04/12/2024 12:36	WG2262762
1,1,1-Trichloroethane	ND		1.00	1	04/12/2024 12:36	WG2262762
1,1,2,2-Tetrachloroethane	ND		1.00	1	04/12/2024 12:36	WG2262762
1,1,2-Trichloroethane	ND		1.00	1	04/12/2024 12:36	WG2262762
1,1-Dichloroethane	ND		1.00	1	04/12/2024 12:36	WG2262762
1,1-Dichloroethene	ND		1.00	1	04/12/2024 12:36	WG2262762
1,2,3-Trichloropropane	ND		2.50	1	04/12/2024 12:36	WG2262762
1,2-Dibromo-3-Chloropropane	ND		2.50	1	04/12/2024 12:36	WG2262762
1,2-Dibromoethane	ND		1.00	1	04/12/2024 12:36	WG2262762
1,2-Dichloroethane	ND		1.00	1	04/12/2024 12:36	WG2262762
1,2-Dichloropropane	ND		1.00	1	04/12/2024 12:36	WG2262762
2-Butanone (MEK)	ND	C3	10.0	1	04/12/2024 12:36	WG2262762
2-Chloroethyl vinyl ether	ND	C3	50.0	1	04/12/2024 12:36	WG2262762
2-Hexanone	ND	C3	5.00	1	04/12/2024 12:36	WG2262762
4-Methyl-2-pentanone (MIBK)	ND	C3	5.00	1	04/12/2024 12:36	WG2262762
Acetone	ND	C3	25.0	1	04/12/2024 12:36	WG2262762
Acrylonitrile	ND	C3	5.00	1	04/12/2024 12:36	WG2262762
Benzene	ND		1.00	1	04/12/2024 12:36	WG2262762
Bromochloromethane	ND		1.00	1	04/12/2024 12:36	WG2262762
Bromodichloromethane	ND		1.00	1	04/12/2024 12:36	WG2262762
Bromoform	ND		1.00	1	04/12/2024 12:36	WG2262762
Bromomethane	ND	C3	2.50	1	04/12/2024 12:36	WG2262762
Carbon disulfide	ND		1.00	1	04/12/2024 12:36	WG2262762
Carbon tetrachloride	ND		1.00	1	04/12/2024 12:36	WG2262762
Chlorobenzene	ND		1.00	1	04/12/2024 12:36	WG2262762
Chloroethane	ND		2.50	1	04/12/2024 12:36	WG2262762
Chloroform	ND		1.00	1	04/12/2024 12:36	WG2262762
Chloromethane	ND		1.25	1	04/12/2024 12:36	WG2262762
Dibromochloromethane	ND		1.00	1	04/12/2024 12:36	WG2262762
Dibromomethane	ND		1.00	1	04/12/2024 12:36	WG2262762
Ethylbenzene	ND		1.00	1	04/12/2024 12:36	WG2262762
Iodomethane	ND	C3	10.0	1	04/12/2024 12:36	WG2262762
Methylene Chloride	ND		2.50	1	04/12/2024 12:36	WG2262762
Styrene	ND		1.00	1	04/12/2024 12:36	WG2262762
Tetrachloroethene	ND		1.00	1	04/12/2024 12:36	WG2262762
Toluene	ND		1.00	1	04/12/2024 12:36	WG2262762
Trichloroethene	ND		1.00	1	04/12/2024 12:36	WG2262762
Trichlorofluoromethane	ND		2.50	1	04/12/2024 12:36	WG2262762
Vinyl acetate	ND		5.00	1	04/12/2024 12:36	WG2262762
Vinyl chloride	ND		1.00	1	04/12/2024 12:36	WG2262762
Xylenes, Total	ND		2.00	1	04/12/2024 12:36	WG2262762
cis-1,2-Dichloroethene	ND		1.00	1	04/12/2024 12:36	WG2262762
cis-1,3-Dichloropropene	ND		1.00	1	04/12/2024 12:36	WG2262762
trans-1,2-Dichloroethene	ND		1.00	1	04/12/2024 12:36	WG2262762
trans-1,3-Dichloropropene	ND		1.00	1	04/12/2024 12:36	WG2262762
trans-1,4-Dichloro-2-butene	ND	C3	5.00	1	04/12/2024 12:36	WG2262762
(S) 4-Bromofluorobenzene	*94.5*			*77.0-126*	*04/12/2024 12:36*	WG2262762
(S) Toluene-d8	*106*			*80.0-120*	*04/12/2024 12:36*	WG2262762
(S) 1,2-Dichloroethane-d4	*85.7*			*70.0-130*	*04/12/2024 12:36*	WG2262762

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
2,4,6-Trichlorophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
2,4-Dichlorophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
2,4-Dimethylphenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
2,4-Dinitrophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
2-Chlorophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
2-Nitrophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
4,6-Dinitro-2-methylphenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
4-Chloro-3-methylphenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
4-Nitrophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
Benzoic acid	ND		0.0500	1.02	04/12/2024 22:18	WG2263382
Pentachlorophenol	ND		0.0100	1.02	04/12/2024 22:18	WG2263382
(S) Phenol-d5	*20.7*			*10.0-120*	*04/12/2024 22:18*	WG2263382
(S) p-Terphenyl-d14	*58.1*			*10.0-128*	*04/12/2024 22:18*	WG2263382
(S) Nitrobenzene-d5	*55.5*			*10.0-127*	*04/12/2024 22:18*	WG2263382
(S) 2-Fluorophenol	*28.7*			*10.0-120*	*04/12/2024 22:18*	WG2263382
(S) 2-Fluorobiphenyl	*59.3*			*10.0-130*	*04/12/2024 22:18*	WG2263382
(S) 2,4,6-Tribromophenol	*66.7*			*10.0-155*	*04/12/2024 22:18*	WG2263382

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		4/5/2024 4:58:31 PM	WG2261419
Initial pH	N/A		4/5/2024 4:58:31 PM	WG2261419
Final pH	N/A		4/5/2024 4:58:31 PM	WG2261419

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	04/08/2024 13:35	WG2261986

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	04/10/2024 09:28	WG2262363
Barium, TCLP	ND		0.100	100	1	04/10/2024 09:28	WG2262363
Cadmium, TCLP	ND		0.100	1	1	04/10/2024 09:28	WG2262363
Chromium, TCLP	ND		0.100	5	1	04/10/2024 09:28	WG2262363
Lead, TCLP	ND		0.100	5	1	04/10/2024 09:28	WG2262363
Selenium, TCLP	ND		0.100	1	1	04/10/2024 09:28	WG2262363
Silver, TCLP	ND		0.100	5	1	04/10/2024 09:28	WG2262363

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.96	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	1160		0.100	1	04/11/2024 14:51	WG2264415

Sample Narrative:

L1722613-03 WG2264415: Dilution due to matrix interference

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	15.3		4.00	1	04/10/2024 18:42	WG2263548

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	04/10/2024 17:41	WG2262815

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	5750		20.0	1	04/08/2024 09:11	WG2262069
Alkalinity,Bicarbonate	5750		20.0	1	04/08/2024 09:11	WG2262069

Sample Narrative:

L1722613-03 WG2262069: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	1270		6.34	200	04/10/2024 11:59	WG2262950

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	1160		3.50	100	04/09/2024 21:14	WG2263070

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	5	04/11/2024 14:51	WG2264415

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	12.3		0.100	100	04/05/2024 22:03	WG2261265

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	139		33.3	10	04/10/2024 11:36	WG2261332

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	04/05/2024 16:04	WG2261260

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.0204		0.0100	5	04/16/2024 15:32	WG2267015

Sample Narrative:

L1722613-03 WG2267015: dilution due to sample matrix

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.20	T8	1	04/05/2024 21:20	WG2261471

Sample Narrative:

L1722613-03 WG2261471: 8.2 at 18.3C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	2490		1.04	20	04/11/2024 16:46	WG2262434
Sulfate	79.7		5.00	10	04/11/2024 16:33	WG2262434

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000490	10	04/10/2024 09:07	WG2262591

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	04/11/2024 19:21	WG2263290
Arsenic	0.0677		0.0100	1	04/11/2024 19:21	WG2263290
Barium	1.34		0.00500	1	04/11/2024 19:21	WG2263290
Beryllium	ND		0.00200	1	04/11/2024 19:21	WG2263290
Cadmium	ND		0.00200	1	04/11/2024 19:21	WG2263290
Calcium	107		1.00	1	04/11/2024 19:21	WG2263290
Chromium	0.203		0.0100	1	04/11/2024 19:21	WG2263290
Cobalt	0.0507		0.0100	1	04/11/2024 19:21	WG2263290
Copper	ND		0.0100	1	04/11/2024 19:21	WG2263290
Lead	ND		0.00500	1	04/11/2024 19:21	WG2263290
Magnesium	101		1.00	1	04/11/2024 19:21	WG2263290
Molybdenum	ND		0.0100	1	04/11/2024 19:21	WG2263290
Nickel	0.298		0.0100	1	04/11/2024 19:21	WG2263290
Potassium	481		1.00	1	04/11/2024 19:21	WG2263290
Selenium	ND		0.0250	1	04/11/2024 19:21	WG2263290
Silver	ND		0.00600	1	04/11/2024 19:21	WG2263290

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Sodium	1780		1.00	5	04/11/2024 23:14	WG2263290
Thallium	ND		0.0200	1	04/11/2024 19:21	WG2263290
Vanadium	0.0544		0.0200	1	04/11/2024 19:21	WG2263290
Zinc	0.114		0.0500	1	04/11/2024 19:21	WG2263290

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	5	04/06/2024 19:59	WG2261817
1,1,1-Trichloroethane	ND		1.00	5	04/06/2024 19:59	WG2261817
1,1,2,2-Tetrachloroethane	ND		1.00	5	04/06/2024 19:59	WG2261817
1,1,2-Trichloroethane	ND		1.00	5	04/06/2024 19:59	WG2261817
1,1-Dichloroethane	ND		1.00	5	04/06/2024 19:59	WG2261817
1,1-Dichloroethene	ND		1.00	5	04/06/2024 19:59	WG2261817
1,2,3-Trichloropropane	ND		2.50	5	04/06/2024 19:59	WG2261817
1,2-Dibromo-3-Chloropropane	ND		2.50	5	04/06/2024 19:59	WG2261817
1,2-Dibromoethane	ND		1.00	5	04/06/2024 19:59	WG2261817
1,2-Dichloroethane	ND	C3	1.00	5	04/06/2024 19:59	WG2261817
1,2-Dichloropropane	ND		1.00	5	04/06/2024 19:59	WG2261817
2-Butanone (MEK)	221		10.0	5	04/06/2024 19:59	WG2261817
2-Chloroethyl vinyl ether	ND		50.0	5	04/06/2024 19:59	WG2261817
2-Hexanone	ND		5.00	5	04/06/2024 19:59	WG2261817
4-Methyl-2-pentanone (MIBK)	ND		5.00	5	04/06/2024 19:59	WG2261817
Acetone	526		25.0	5	04/06/2024 19:59	WG2261817
Acrylonitrile	ND		5.00	5	04/06/2024 19:59	WG2261817
Benzene	ND		1.00	5	04/06/2024 19:59	WG2261817
Bromochloromethane	ND		1.00	5	04/06/2024 19:59	WG2261817
Bromodichloromethane	ND		1.00	5	04/06/2024 19:59	WG2261817
Bromoform	ND		1.00	5	04/06/2024 19:59	WG2261817
Bromomethane	ND	C3 J4	2.50	5	04/06/2024 19:59	WG2261817
Carbon disulfide	4.73		1.00	5	04/06/2024 19:59	WG2261817
Carbon tetrachloride	ND		1.00	5	04/06/2024 19:59	WG2261817
Chlorobenzene	ND		1.00	5	04/06/2024 19:59	WG2261817
Chloroethane	ND	C3	2.50	5	04/06/2024 19:59	WG2261817
Chloroform	ND		1.00	5	04/06/2024 19:59	WG2261817
Chloromethane	ND		1.25	5	04/06/2024 19:59	WG2261817
Dibromochloromethane	ND		1.00	5	04/06/2024 19:59	WG2261817
Dibromomethane	ND		1.00	5	04/06/2024 19:59	WG2261817
Ethylbenzene	1.35		1.00	5	04/06/2024 19:59	WG2261817
Iodomethane	ND	C3 J4	10.0	5	04/06/2024 19:59	WG2261817
Methylene Chloride	ND		5.35	5	04/06/2024 19:59	WG2261817
Styrene	ND		1.00	5	04/06/2024 19:59	WG2261817
Tetrachloroethene	ND		1.00	5	04/06/2024 19:59	WG2261817
Toluene	6.50		2.06	5	04/06/2024 19:59	WG2261817
Trichloroethene	ND		1.00	5	04/06/2024 19:59	WG2261817
Trichlorofluoromethane	ND		2.50	5	04/06/2024 19:59	WG2261817
Vinyl acetate	ND		5.00	5	04/06/2024 19:59	WG2261817
Vinyl chloride	ND	C3	1.00	5	04/06/2024 19:59	WG2261817
Xylenes, Total	3.37		2.00	5	04/06/2024 19:59	WG2261817
cis-1,2-Dichloroethene	ND		1.00	5	04/06/2024 19:59	WG2261817
cis-1,3-Dichloropropene	ND		1.00	5	04/06/2024 19:59	WG2261817
trans-1,2-Dichloroethene	ND		1.00	5	04/06/2024 19:59	WG2261817
trans-1,3-Dichloropropene	ND	C3	1.11	5	04/06/2024 19:59	WG2261817
trans-1,4-Dichloro-2-butene	ND	C3	5.00	5	04/06/2024 19:59	WG2261817
(S) 4-Bromofluorobenzene	*109*			*77.0-126*	*04/06/2024 19:59*	WG2261817
(S) Toluene-d8	*110*			*80.0-120*	*04/06/2024 19:59*	WG2261817

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 1,2-Dichloroethane-d4	*73.2*			*70.0-130*	*04/06/2024 19:59*	WG2261817

Sample Narrative:

L1722613-03 WG2261817: Lowest possible dilution due to sample foaming.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
2,4,6-Trichlorophenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
2,4-Dichlorophenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
2,4-Dimethylphenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
2,4-Dinitrophenol	ND		0.0297	5	04/10/2024 04:46	WG2263382
2-Chlorophenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
2-Nitrophenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
4,6-Dinitro-2-methylphenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
4-Chloro-3-methylphenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
4-Nitrophenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
Benzoic acid	ND		0.0500	5	04/10/2024 04:46	WG2263382
Pentachlorophenol	ND		0.0100	5	04/10/2024 04:46	WG2263382
(S) Phenol-d5	*36.8*			*10.0-120*	*04/10/2024 04:46*	WG2263382
(S) p-Terphenyl-d14	*26.1*			*10.0-128*	*04/10/2024 04:46*	WG2263382
(S) Nitrobenzene-d5	*48.4*			*10.0-127*	*04/10/2024 04:46*	WG2263382
(S) 2-Fluorophenol	*32.6*			*10.0-120*	*04/10/2024 04:46*	WG2263382
(S) 2-Fluorobiphenyl	*48.7*			*10.0-130*	*04/10/2024 04:46*	WG2263382
(S) 2,4,6-Tribromophenol	*63.3*			*10.0-155*	*04/10/2024 04:46*	WG2263382

Sample Narrative:

L1722613-03 WG2263382: Dilution due to matrix

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		4/5/2024 4:58:31 PM	WG2261419
Initial pH	N/A		4/5/2024 4:58:31 PM	WG2261419
Final pH	N/A		4/5/2024 4:58:31 PM	WG2261419

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	04/08/2024 14:01	WG2261986

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	04/10/2024 09:04	WG2262363
Barium, TCLP	1.07		0.100	100	1	04/10/2024 09:04	WG2262363
Cadmium, TCLP	ND		0.100	1	1	04/10/2024 09:04	WG2262363
Chromium, TCLP	0.217		0.100	5	1	04/10/2024 09:04	WG2262363
Lead, TCLP	ND		0.100	5	1	04/10/2024 09:04	WG2262363
Selenium, TCLP	ND		0.100	1	1	04/10/2024 09:04	WG2262363
Silver, TCLP	ND		0.100	5	1	04/10/2024 09:04	WG2262363

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	9.38	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	875		0.100	1	04/11/2024 14:52	WG2264415

Sample Narrative:

L1722613-05 WG2264415: Dilution due to matrix interference

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	25.3		4.00	1	04/10/2024 18:42	WG2263548

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	04/10/2024 17:41	WG2262815

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	4200		20.0	1	04/08/2024 09:16	WG2262069
Alkalinity,Bicarbonate	4200		20.0	1	04/08/2024 09:16	WG2262069

Sample Narrative:

L1722613-05 WG2262069: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	909		6.34	200	04/10/2024 12:00	WG2262950

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	875		3.50	100	04/10/2024 22:26	WG2263535

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	5	04/11/2024 14:52	WG2264415

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	9.35		0.0500	50	04/05/2024 22:05	WG2261265

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	118		33.3	10	04/10/2024 11:47	WG2261332

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	04/05/2024 16:05	WG2261260

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.0192		0.0100	5	04/16/2024 15:33	WG2267015

Sample Narrative:

L1722613-05 WG2267015: dilution due to sample matrix

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.17	T8	1	04/06/2024 17:50	WG2261475

Sample Narrative:

L1722613-05 WG2261475: 8.17 at 18.3C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	2430		1.04	20	04/11/2024 19:17	WG2262434
Sulfate	45.3		5.00	5	04/11/2024 16:59	WG2262434

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000490	10	04/10/2024 09:09	WG2262591

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	04/11/2024 19:23	WG2263290
Arsenic	0.0581		0.0100	1	04/11/2024 19:23	WG2263290
Barium	0.685		0.00500	1	04/11/2024 19:23	WG2263290
Beryllium	ND		0.00200	1	04/11/2024 19:23	WG2263290
Cadmium	ND		0.00200	1	04/11/2024 19:23	WG2263290
Calcium	62.9		1.00	1	04/11/2024 19:23	WG2263290
Chromium	0.116		0.0100	1	04/11/2024 19:23	WG2263290
Cobalt	0.0436		0.0100	1	04/11/2024 19:23	WG2263290
Copper	ND		0.0100	1	04/11/2024 19:23	WG2263290
Lead	ND		0.00500	1	04/11/2024 19:23	WG2263290
Magnesium	106		1.00	1	04/11/2024 19:23	WG2263290
Molybdenum	ND		0.0100	1	04/11/2024 19:23	WG2263290
Nickel	0.220		0.0100	1	04/11/2024 19:23	WG2263290
Potassium	407		1.00	1	04/11/2024 19:23	WG2263290
Selenium	ND		0.0250	1	04/11/2024 19:23	WG2263290
Silver	ND		0.00600	1	04/11/2024 19:23	WG2263290

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Sodium	1690		1.00	5	04/11/2024 23:16	WG2263290
Thallium	ND		0.0200	1	04/11/2024 19:23	WG2263290
Vanadium	0.0324		0.0200	1	04/11/2024 19:23	WG2263290
Zinc	ND		0.0500	1	04/11/2024 19:23	WG2263290

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	5	04/06/2024 20:20	WG2261817
1,1,1-Trichloroethane	ND		1.00	5	04/06/2024 20:20	WG2261817
1,1,2,2-Tetrachloroethane	ND		1.00	5	04/06/2024 20:20	WG2261817
1,1,2-Trichloroethane	ND		1.00	5	04/06/2024 20:20	WG2261817
1,1-Dichloroethane	ND		1.00	5	04/06/2024 20:20	WG2261817
1,1-Dichloroethene	ND		1.00	5	04/06/2024 20:20	WG2261817
1,2,3-Trichloropropane	ND		2.50	5	04/06/2024 20:20	WG2261817
1,2-Dibromo-3-Chloropropane	ND		2.50	5	04/06/2024 20:20	WG2261817
1,2-Dibromoethane	ND		1.00	5	04/06/2024 20:20	WG2261817
1,2-Dichloroethane	ND	C3	1.00	5	04/06/2024 20:20	WG2261817
1,2-Dichloropropane	ND		1.00	5	04/06/2024 20:20	WG2261817
2-Butanone (MEK)	ND		10.0	5	04/06/2024 20:20	WG2261817
2-Chloroethyl vinyl ether	ND		50.0	5	04/06/2024 20:20	WG2261817
2-Hexanone	ND		5.00	5	04/06/2024 20:20	WG2261817
4-Methyl-2-pentanone (MIBK)	ND		5.00	5	04/06/2024 20:20	WG2261817
Acetone	30.8		25.0	5	04/06/2024 20:20	WG2261817
Acrylonitrile	ND		5.00	5	04/06/2024 20:20	WG2261817
Benzene	ND		1.00	5	04/06/2024 20:20	WG2261817
Bromochloromethane	ND		1.00	5	04/06/2024 20:20	WG2261817
Bromodichloromethane	ND		1.00	5	04/06/2024 20:20	WG2261817
Bromoform	ND		1.00	5	04/06/2024 20:20	WG2261817
Bromomethane	ND	C3 J4	2.50	5	04/06/2024 20:20	WG2261817
Carbon disulfide	2.83		1.00	5	04/06/2024 20:20	WG2261817
Carbon tetrachloride	ND		1.00	5	04/06/2024 20:20	WG2261817
Chlorobenzene	ND		1.00	5	04/06/2024 20:20	WG2261817
Chloroethane	ND	C3	2.50	5	04/06/2024 20:20	WG2261817
Chloroform	ND		1.00	5	04/06/2024 20:20	WG2261817
Chloromethane	ND		1.25	5	04/06/2024 20:20	WG2261817
Dibromochloromethane	ND		1.00	5	04/06/2024 20:20	WG2261817
Dibromomethane	ND		1.00	5	04/06/2024 20:20	WG2261817
Ethylbenzene	ND		1.00	5	04/06/2024 20:20	WG2261817
Iodomethane	ND	C3 J4	10.0	5	04/06/2024 20:20	WG2261817
Methylene Chloride	ND		5.35	5	04/06/2024 20:20	WG2261817
Styrene	ND		1.00	5	04/06/2024 20:20	WG2261817
Tetrachloroethene	ND		1.00	5	04/06/2024 20:20	WG2261817
Toluene	ND		2.06	5	04/06/2024 20:20	WG2261817
Trichloroethene	ND		1.00	5	04/06/2024 20:20	WG2261817
Trichlorofluoromethane	ND		2.50	5	04/06/2024 20:20	WG2261817
Vinyl acetate	ND		5.00	5	04/06/2024 20:20	WG2261817
Vinyl chloride	ND	C3	1.00	5	04/06/2024 20:20	WG2261817
Xylenes, Total	ND		2.00	5	04/06/2024 20:20	WG2261817
cis-1,2-Dichloroethene	ND		1.00	5	04/06/2024 20:20	WG2261817
cis-1,3-Dichloropropene	ND		1.00	5	04/06/2024 20:20	WG2261817
trans-1,2-Dichloroethene	ND		1.00	5	04/06/2024 20:20	WG2261817
trans-1,3-Dichloropropene	ND	C3	1.11	5	04/06/2024 20:20	WG2261817
trans-1,4-Dichloro-2-butene	ND	C3	5.00	5	04/06/2024 20:20	WG2261817
(S) 4-Bromofluorobenzene	*107*			*77.0-126*	*04/06/2024 20:20*	WG2261817
(S) Toluene-d8	*109*			*80.0-120*	*04/06/2024 20:20*	WG2261817

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 1,2-Dichloroethane-d4	*73.4*			*70.0-130*	*04/06/2024 20:20*	WG2261817

Sample Narrative:

L1722613-05 WG2261817: Lowest possible dilution due to sample foaming.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
2,4,6-Trichlorophenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
2,4-Dichlorophenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
2,4-Dimethylphenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
2,4-Dinitrophenol	ND		0.0297	5	04/10/2024 05:07	WG2263382
2-Chlorophenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
2-Nitrophenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
4,6-Dinitro-2-methylphenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
4-Chloro-3-methylphenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
4-Nitrophenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
Benzoic acid	ND		0.0500	5	04/10/2024 05:07	WG2263382
Pentachlorophenol	ND		0.0100	5	04/10/2024 05:07	WG2263382
(S) Phenol-d5	*35.9*			*10.0-120*	*04/10/2024 05:07*	WG2263382
(S) p-Terphenyl-d14	*25.8*			*10.0-128*	*04/10/2024 05:07*	WG2263382
(S) Nitrobenzene-d5	*49.4*			*10.0-127*	*04/10/2024 05:07*	WG2263382
(S) 2-Fluorophenol	*33.8*			*10.0-120*	*04/10/2024 05:07*	WG2263382
(S) 2-Fluorobiphenyl	*53.3*			*10.0-130*	*04/10/2024 05:07*	WG2263382
(S) 2,4,6-Tribromophenol	*65.5*			*10.0-155*	*04/10/2024 05:07*	WG2263382

Sample Narrative:

L1722613-05 WG2263382: Dilution due to matrix

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		4/5/2024 4:58:31 PM	WG2261419
Initial pH	N/A		4/5/2024 4:58:31 PM	WG2261419
Final pH	N/A		4/5/2024 4:58:31 PM	WG2261419

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	04/08/2024 14:04	WG2261986

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	04/10/2024 09:06	WG2262363
Barium, TCLP	0.573		0.100	100	1	04/10/2024 09:06	WG2262363
Cadmium, TCLP	ND		0.100	1	1	04/10/2024 09:06	WG2262363
Chromium, TCLP	0.107		0.100	5	1	04/10/2024 09:06	WG2262363
Lead, TCLP	ND		0.100	5	1	04/10/2024 09:06	WG2262363
Selenium, TCLP	ND		0.100	1	1	04/10/2024 09:06	WG2262363
Silver, TCLP	ND		0.100	5	1	04/10/2024 09:06	WG2262363

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	9.27	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	828		0.100	1	04/11/2024 14:54	WG2264415

Sample Narrative:
L1722613-07 WG2264415: Dilution due to matrix interference

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	8.20		4.00	1	04/10/2024 18:42	WG2263548

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	04/10/2024 17:41	WG2262815

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	4140		20.0	1	04/08/2024 09:20	WG2262069
Alkalinity,Bicarbonate	4140		20.0	1	04/08/2024 09:20	WG2262069

Sample Narrative:
L1722613-07 WG2262069: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	1030		6.34	200	04/10/2024 12:06	WG2262950

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	828		3.50	100	04/10/2024 22:27	WG2263535

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	5	04/11/2024 14:54	WG2264415

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	9.15		0.0500	50	04/05/2024 22:06	WG2261265

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	105		33.3	1	04/10/2024 11:51	WG2261332

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	04/05/2024 16:05	WG2261260

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.0154		0.0100	5	04/16/2024 15:35	WG2267015

Sample Narrative:

L1722613-07 WG2267015: dilution due to sample matrix

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.14	T8	1	04/06/2024 17:50	WG2261475

Sample Narrative:

L1722613-07 WG2261475: 8.14 at 18.3C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	2380		1.04	20	04/11/2024 19:42	WG2262434
Sulfate	32.6		5.00	5	04/11/2024 19:29	WG2262434

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000490	10	04/10/2024 09:27	WG2262591

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	04/11/2024 19:28	WG2263290
Arsenic	0.0567		0.0100	1	04/11/2024 19:28	WG2263290
Barium	0.631		0.00500	1	04/11/2024 19:28	WG2263290
Beryllium	ND		0.00200	1	04/11/2024 19:28	WG2263290
Cadmium	ND		0.00200	1	04/11/2024 19:28	WG2263290
Calcium	60.9		1.00	1	04/11/2024 19:28	WG2263290
Chromium	0.0982		0.0100	1	04/11/2024 19:28	WG2263290
Cobalt	0.0396		0.0100	1	04/11/2024 19:28	WG2263290
Copper	ND		0.0100	1	04/11/2024 19:28	WG2263290
Lead	ND		0.00500	1	04/11/2024 19:28	WG2263290
Magnesium	105		1.00	1	04/11/2024 19:28	WG2263290
Molybdenum	ND		0.0100	1	04/11/2024 19:28	WG2263290
Nickel	0.209		0.0100	1	04/11/2024 19:28	WG2263290
Potassium	396		1.00	1	04/11/2024 19:28	WG2263290
Selenium	ND		0.0250	1	04/11/2024 19:28	WG2263290
Silver	ND		0.00600	1	04/11/2024 19:28	WG2263290

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Sodium	1670		1.00	5	04/11/2024 23:18	WG2263290
Thallium	ND		0.0200	1	04/11/2024 19:28	WG2263290
Vanadium	0.0298		0.0200	1	04/11/2024 19:28	WG2263290
Zinc	ND		0.0500	1	04/11/2024 19:28	WG2263290

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	5	04/06/2024 20:40	WG2261817
1,1,1-Trichloroethane	ND		1.00	5	04/06/2024 20:40	WG2261817
1,1,2,2-Tetrachloroethane	ND		1.00	5	04/06/2024 20:40	WG2261817
1,1,2-Trichloroethane	ND		1.00	5	04/06/2024 20:40	WG2261817
1,1-Dichloroethane	ND		1.00	5	04/06/2024 20:40	WG2261817
1,1-Dichloroethene	ND		1.00	5	04/06/2024 20:40	WG2261817
1,2,3-Trichloropropane	ND		2.50	5	04/06/2024 20:40	WG2261817
1,2-Dibromo-3-Chloropropane	ND		2.50	5	04/06/2024 20:40	WG2261817
1,2-Dibromoethane	ND		1.00	5	04/06/2024 20:40	WG2261817
1,2-Dichloroethane	ND	C3	1.00	5	04/06/2024 20:40	WG2261817
1,2-Dichloropropane	ND		1.00	5	04/06/2024 20:40	WG2261817
2-Butanone (MEK)	47.2		10.0	5	04/06/2024 20:40	WG2261817
2-Chloroethyl vinyl ether	ND		50.0	5	04/06/2024 20:40	WG2261817
2-Hexanone	ND		5.00	5	04/06/2024 20:40	WG2261817
4-Methyl-2-pentanone (MIBK)	ND		5.00	5	04/06/2024 20:40	WG2261817
Acetone	214		25.0	5	04/06/2024 20:40	WG2261817
Acrylonitrile	ND		5.00	5	04/06/2024 20:40	WG2261817
Benzene	ND		1.00	5	04/06/2024 20:40	WG2261817
Bromochloromethane	ND		1.00	5	04/06/2024 20:40	WG2261817
Bromodichloromethane	ND		1.00	5	04/06/2024 20:40	WG2261817
Bromoform	ND		1.00	5	04/06/2024 20:40	WG2261817
Bromomethane	ND	C3 J4	2.50	5	04/06/2024 20:40	WG2261817
Carbon disulfide	2.86		1.00	5	04/06/2024 20:40	WG2261817
Carbon tetrachloride	ND		1.00	5	04/06/2024 20:40	WG2261817
Chlorobenzene	ND		1.00	5	04/06/2024 20:40	WG2261817
Chloroethane	ND	C3	2.50	5	04/06/2024 20:40	WG2261817
Chloroform	ND		1.00	5	04/06/2024 20:40	WG2261817
Chloromethane	ND		1.25	5	04/06/2024 20:40	WG2261817
Dibromochloromethane	ND		1.00	5	04/06/2024 20:40	WG2261817
Dibromomethane	ND		1.00	5	04/06/2024 20:40	WG2261817
Ethylbenzene	ND		1.00	5	04/06/2024 20:40	WG2261817
Iodomethane	ND	C3 J4	10.0	5	04/06/2024 20:40	WG2261817
Methylene Chloride	ND		5.35	5	04/06/2024 20:40	WG2261817
Styrene	ND		1.00	5	04/06/2024 20:40	WG2261817
Tetrachloroethene	ND		1.00	5	04/06/2024 20:40	WG2261817
Toluene	ND		2.06	5	04/06/2024 20:40	WG2261817
Trichloroethene	ND		1.00	5	04/06/2024 20:40	WG2261817
Trichlorofluoromethane	ND		2.50	5	04/06/2024 20:40	WG2261817
Vinyl acetate	ND		5.00	5	04/06/2024 20:40	WG2261817
Vinyl chloride	ND	C3	1.00	5	04/06/2024 20:40	WG2261817
Xylenes, Total	ND		2.00	5	04/06/2024 20:40	WG2261817
cis-1,2-Dichloroethene	ND		1.00	5	04/06/2024 20:40	WG2261817
cis-1,3-Dichloropropene	ND		1.00	5	04/06/2024 20:40	WG2261817
trans-1,2-Dichloroethene	ND		1.00	5	04/06/2024 20:40	WG2261817
trans-1,3-Dichloropropene	ND	C3	1.11	5	04/06/2024 20:40	WG2261817
trans-1,4-Dichloro-2-butene	ND	C3	5.00	5	04/06/2024 20:40	WG2261817
(S) 4-Bromofluorobenzene	*107*			*77.0-126*	*04/06/2024 20:40*	WG2261817
(S) Toluene-d8	*110*			*80.0-120*	*04/06/2024 20:40*	WG2261817

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 1,2-Dichloroethane-d4	*73.4*			*70.0-130*	*04/06/2024 20:40*	WG2261817

Sample Narrative:

L1722613-07 WG2261817: Lowest possible dilution due to sample foaming.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
2,4,6-Trichlorophenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
2,4-Dichlorophenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
2,4-Dimethylphenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
2,4-Dinitrophenol	ND		0.0297	5	04/10/2024 05:29	WG2263382
2-Chlorophenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
2-Nitrophenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
4,6-Dinitro-2-methylphenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
4-Chloro-3-methylphenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
4-Nitrophenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
Benzoic acid	ND		0.0500	5	04/10/2024 05:29	WG2263382
Pentachlorophenol	ND		0.0100	5	04/10/2024 05:29	WG2263382
(S) Phenol-d5	*34.9*			*10.0-120*	*04/10/2024 05:29*	WG2263382
(S) p-Terphenyl-d14	*29.7*			*10.0-128*	*04/10/2024 05:29*	WG2263382
(S) Nitrobenzene-d5	*47.4*			*10.0-127*	*04/10/2024 05:29*	WG2263382
(S) 2-Fluorophenol	*32.5*			*10.0-120*	*04/10/2024 05:29*	WG2263382
(S) 2-Fluorobiphenyl	*53.8*			*10.0-130*	*04/10/2024 05:29*	WG2263382
(S) 2,4,6-Tribromophenol	*66.8*			*10.0-155*	*04/10/2024 05:29*	WG2263382

Sample Narrative:

L1722613-07 WG2263382: Dilution due to matrix

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		4/5/2024 4:58:31 PM	WG2261419
Initial pH	N/A		4/5/2024 4:58:31 PM	WG2261419
Final pH	N/A		4/5/2024 4:58:31 PM	WG2261419

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	04/08/2024 14:06	WG2261986

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	04/10/2024 09:07	WG2262363
Barium, TCLP	0.509		0.100	100	1	04/10/2024 09:07	WG2262363
Cadmium, TCLP	ND		0.100	1	1	04/10/2024 09:07	WG2262363
Chromium, TCLP	ND		0.100	5	1	04/10/2024 09:07	WG2262363
Lead, TCLP	ND		0.100	5	1	04/10/2024 09:07	WG2262363
Selenium, TCLP	ND		0.100	1	1	04/10/2024 09:07	WG2262363
Silver, TCLP	ND		0.100	5	1	04/10/2024 09:07	WG2262363

Method Blank (MB)

(MB) R4057065-1 04/10/24 18:42

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1722511-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1722511-03 04/10/24 18:42 • (DUP) R4057065-3 04/10/24 18:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	5.00	5.33	1	200		5

L1722613-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-03 04/10/24 18:42 • (DUP) R4057065-4 04/10/24 18:42

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	15.3	16.3	1	6.51		5

Laboratory Control Sample (LCS)

(LCS) R4057065-2 04/10/24 18:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	816	106	85.0-115	

Method Blank (MB)

(MB) R4056243-1 04/10/24 17:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	ND		1.16	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4056243-2 04/10/24 17:41 • (LCSD) R4056243-3 04/10/24 17:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	37.2	35.7	93.0	89.3	78.0-114			4.12	20

L1722545-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1722545-02 04/10/24 17:41 • (MS) R4056243-4 04/10/24 17:41

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	33.1	82.9	1	78.0-114	

Method Blank (MB)

(MB) R4054982-2 04/08/24 08:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0
Alkalinity,Bicarbonate	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1722610-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1722610-02 04/08/24 08:55 • (DUP) R4054982-3 04/08/24 09:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	187	189	1	1.02		20
Alkalinity,Bicarbonate	187	189	1	1.02		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1722760-23 Original Sample (OS) • Duplicate (DUP)

(OS) L1722760-23 04/08/24 10:54 • (DUP) R4054982-4 04/08/24 10:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	1010	1010	1	0.238		20
Alkalinity,Bicarbonate	1010	1010	1	0.238		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4054982-1 04/08/24 08:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	106	106	90.0-110	

Laboratory Control Sample (LCS)

(LCS) R4054982-1 04/08/24 08:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4056134-1 04/10/24 11:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

Laboratory Control Sample (LCS)

(LCS) R4056134-2 04/10/24 11:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.93	106	90.0-110	

Method Blank (MB)

(MB) R4055748-1 04/09/24 19:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	ND		0.0350	0.250

L1722581-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722581-01 04/09/24 19:38 • (DUP) R4055748-3 04/09/24 19:39

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	1.43	1.32	1	8.00		20

L1722608-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722608-01 04/09/24 21:12 • (DUP) R4055748-7 04/09/24 21:13

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	29.0	28.2	2	2.80		20

Laboratory Control Sample (LCS)

(LCS) R4055748-2 04/09/24 19:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	12.5	102	80.0-120	

L1722603-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722603-01 04/09/24 19:43 • (MS) R4055748-4 04/09/24 19:44 • (MSD) R4055748-5 04/09/24 19:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	0.518	7.02	7.36	130	137	1	90.0-110	J5	J5	4.73	20

Sample Narrative:

MS: spike failed due to sample matrix

MSD: spike failed due to sample matrix

L1722613-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1722613-01 04/09/24 19:52 • (MS) R4055748-6 04/09/24 19:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	5.46	9.94	89.6	1	90.0-110	J6

Sample Narrative:

MS: spike failed due to sample matrix

Method Blank (MB)

(MB) R4056294-1 04/10/24 21:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	ND		0.0350	0.250

Laboratory Control Sample (LCS)

(LCS) R4056294-2 04/10/24 21:46

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	11.5	93.9	80.0-120	

QUALITY CONTROL SUMMARY

L1722613-01,03,05,07

Method Blank (MB)

(MB) R4056605-1 04/11/24 14:35

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	ND		0.0197	0.100

L1722603-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722603-01 04/11/24 14:40 • (DUP) R4056605-3 04/11/24 14:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.173	0.170	1	1.75		20

L1722770-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722770-01 04/11/24 14:55 • (DUP) R4056605-5 04/11/24 14:56

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4056605-2 04/11/24 14:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.52	101	90.0-110	

L1722603-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1722603-01 04/11/24 14:40 • (MS) R4056605-4 04/11/24 14:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	0.173	2.73	102	1	90.0-110	

L1722770-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722770-01 04/11/24 14:55 • (MS) R4056605-6 04/11/24 14:58 • (MSD) R4056605-7 04/11/24 14:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	ND	2.58	2.55	103	102	1	90.0-110			1.17	20

Method Blank (MB)

(MB) R4054490-1 04/05/24 21:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	0.00173	J	0.00100	0.00300

L1722613-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-01 04/05/24 22:22 • (DUP) R4054490-3 04/05/24 22:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	0.622	0.630	20	1.28		20

L1722613-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-07 04/05/24 22:06 • (DUP) R4054490-5 04/05/24 22:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	9.15	9.20	50	0.545		20

Laboratory Control Sample (LCS)

(LCS) R4054490-2 04/05/24 21:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	0.0722	0.0666	92.2	78.9-121	

L1722613-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1722613-01 04/05/24 22:22 • (MS) R4054490-4 04/05/24 22:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Phosphorus,Total	1.00	0.622	1.65	103	20	90.0-110	

L1722613-07 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722613-07 04/05/24 22:06 • (MS) R4054490-6 04/05/24 22:09 • (MSD) R4054490-7 04/05/24 22:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	2.50	9.15	11.8	11.8	104	104	50	90.0-110	E	E	0.000	20

Method Blank (MB)

(MB) R4056094-1 04/10/24 07:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
BOD	ND		0.200	0.200

L1722520-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1722520-02 04/10/24 11:09 • (DUP) R4056094-3 04/10/24 11:11

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	3.65	ND	1	200	P1	30

L1722636-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1722636-02 04/10/24 11:56 • (DUP) R4056094-4 04/10/24 11:59

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	ND	ND	1	0		30

Laboratory Control Sample (LCS)

(LCS) R4056094-2 04/10/24 10:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	201	101	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4056094-5 04/10/24 12:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	199	100	84.6-115	

Method Blank (MB)

(MB) R4054377-1 04/05/24 16:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	ND		0.00300	0.0100

L1722613-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-01 04/05/24 16:03 • (DUP) R4054377-3 04/05/24 16:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4054377-2 04/05/24 16:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.545	109	80.0-120	

L1722613-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722613-01 04/05/24 16:03 • (MS) R4054377-4 04/05/24 16:04 • (MSD) R4054377-5 04/05/24 16:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	ND	0.541	0.527	108	105	1	75.0-125			2.62	20

Method Blank (MB)

(MB) R4058384-1 04/16/24 14:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	ND		0.00180	0.00500

L1722607-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722607-01 04/16/24 15:22 • (DUP) R4058384-5 04/16/24 15:23

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	200	P1	20

L1722613-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-01 04/16/24 15:26 • (DUP) R4058384-6 04/16/24 15:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	200	P1	20

Laboratory Control Sample (LCS)

(LCS) R4058384-2 04/16/24 14:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.0995	99.5	87.1-120	

L1722558-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722558-02 04/16/24 15:18 • (MS) R4058384-3 04/16/24 15:19 • (MSD) R4058384-4 04/16/24 15:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0878	0.0826	87.8	82.6	1	90.0-110	J6	J6	6.10	20

L1721468-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1721468-02 04/05/24 21:20 • (DUP) R4054486-2 04/05/24 21:20

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.44	7.42	1	0.269		1

Sample Narrative:
OS: 7.44 at 18.8C
DUP: 7.42 at 18.8C

L1722613-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-03 04/05/24 21:20 • (DUP) R4054486-3 04/05/24 21:20

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.20	8.23	1	0.365		1

Sample Narrative:
OS: 8.2 at 18.3C
DUP: 8.23 at 19.3C

Laboratory Control Sample (LCS)

(LCS) R4054486-1 04/05/24 21:20

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	10.0	100	99.0-101	

Sample Narrative:
LCS: 10.01 at 20.2C

L1722613-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-05 04/06/24 17:50 • (DUP) R4054670-2 04/06/24 17:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	8.17	8.18	1	0.122		1

Sample Narrative:

OS: 8.17 at 18.3C

DUP: 8.18 at 18.4C

L1722801-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1722801-02 04/06/24 17:50 • (DUP) R4054670-3 04/06/24 17:50

Analyte	Original Result	DUP Result	Dilution	DUP RPD	DUP Qualifier	DUP RPD Limits
	su	su		%		%
pH	6.37	6.39	1	0.313		1

Sample Narrative:

OS: 6.37 at 18.8C

DUP: 6.39 at 18.9C

Laboratory Control Sample (LCS)

(LCS) R4054670-1 04/06/24 17:50

Analyte	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
	su	su	%	%	
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 20C

Method Blank (MB)

(MB) R4058922-1 04/11/24 09:06

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.246		0.0519	1.00
Sulfate	0.317		0.0774	5.00

L1722347-21 Original Sample (OS) • Duplicate (DUP)

(OS) L1722347-21 04/11/24 12:18 • (DUP) R4058922-3 04/11/24 12:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	49.8	49.1	1	1.46		15
Sulfate	80.6	76.4	1	5.46		15

L1722613-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1722613-01 04/11/24 15:55 • (DUP) R4058922-6 04/11/24 16:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	38.8	38.6	1	0.536		15
Sulfate	61.7	58.7	1	5.05		15

Laboratory Control Sample (LCS)

(LCS) R4058922-2 04/11/24 09:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	38.7	96.8	80.0-120	
Sulfate	40.0	37.5	93.8	80.0-120	

L1722347-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722347-21 04/11/24 12:18 • (MS) R4058922-4 04/11/24 13:09 • (MSD) R4058922-5 04/11/24 13:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	49.8	82.4	82.1	81.4	80.9	1	80.0-120			0.268	15
Sulfate	40.0	80.6	105	102	60.6	52.5	1	80.0-120	J6	J6	3.17	15

Sample Narrative:

MS: SO4 spike failed due to sample matrix

L1722347-21 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722347-21 04/11/24 12:18 • (MS) R4058922-4 04/11/24 13:09 • (MSD) R4058922-5 04/11/24 13:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %

MSD: SO4 spike failed due to sample matrix

L1722613-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1722613-01 04/11/24 15:55 • (MS) R4058922-7 04/11/24 16:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	38.8	74.0	88.1	1	80.0-120	
Sulfate	40.0	61.7	89.6	69.6	1	80.0-120	J6

Sample Narrative:

MS: SO4 spike failed due to sample matrix

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4055203-1 04/08/24 16:25

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	ND		0.0000490	0.000200

Laboratory Control Sample (LCS)

(LCS) R4055203-2 04/08/24 16:27

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00319	106	80.0-120	

L1722557-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722557-01 04/08/24 16:30 • (MS) R4055203-4 04/08/24 16:34 • (MSD) R4055203-5 04/08/24 16:37

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00308	0.00313	103	104	1	75.0-125			1.75	20

Method Blank (MB)

(MB) R4055847-1 04/10/24 08:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	ND		0.0000490	0.000200

Laboratory Control Sample (LCS)

(LCS) R4055847-2 04/10/24 08:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00331	110	80.0-120	

L1721739-45 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1721739-45 04/10/24 08:55 • (MS) R4055847-4 04/10/24 08:59 • (MSD) R4055847-5 04/10/24 09:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00301	0.00299	100	99.7	1	75.0-125			0.540	20

QUALITY CONTROL SUMMARY

L1722613-02,04,06,08

Method Blank (MB)

(MB) R4055058-1 04/08/24 13:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury, TCLP	0.0000589		0.0000490	0.0100

Laboratory Control Sample (LCS)

(LCS) R4055058-2 04/08/24 13:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury, TCLP	0.0300	0.0308	103	80.0-120	

L1722613-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722613-02 04/08/24 13:35 • (MS) R4055058-4 04/08/24 13:39 • (MSD) R4055058-5 04/08/24 13:42

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0317	0.0319	106	106	1	75.0-125			0.698	20

L1722688-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722688-01 04/08/24 13:44 • (MS) R4055058-6 04/08/24 13:47 • (MSD) R4055058-7 04/08/24 13:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0324	0.0321	108	107	1	75.0-125			0.934	20

Method Blank (MB)

(MB) R4056066-1 04/10/24 09:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic, TCLP	ND		0.00650	0.100
Barium, TCLP	0.00202		0.00170	0.100
Cadmium, TCLP	ND		0.0463	0.100
Chromium, TCLP	0.00451		0.00140	0.100
Lead, TCLP	0.0110		0.00190	0.100
Selenium, TCLP	0.0434	J	0.00740	0.100
Silver, TCLP	ND		0.00280	0.100

Method Blank (MB)

(MB) R4056278-1 04/10/24 16:21

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silver, TCLP	0.00322		0.00280	0.100

Laboratory Control Sample (LCS)

(LCS) R4056066-2 04/10/24 09:20

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic, TCLP	10.0	9.86	98.6	80.0-120	
Barium, TCLP	10.0	9.93	99.3	80.0-120	
Cadmium, TCLP	10.0	9.56	95.6	80.0-120	
Chromium, TCLP	10.0	9.93	99.3	80.0-120	
Lead, TCLP	10.0	9.64	96.4	80.0-120	
Selenium, TCLP	10.0	9.75	97.5	80.0-120	
Silver, TCLP	2.00	1.84	92.1	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4056278-2 04/10/24 16:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver, TCLP	2.00	1.80	90.1	80.0-120	

L1722494-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722494-01 04/10/24 09:22 • (MS) R4056066-4 04/10/24 09:25 • (MSD) R4056066-5 04/10/24 09:27

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	9.85	9.81	98.5	98.1	1	75.0-125			0.491	20
Barium, TCLP	10.0	1.02	11.0	11.0	99.7	99.8	1	75.0-125			0.0670	20
Cadmium, TCLP	10.0	ND	9.61	9.66	96.1	96.6	1	75.0-125			0.500	20
Chromium, TCLP	10.0	ND	9.91	9.91	99.1	99.1	1	75.0-125			0.0515	20
Lead, TCLP	10.0	ND	9.67	9.70	96.7	97.0	1	75.0-125			0.326	20
Selenium, TCLP	10.0	ND	9.83	9.86	97.6	97.9	1	75.0-125			0.304	20
Silver, TCLP	2.00	ND	1.84	1.85	92.1	92.4	1	75.0-125			0.249	20

L1722613-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722613-02 04/10/24 09:28 • (MS) R4056066-6 04/10/24 09:30 • (MSD) R4056066-7 04/10/24 09:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	9.50	9.66	94.7	96.2	1	75.0-125			1.62	20
Barium, TCLP	10.0	ND	10.1	10.2	101	102	1	75.0-125			0.830	20
Cadmium, TCLP	10.0	ND	9.45	9.61	94.5	96.1	1	75.0-125			1.74	20
Chromium, TCLP	10.0	ND	10.0	10.1	100	101	1	75.0-125			0.968	20
Lead, TCLP	10.0	ND	9.41	9.57	94.1	95.7	1	75.0-125			1.68	20
Selenium, TCLP	10.0	ND	8.99	9.09	89.9	90.9	1	75.0-125			1.15	20
Silver, TCLP	2.00	ND	1.84	1.82	91.9	91.2	1	75.0-125			0.800	20

Method Blank (MB)

(MB) R4056743-1 04/11/24 19:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	ND		0.00750	0.0100
Arsenic	ND		0.00650	0.0100
Barium	ND		0.00170	0.00500
Beryllium	ND		0.000700	0.00200
Cadmium	ND	J	0.000700	0.00200
Calcium	ND		0.0463	1.00
Chromium	ND		0.00140	0.0100
Cobalt	ND		0.00230	0.0100
Copper	ND		0.00530	0.0100
Lead	ND		0.00190	0.00500
Magnesium	0.0388		0.0111	1.00
Molybdenum	ND		0.00160	0.00500
Nickel	ND		0.00490	0.0100
Potassium	ND		0.102	1.00
Selenium	ND		0.00740	0.0100
Silver	ND		0.00280	0.00500
Sodium	ND		0.0985	1.00
Thallium	ND		0.00650	0.0100
Vanadium	ND		0.00240	0.0200
Zinc	ND		0.00590	0.0500

Laboratory Control Sample (LCS)

(LCS) R4056743-2 04/11/24 19:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1.00	0.970	97.0	80.0-120	
Arsenic	1.00	0.952	95.2	80.0-120	
Barium	1.00	1.01	101	80.0-120	
Beryllium	1.00	0.984	98.4	80.0-120	
Cadmium	1.00	0.961	96.1	80.0-120	
Calcium	10.0	10.1	101	80.0-120	
Chromium	1.00	0.996	99.6	80.0-120	
Cobalt	1.00	0.950	95.0	80.0-120	
Copper	1.00	1.00	100	80.0-120	
Lead	1.00	0.945	94.5	80.0-120	
Magnesium	10.0	9.57	95.7	80.0-120	
Molybdenum	1.00	1.00	100	80.0-120	
Nickel	1.00	0.937	93.7	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4056743-2 04/11/24 19:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Potassium	10.0	9.61	96.1	80.0-120	
Selenium	1.00	0.893	89.3	80.0-120	
Silver	0.200	0.183	91.5	80.0-120	
Sodium	10.0	9.97	99.7	80.0-120	
Thallium	1.00	0.990	99.0	80.0-120	
Vanadium	1.00	0.965	96.5	80.0-120	
Zinc	1.00	0.994	99.4	80.0-120	

L1722545-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722545-01 04/11/24 19:11 • (MS) R4056743-4 04/11/24 19:14 • (MSD) R4056743-5 04/11/24 19:16

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	ND	0.957	0.977	95.7	97.7	1	75.0-125			2.06	20
Arsenic	1.00	ND	0.975	0.990	97.5	99.0	1	75.0-125			1.50	20
Barium	1.00	0.186	1.17	1.19	98.8	101	1	75.0-125			1.56	20
Beryllium	1.00	ND	0.988	1.00	98.8	100	1	75.0-125			1.46	20
Cadmium	1.00	ND	0.970	0.989	96.9	98.8	1	75.0-125			1.97	20
Calcium	10.0	77.2	86.5	87.0	93.6	98.4	1	75.0-125			0.557	20
Chromium	1.00	ND	0.990	1.01	99.0	101	1	75.0-125			1.79	20
Cobalt	1.00	ND	0.962	0.993	96.0	99.1	1	75.0-125			3.17	20
Copper	1.00	ND	1.02	1.03	102	103	1	75.0-125			0.805	20
Lead	1.00	ND	0.963	0.988	96.3	98.8	1	75.0-125			2.56	20
Magnesium	10.0	12.0	21.2	21.2	92.7	92.0	1	75.0-125			0.326	20
Molybdenum	1.00	ND	1.01	1.02	100	101	1	75.0-125			0.995	20
Nickel	1.00	ND	0.986	1.02	98.6	102	1	75.0-125			3.04	20
Potassium	10.0	13.9	23.4	23.4	95.1	95.0	1	75.0-125			0.0565	20
Selenium	1.00	ND	0.972	0.989	97.2	98.9	1	75.0-125			1.70	20
Silver	0.200	ND	0.187	0.189	92.5	93.7	1	75.0-125			1.22	20
Sodium	10.0	110	118	119	83.2	89.5	1	75.0-125			0.528	20
Thallium	1.00	ND	0.993	1.02	99.3	102	1	75.0-125			2.31	20
Vanadium	1.00	ND	0.975	0.986	97.5	98.6	1	75.0-125			1.12	20
Zinc	1.00	ND	1.01	1.04	99.7	103	1	75.0-125			3.51	20

Method Blank (MB)

(MB) R4055149-3 04/06/24 10:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.120	0.500
1,1,1-Trichloroethane	ND		0.0940	0.500
1,1,2,2-Tetrachloroethane	ND		0.130	0.500
1,1,2-Trichloroethane	ND		0.186	0.500
1,1-Dichloroethane	ND		0.114	0.500
1,1-Dichloroethene	ND		0.188	0.500
1,2,3-Trichloropropane	ND		0.247	2.50
1,2-Dibromo-3-Chloropropane	ND		0.325	2.50
1,2-Dibromoethane	ND		0.193	0.500
1,2-Dichloroethane	ND		0.108	0.500
1,2-Dichloropropane	ND		0.190	0.500
2-Butanone (MEK)	ND		1.28	5.00
2-Chloroethyl vinyl ether	ND		0.575	50.0
2-Hexanone	ND		0.757	5.00
4-Methyl-2-pentanone (MIBK)	ND		0.823	5.00
Acetone	ND		1.05	25.0
Acrylonitrile	ND		0.873	5.00
Benzene	ND		0.0896	0.500
Bromochloromethane	ND		0.145	0.500
Bromodichloromethane	ND		0.0800	0.500
Bromoform	ND		0.186	0.500
Bromomethane	ND		0.157	2.50
Carbon disulfide	0.153	J	0.101	0.500
Carbon tetrachloride	ND		0.159	0.500
Chlorobenzene	ND		0.140	0.500
Chloroethane	ND		0.141	2.50
Chloroform	ND		0.0860	0.500
Chloromethane	ND		0.153	1.25
Dibromochloromethane	ND		0.128	0.500
Dibromomethane	ND		0.117	0.500
Ethylbenzene	ND		0.158	0.500
Iodomethane	ND		0.377	10.0
Methylene Chloride	ND		1.07	2.50
Styrene	ND		0.117	0.500
Tetrachloroethene	ND		0.199	0.500
Toluene	ND		0.412	0.500
Trichloroethene	ND		0.153	0.500
Trichlorofluoromethane	ND		0.130	2.50
Vinyl acetate	ND		0.645	5.00
Vinyl chloride	ND		0.118	0.500

QUALITY CONTROL SUMMARY

L1722613-03,05,07

Method Blank (MB)

(MB) R4055149-3 04/06/24 10:34

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	ND		0.316	1.50
cis-1,2-Dichloroethene	ND		0.0933	0.500
cis-1,3-Dichloropropene	ND		0.0976	0.500
trans-1,2-Dichloroethene	ND		0.152	0.500
trans-1,3-Dichloropropene	ND		0.222	0.500
trans-1,4-Dichloro-2-butene	ND		0.257	5.00
(S) 4-Bromofluorobenzene	*106*			*77.0-126*
(S) Toluene-d8	*110*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*72.8*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4055149-1 04/06/24 09:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,1,1,2-Tetrachloroethane	5.00	4.75	95.0	75.0-125	
1,1,1-Trichloroethane	5.00	4.50	90.0	73.0-124	
1,1,2,2-Tetrachloroethane	5.00	4.52	90.4	65.0-130	
1,1,2-Trichloroethane	5.00	5.10	102	80.0-120	
1,1-Dichloroethane	5.00	4.46	89.2	70.0-126	
1,1-Dichloroethene	5.00	5.19	104	71.0-124	
1,2,3-Trichloropropane	5.00	4.21	84.2	73.0-130	
1,2-Dibromo-3-Chloropropane	5.00	4.26	85.2	58.0-134	
1,2-Dibromoethane	5.00	4.95	99.0	80.0-122	
1,2-Dichloroethane	5.00	3.79	75.8	70.0-128	
1,2-Dichloropropane	5.00	4.77	95.4	77.0-125	
2-Butanone (MEK)	25.0	23.7	94.8	44.0-160	
2-Chloroethyl vinyl ether	25.0	20.2	80.8	51.0-160	
2-Hexanone	25.0	25.2	101	67.0-149	
4-Methyl-2-pentanone (MIBK)	25.0	22.7	90.8	68.0-142	
Acetone	25.0	23.2	92.8	19.0-160	
Acrylonitrile	25.0	24.9	99.6	55.0-149	
Benzene	5.00	4.93	98.6	70.0-123	
Bromochloromethane	5.00	5.28	106	76.0-122	
Bromodichloromethane	5.00	4.20	84.0	75.0-120	
Bromoform	5.00	4.41	88.2	68.0-132	
Bromomethane	5.00	ND	0.000	10.0-160	J4
Carbon disulfide	5.00	4.98	99.6	61.0-128	
Carbon tetrachloride	5.00	4.11	82.2	68.0-126	

Laboratory Control Sample (LCS)

(LCS) R4055149-1 04/06/24 09:32

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chlorobenzene	5.00	5.15	103	80.0-121	
Chloroethane	5.00	3.21	64.2	47.0-150	
Chloroform	5.00	4.54	90.8	73.0-120	
Chloromethane	5.00	4.57	91.4	41.0-142	
Dibromochloromethane	5.00	4.44	88.8	77.0-125	
Dibromomethane	5.00	4.48	89.6	80.0-120	
Ethylbenzene	5.00	5.19	104	79.0-123	
Iodomethane	25.0	6.68	26.7	33.0-147	J4
Methylene Chloride	5.00	4.71	94.2	67.0-120	
Styrene	5.00	4.93	98.6	73.0-130	
Tetrachloroethene	5.00	6.04	121	72.0-132	
Toluene	5.00	5.16	103	79.0-120	
Trichloroethene	5.00	5.20	104	78.0-124	
Trichlorofluoromethane	5.00	4.46	89.2	59.0-147	
Vinyl acetate	25.0	25.6	102	11.0-160	
Vinyl chloride	5.00	3.74	74.8	67.0-131	
Xylenes, Total	15.0	15.8	105	79.0-123	
cis-1,2-Dichloroethene	5.00	4.92	98.4	73.0-120	
cis-1,3-Dichloropropene	5.00	4.22	84.4	80.0-123	
trans-1,2-Dichloroethene	5.00	5.05	101	73.0-120	
trans-1,3-Dichloropropene	5.00	3.97	79.4	78.0-124	
trans-1,4-Dichloro-2-butene	5.00	2.55	51.0	33.0-144	
(S) 4-Bromofluorobenzene			*105*	*77.0-126*	
(S) Toluene-d8			*109*	*80.0-120*	
(S) 1,2-Dichloroethane-d4			*74.8*	*70.0-130*	

Method Blank (MB)

(MB) R4057677-2 04/12/24 10:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.120	0.500
1,1,1-Trichloroethane	ND		0.0940	0.500
1,1,2,2-Tetrachloroethane	ND		0.130	0.500
1,1,2-Trichloroethane	ND		0.186	0.500
1,1-Dichloroethane	ND		0.114	0.500
1,1-Dichloroethene	ND		0.188	0.500
1,2,3-Trichloropropane	ND		0.247	2.50
1,2-Dibromo-3-Chloropropane	ND		0.325	2.50
1,2-Dibromoethane	ND		0.193	0.500
1,2-Dichloroethane	ND		0.108	0.500
1,2-Dichloropropane	ND		0.190	0.500
2-Butanone (MEK)	ND		1.28	5.00
2-Chloroethyl vinyl ether	ND		0.575	50.0
2-Hexanone	ND		0.757	5.00
4-Methyl-2-pentanone (MIBK)	ND		0.823	5.00
Acetone	ND		1.05	25.0
Acrylonitrile	ND		0.873	5.00
Benzene	ND		0.0896	0.500
Bromochloromethane	ND		0.145	0.500
Bromodichloromethane	ND		0.0800	0.500
Bromoform	ND		0.186	0.500
Bromomethane	ND		0.157	2.50
Carbon disulfide	0.269	J	0.101	0.500
Carbon tetrachloride	ND		0.159	0.500
Chlorobenzene	ND		0.140	0.500
Chloroethane	ND		0.141	2.50
Chloroform	ND		0.0860	0.500
Chloromethane	ND		0.153	1.25
Dibromochloromethane	ND		0.128	0.500
Dibromomethane	ND		0.117	0.500
Ethylbenzene	ND		0.158	0.500
Iodomethane	1.09	J	0.377	10.0
Methylene Chloride	ND		1.07	2.50
Styrene	ND		0.117	0.500
Tetrachloroethene	ND		0.199	0.500
Toluene	ND		0.412	0.500
Trichloroethene	ND		0.153	0.500
Trichlorofluoromethane	ND		0.130	2.50
Vinyl acetate	ND		0.645	5.00
Vinyl chloride	ND		0.118	0.500

Method Blank (MB)

(MB) R4057677-2 04/12/24 10:20

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	ND		0.316	1.50
cis-1,2-Dichloroethene	ND		0.0933	0.500
cis-1,3-Dichloropropene	ND		0.0976	0.500
trans-1,2-Dichloroethene	ND		0.152	0.500
trans-1,3-Dichloropropene	ND		0.222	0.500
trans-1,4-Dichloro-2-butene	ND		0.257	5.00
(S) 4-Bromofluorobenzene	*92.1*			*77.0-126*
(S) Toluene-d8	*106*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*86.4*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4057677-1 04/12/24 09:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,1,1,2-Tetrachloroethane	5.00	5.75	115	75.0-125	
1,1,1-Trichloroethane	5.00	4.93	98.6	73.0-124	
1,1,2,2-Tetrachloroethane	5.00	4.49	89.8	65.0-130	
1,1,2-Trichloroethane	5.00	5.31	106	80.0-120	
1,1-Dichloroethane	5.00	4.76	95.2	70.0-126	
1,1-Dichloroethene	5.00	4.75	95.0	71.0-124	
1,2,3-Trichloropropane	5.00	5.36	107	73.0-130	
1,2-Dibromo-3-Chloropropane	5.00	4.29	85.8	58.0-134	
1,2-Dibromoethane	5.00	5.27	105	80.0-122	
1,2-Dichloroethane	5.00	4.26	85.2	70.0-128	
1,2-Dichloropropane	5.00	4.80	96.0	77.0-125	
2-Butanone (MEK)	25.0	18.1	72.4	44.0-160	
2-Chloroethyl vinyl ether	25.0	18.7	74.8	51.0-160	
2-Hexanone	25.0	18.4	73.6	67.0-149	
4-Methyl-2-pentanone (MIBK)	25.0	19.0	76.0	68.0-142	
Acetone	25.0	16.2	64.8	19.0-160	
Acrylonitrile	25.0	18.3	73.2	55.0-149	
Benzene	5.00	4.70	94.0	70.0-123	
Bromochloromethane	5.00	5.64	113	76.0-122	
Bromodichloromethane	5.00	4.78	95.6	75.0-120	
Bromoform	5.00	4.37	87.4	68.0-132	
Bromomethane	5.00	2.06	41.2	10.0-160	
Carbon disulfide	5.00	4.46	89.2	61.0-128	
Carbon tetrachloride	5.00	5.08	102	68.0-126	

Laboratory Control Sample (LCS)

(LCS) R4057677-1 04/12/24 09:18

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chlorobenzene	5.00	5.95	119	80.0-121	
Chloroethane	5.00	4.04	80.8	47.0-150	
Chloroform	5.00	4.74	94.8	73.0-120	
Chloromethane	5.00	5.72	114	41.0-142	
Dibromochloromethane	5.00	5.10	102	77.0-125	
Dibromomethane	5.00	4.94	98.8	80.0-120	
Ethylbenzene	5.00	5.58	112	79.0-123	
Iodomethane	25.0	17.1	68.4	33.0-147	
Methylene Chloride	5.00	4.49	89.8	67.0-120	
Styrene	5.00	5.11	102	73.0-130	
Tetrachloroethene	5.00	5.78	116	72.0-132	
Toluene	5.00	5.39	108	79.0-120	
Trichloroethene	5.00	5.66	113	78.0-124	
Trichlorofluoromethane	5.00	5.10	102	59.0-147	
Vinyl acetate	25.0	27.6	110	11.0-160	
Vinyl chloride	5.00	4.04	80.8	67.0-131	
Xylenes, Total	15.0	16.0	107	79.0-123	
cis-1,2-Dichloroethene	5.00	5.51	110	73.0-120	
cis-1,3-Dichloropropene	5.00	4.48	89.6	80.0-123	
trans-1,2-Dichloroethene	5.00	5.16	103	73.0-120	
trans-1,3-Dichloropropene	5.00	4.73	94.6	78.0-124	
trans-1,4-Dichloro-2-butene	5.00	2.87	57.4	33.0-144	
(S) 4-Bromofluorobenzene			*96.2*	*77.0-126*	
(S) Toluene-d8			*104*	*80.0-120*	
(S) 1,2-Dichloroethane-d4			*87.4*	*70.0-130*	

Method Blank (MB)

(MB) R4056834-2 04/09/24 22:01

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4,5-Trichlorophenol	ND		0.000236	0.0100
2,4,6-Trichlorophenol	ND		0.000100	0.0100
2,4-Dichlorophenol	ND		0.000102	0.0100
2,4-Dimethylphenol	ND		0.0000636	0.0100
2,4-Dinitrophenol	ND		0.00593	0.0100
2-Chlorophenol	ND		0.000133	0.0100
2-Nitrophenol	ND		0.000117	0.0100
4,6-Dinitro-2-methylphenol	ND		0.00112	0.0100
4-Chloro-3-methylphenol	ND		0.000131	0.0100
4-Nitrophenol	ND		0.000143	0.0100
Benzoic acid	ND		0.00170	0.0500
Pentachlorophenol	ND		0.000313	0.0100
(S) Phenol-d5	*26.1*			*10.0-120*
(S) p-Terphenyl-d14	*82.2*			*10.0-128*
(S) Nitrobenzene-d5	*57.5*			*10.0-127*
(S) 2-Fluorophenol	*35.3*			*10.0-120*
(S) 2-Fluorobiphenyl	*67.6*			*10.0-130*
(S) 2,4,6-Tribromophenol	*68.5*			*10.0-155*

Laboratory Control Sample (LCS)

(LCS) R4056834-1 04/09/24 21:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
2,4,5-Trichlorophenol	0.0500	0.0420	84.0	44.0-120	
2,4,6-Trichlorophenol	0.0500	0.0414	82.8	42.0-120	
2,4-Dichlorophenol	0.0500	0.0327	65.4	36.0-120	
2,4-Dimethylphenol	0.0500	0.0343	68.6	33.0-120	
2,4-Dinitrophenol	0.0500	0.0438	87.6	10.0-120	
2-Chlorophenol	0.0500	0.0266	53.2	25.0-120	
2-Nitrophenol	0.0500	0.0341	68.2	31.0-120	
4,6-Dinitro-2-methylphenol	0.0500	0.0454	90.8	38.0-138	
4-Chloro-3-methylphenol	0.0500	0.0325	65.0	40.0-120	
4-Nitrophenol	0.0500	0.0191	38.2	10.0-120	
Benzoic acid	0.100	0.0338	33.8	10.0-120	
Pentachlorophenol	0.0500	0.0402	80.4	23.0-120	
(S) Phenol-d5			*26.6*	*10.0-120*	
(S) p-Terphenyl-d14			*82.8*	*10.0-128*	
(S) Nitrobenzene-d5			*53.2*	*10.0-127*	

Laboratory Control Sample (LCS)

(LCS) R4056834-1 04/09/24 21:40

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
(S) 2-Fluorophenol			*34.8*	*10.0-120*	
(S) 2-Fluorobiphenyl			*75.6*	*10.0-130*	
(S) 2,4,6-Tribromophenol			*87.5*	*10.0-155*	

L1722394-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722394-01 04/10/24 03:42 • (MS) R4056834-3 04/10/24 04:04 • (MSD) R4056834-4 04/10/24 04:25

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
2,4,5-Trichlorophenol	0.0500	ND	0.0450	0.0418	90.0	83.6	1	33.0-120			7.37	31
2,4,6-Trichlorophenol	0.0500	ND	0.0433	0.0415	86.6	83.0	1	26.0-120			4.25	31
2,4-Dichlorophenol	0.0500	ND	0.0358	0.0347	71.6	69.4	1	19.0-120			3.12	27
2,4-Dimethylphenol	0.0500	ND	0.0351	0.0348	70.2	69.6	1	15.0-120			0.858	28
2,4-Dinitrophenol	0.0500	ND	0.0478	0.0453	95.6	90.6	1	10.0-120			5.37	40
2-Chlorophenol	0.0500	ND	0.0303	0.0323	60.6	64.6	1	18.0-120			6.39	34
2-Nitrophenol	0.0500	ND	0.0366	0.0349	73.2	69.8	1	20.0-120			4.76	30
4,6-Dinitro-2-methylphenol	0.0500	ND	0.0468	0.0440	93.6	88.0	1	10.0-144			6.17	39
4-Chloro-3-methylphenol	0.0500	ND	0.0346	0.0342	69.2	68.4	1	26.0-120			1.16	27
4-Nitrophenol	0.0500	ND	0.0207	0.0197	41.4	39.4	1	10.0-120			4.95	40
Benzoic acid	0.100	ND	0.0537	0.0503	51.6	48.2	1	10.0-120			6.54	40
Pentachlorophenol	0.0500	ND	0.0470	0.0436	94.0	87.2	1	10.0-128			7.51	37
(S) Phenol-d5					*34.0*	*35.8*		*10.0-120*				
(S) p-Terphenyl-d14					*77.9*	*73.1*		*10.0-128*				
(S) Nitrobenzene-d5					*61.5*	*52.7*		*10.0-127*				
(S) 2-Fluorophenol					*39.1*	*42.6*		*10.0-120*				
(S) 2-Fluorobiphenyl					*75.5*	*71.1*		*10.0-130*				
(S) 2,4,6-Tribromophenol					*89.0*	*84.5*		*10.0-155*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: **Todd Halbersma**

Email To: chris.kaiser@stantec.com;cory.anderson2@stan

Project Description: **Qrtly WWTP-Leachate List 1(1,4,7,10)**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **500**

Lab Project # **WMCENIA-00003**

Collected by (print): Kenneth Smith

Site/Facility ID # **IA02**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270 100ml Amb NoPres	ALK,Cl,SO4, pH 125mlHDPE-NoPres	BODLL 1L-HDPE-NoPres	CN 250mlHDPEAmb-NaOH	CR6 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3,NO2NO3,PT-LL,TKN 250mlHDPE-H2SO4	OGHEX 1L-Clr-WT-HCl	TCLP Mtls 1L-Clr-NoPres	TSS 1L-HDPE NoPres	Remarks	Sample # (lab only)
LEACHATE POND #1	Grab	GW	N/A	4/4/24	1200	15	X	X	X	X	X	X	X	X	X	X		-01/02
LEACHATE POND #2	Grab	GW	N/A	4/4/24	1215	15	X	X	X	X	X	X	X	X	X	X		-03/04
LEACHATE POND #3	Grab	GW	N/A	4/4/24	1245	15	X	X	X	X	X	X	X	X	X	X		-05/06
LEACHATE POND #4	Grab	GW	N/A	4/4/24	1300	15	X	X	X	X	X	X	X	X	X	X		-07/08

Analysis / Container / Preservative: 7/2 RLV; 4/2; 4/2

Chain of Custody Page ___ of ___

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1722013
F134

Acctnum: **WMCENIA**
Template: **T237544**
Prelogin: **P1066747**
PM: **364 - T. Alan Harvill**
PB: BF 4/2/24
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	4/4/24	1545		4	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: DMF °C Bottles Received:	
				1.0/1.1 66	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:	Hold: / Condition: NCF / OK
			Christopher Yellin	4/5/24 0900	

Company Name/Address:

Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:

Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Analysis / Container / Preservative

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

Report to: **Todd Halbersma**

Email To: **chris.kaiser@stantec.com;cory.anderson2@stan**

Project Description: **Qrtly WWTP-Leachate List 1(1,4,7,10)**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **500**

Lab Project # **WMCENIA-00003**

SDG # L1722613

Collected by (print): Kenneth Smith

Site/Facility ID # **IA02**

P.O. #

Table #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Acctnum: **WMCENIA**
Template: **T237544**
Prelogin: **P1066747**
PM: **364 - T. Alan Harvill**
PB: **BT 4/2/24**
Shipped Via: **FedEX Ground**

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LLAP9C 40mlAmb-HCl	Remarks	Sample # (lab only)
LEACHATE POND #1	Grab	GW	N/A	4/4/24	1200	15	X		-01/02
LEACHATE POND #2	↓	GW	↓	↓	1215	15	X		-03/04
LEACHATE POND #3	↓	GW	↓	↓	1245	15	X		-05/06
LEACHATE POND #4	↓	GW	↓	↓	1300	15	X		-07/08

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
	4/4/24	1545			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.0-1.1 °C Bottles Received:	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Christopher Yolen	Date: 4/5/24 Time: 0900	Hold: / Condition: NCF / OK

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 1	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	
Sampling Method:		Volume Purged:	
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)					
Temperature (deg. C)					7.2
Sp. Cond. (umhos/cm)					451
Dissolved Oxygen (mg/L)					5.1
pH (Std. Units)					11.29
Turbidity (NTU)					
ORP (mV)					-50.9

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 1
Date/Time: 4/4/24
Sampler: KMS

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 2	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	
Sampling Method:		Volume Purged:	
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)					
Temperature (deg. C)					7.1
Sp. Cond. (umhos/cm)					16460
Dissolved Oxygen (mg/L)					2.2
pH (Std. Units)					8.96
Turbidity (NTU)					
ORP (mV)					

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 2
Date/Time: 4/4/24
Sampler: KMS

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 3	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	
Sampling Method:		Volume Purged:	
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)					
Temperature (deg. C)					11.5
Sp. Cond. (umhos/cm)					14180
Dissolved Oxygen (mg/L)					1.4
pH (Std. Units)					9.38
Turbidity (NTU)					
ORP (mV)					

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 3
Date/Time: 4/4/24
Sampler: KMS

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 4	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	#DIV/0!
Sampling Method:		Volume Purged:	#DIV/0!
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Temperature (deg. C)					9.0
Sp. Cond. (umhos/cm)					13950
Dissolved Oxygen (mg/L)					1.7
pH (Std. Units)					9.27
Turbidity (NTU)					
ORP (mV)					

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 4
Date/Time: 4/4/24
Sampler: KMS

ANALYTICAL REPORT

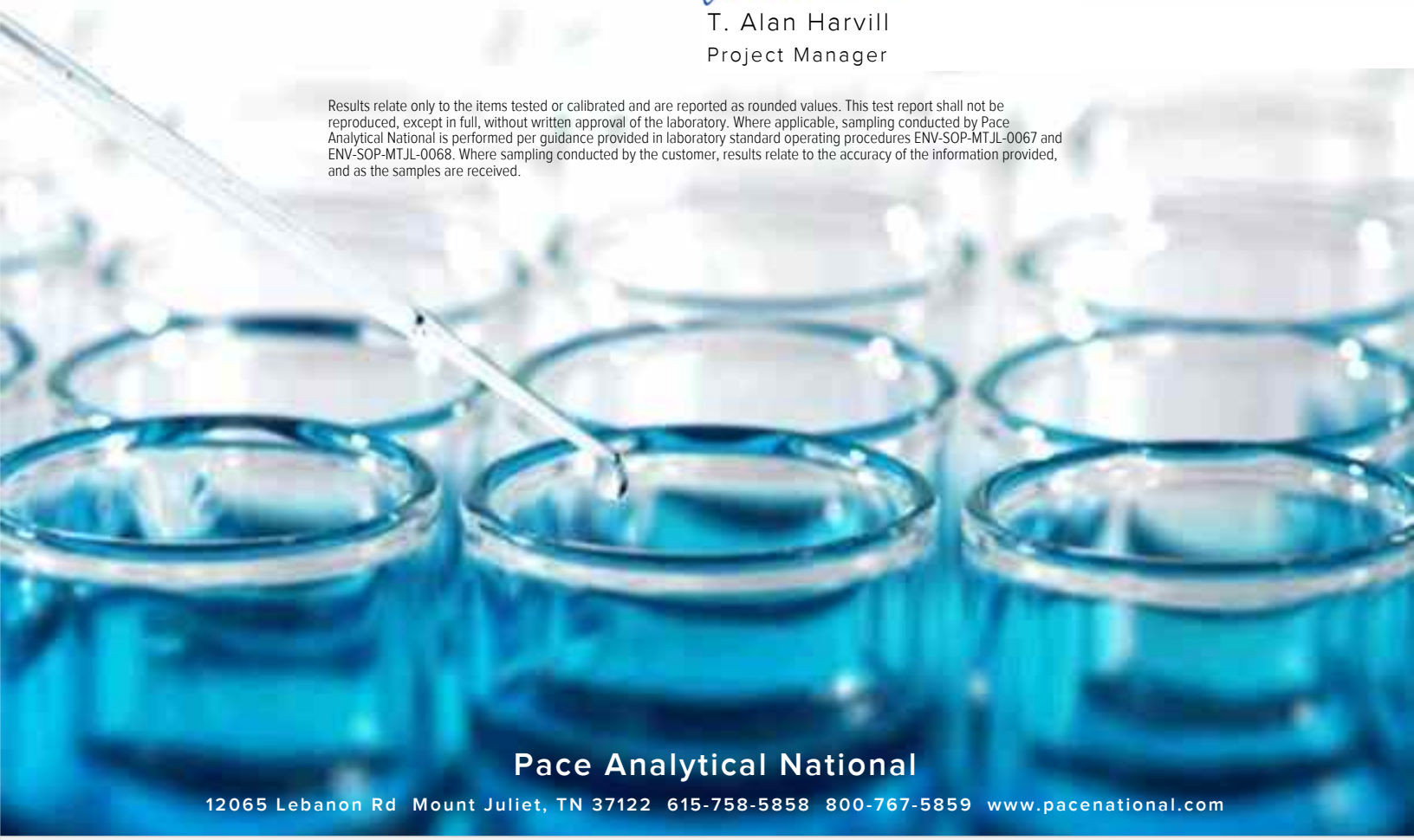
April 26, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1722918
Samples Received:	04/05/2024
Project Number:	500
Description:	Semi-Annual WWTP Leachate List 2
Site:	IA02
Report To:	Todd Halbersma 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

Leachate Pond #1 L1722918-01 WW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:00 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2261689	1	04/07/24 19:16	04/08/24 14:40	NWH	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2261689	1	04/07/24 19:16	04/08/24 14:40	NWH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2263766	1.09	04/11/24 07:42	04/16/24 08:04	ALM	Mt. Juliet, TN

Leachate Pond #2 L1722918-02 WW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:15 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2261689	1	04/07/24 19:16	04/08/24 14:50	NWH	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2261689	1	04/07/24 19:16	04/08/24 14:50	NWH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2263766	21.2	04/11/24 07:42	04/12/24 17:47	ALM	Mt. Juliet, TN

Leachate Pond #4 L1722918-03 WW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 13:00 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2261689	1	04/07/24 19:16	04/08/24 15:00	NWH	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2261689	1	04/07/24 19:16	04/08/24 15:00	NWH	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2263766	1	04/11/24 07:42	04/16/24 07:43	ALM	Mt. Juliet, TN

Leachate Pond #3 L1722918-04 WW

Collected by: Kenneth Smith | Collected date/time: 04/04/24 12:45 | Received date/time: 04/05/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2261689	1	04/07/24 19:16	04/08/24 15:10	RDH	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2261689	1	04/07/24 19:16	04/08/24 15:10	LJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2263766	1.05	04/11/24 07:42	04/16/24 07:22	ALM	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2263766	1.05	04/11/24 07:42	04/17/24 12:03	MBE	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2263766	5.25	04/11/24 07:42	04/15/24 21:41	ALM	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Pesticides (GC) by Method EPA 608.3

Surrogate recovery limits have been exceeded; values are outside lower control limits.

Batch	Analyte	Lab Sample ID
WG2261689	Decachlorobiphenyl	L1722918-01, 02
WG2261689	Tetrachloro-m-xylene	L1722918-01

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Surrogate recovery limits have been exceeded; values are outside lower control limits.

Batch	Analyte	Lab Sample ID
WG2261689	Decachlorobiphenyl	L1722918-01, 02
WG2261689	Tetrachloro-m-xylene	L1722918-01

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Surrogate recovery cannot be used for control limit evaluation due to dilution.

Batch	Analyte	Lab Sample ID
WG2263766	2-Fluorobiphenyl	L1722918-02
WG2263766	Nitrobenzene-d5	L1722918-02
WG2263766	p-Terphenyl-d14	L1722918-02

The associated batch QC was below the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG2263766	(LCS) R4057023-1, L1722918-01, 02, 03, 04	2-Chloronaphthalene and Fluorene

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2263766	(MS) R4057023-3, (MSD) R4057023-4	1,2,4-Trichlorobenzene, 2,2-Oxybis(1-Chloropropane), 2-Chloronaphthalene, Fluorene and Hexachloroethane

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Dissolved Oxygen (on-site)	5.1	mg/l
pH (On Site)	11.29	su
Specific Conductance (on site)	451	umhos/cm
Temperature (on-site)	7.2	Deg. C

Pesticides (GC) by Method EPA 608.3

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
4,4-DDD	ND		0.0000500	1	04/08/2024 14:40	WG2261689
4,4-DDE	ND		0.0000500	1	04/08/2024 14:40	WG2261689
4,4-DDT	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Aldrin	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Beta BHC	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Chlordane	ND		0.000500	1	04/08/2024 14:40	WG2261689
Delta BHC	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Dieldrin	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Endosulfan I	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Endosulfan II	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Endosulfan sulfate	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Endrin	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Endrin aldehyde	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Gamma BHC	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Heptachlor	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Heptachlor epoxide	ND		0.0000500	1	04/08/2024 14:40	WG2261689
Toxaphene	ND		0.000500	1	04/08/2024 14:40	WG2261689
(S) Tetrachloro-m-xylene	*3.19*	J2		*10.0-135*	*04/08/2024 14:40*	WG2261689
(S) Decachlorobiphenyl	*1.99*	J2		*10.0-144*	*04/08/2024 14:40*	WG2261689

Sample Narrative:

L1722918-01 WG2261689: Surrogate failure due to matrix interference during extraction procedure.

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
PCB 1016	ND		0.000500	1	04/08/2024 14:40	WG2261689
PCB 1221	ND		0.000500	1	04/08/2024 14:40	WG2261689
PCB 1232	ND		0.000500	1	04/08/2024 14:40	WG2261689
PCB 1242	ND		0.000500	1	04/08/2024 14:40	WG2261689
PCB 1248	ND		0.000500	1	04/08/2024 14:40	WG2261689
PCB 1254	ND		0.000500	1	04/08/2024 14:40	WG2261689
PCB 1260	ND		0.000500	1	04/08/2024 14:40	WG2261689
(S) Tetrachloro-m-xylene	*3.17*	J2		*10.0-135*	*04/08/2024 14:40*	WG2261689
(S) Decachlorobiphenyl	*2.01*	J2		*10.0-144*	*04/08/2024 14:40*	WG2261689

Sample Narrative:

L1722918-01 WG2261689: Surrogate failure due to matrix interference during extraction procedure.

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1,2,4-Trichlorobenzene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
1,2-Dichlorobenzene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
1,3-Dichlorobenzene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
1,4-Dichlorobenzene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4-Dinitrotoluene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
2,6-Dinitrotoluene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
2-Chloronaphthalene	ND	J4	0.00100	1.09	04/16/2024 08:04	WG2263766
3,3-Dichlorobenzidine	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
4-Bromophenyl-phenylether	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
4-Chlorophenyl-phenylether	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Acenaphthene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Acenaphthylene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Anthracene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Benzo(a)anthracene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Benzo(a)pyrene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Benzo(b)fluoranthene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Benzo(g,h,i)perylene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Benzo(k)fluoranthene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Benzyl alcohol	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Benzylbutyl phthalate	ND		0.00300	1.09	04/16/2024 08:04	WG2263766
Bis(2-Ethylhexyl)phthalate	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Bis(2-chlorethoxy)methane	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Bis(2-chloroethyl)ether	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Chrysene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Di-n-butyl phthalate	ND		0.00300	1.09	04/16/2024 08:04	WG2263766
Di-n-octyl phthalate	ND		0.00300	1.09	04/16/2024 08:04	WG2263766
Dibenz(a,h)anthracene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Dibenzofuran	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Diethyl phthalate	ND		0.00300	1.09	04/16/2024 08:04	WG2263766
Dimethyl phthalate	ND		0.00300	1.09	04/16/2024 08:04	WG2263766
Fluoranthene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Fluorene	ND	J4	0.00100	1.09	04/16/2024 08:04	WG2263766
Hexachloro-1,3-butadiene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Hexachlorobenzene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Hexachlorocyclopentadiene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Hexachloroethane	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Indeno(1,2,3-cd)pyrene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Isophorone	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Naphthalene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Nitrobenzene	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
Phenanthrene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
Pyrene	ND		0.00100	1.09	04/16/2024 08:04	WG2263766
n-Nitrosodi-n-propylamine	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
n-Nitrosodiphenylamine	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1.09	04/16/2024 08:04	WG2263766
(S) Nitrobenzene-d5	*40.2*			*15.0-314*	*04/16/2024 08:04*	WG2263766
(S) 2-Fluorobiphenyl	*36.0*			*22.0-127*	*04/16/2024 08:04*	WG2263766
(S) p-Terphenyl-d14	*51.7*			*29.0-141*	*04/16/2024 08:04*	WG2263766

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Dissolved Oxygen (on-site)	2.2	mg/l
pH (On Site)	8.96	su
Specific Conductance (on site)	16460	umhos/cm
Temperature (on-site)	7.1	Deg. C

Pesticides (GC) by Method EPA 608.3

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
4,4-DDD	ND		0.0000500	1	04/08/2024 14:50	WG2261689
4,4-DDE	ND		0.0000500	1	04/08/2024 14:50	WG2261689
4,4-DDT	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Aldrin	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Beta BHC	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Chlordane	ND		0.000500	1	04/08/2024 14:50	WG2261689
Delta BHC	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Dieldrin	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Endosulfan I	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Endosulfan II	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Endosulfan sulfate	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Endrin	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Endrin aldehyde	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Gamma BHC	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Heptachlor	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Heptachlor epoxide	ND		0.0000500	1	04/08/2024 14:50	WG2261689
Toxaphene	ND		0.000500	1	04/08/2024 14:50	WG2261689
(S) Tetrachloro-m-xylene	*10.0*			*10.0-135*	*04/08/2024 14:50*	WG2261689
(S) Decachlorobiphenyl	*2.65*	J2		*10.0-144*	*04/08/2024 14:50*	WG2261689

Sample Narrative:

L1722918-02 WG2261689: Surrogate failure due to matrix interference during extraction procedure.

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
PCB 1016	ND		0.000500	1	04/08/2024 14:50	WG2261689
PCB 1221	ND		0.000500	1	04/08/2024 14:50	WG2261689
PCB 1232	ND		0.000500	1	04/08/2024 14:50	WG2261689
PCB 1242	ND		0.000500	1	04/08/2024 14:50	WG2261689
PCB 1248	ND		0.000500	1	04/08/2024 14:50	WG2261689
PCB 1254	ND		0.000500	1	04/08/2024 14:50	WG2261689
PCB 1260	ND		0.000500	1	04/08/2024 14:50	WG2261689
(S) Tetrachloro-m-xylene	*10.8*			*10.0-135*	*04/08/2024 14:50*	WG2261689
(S) Decachlorobiphenyl	*2.87*	J2		*10.0-144*	*04/08/2024 14:50*	WG2261689

Sample Narrative:

L1722918-02 WG2261689: Surrogate failure due to matrix interference during extraction procedure.

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
1,2,4-Trichlorobenzene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
1,2-Dichlorobenzene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
1,3-Dichlorobenzene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
1,4-Dichlorobenzene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4-Dinitrotoluene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
2,6-Dinitrotoluene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
2-Chloronaphthalene	ND	J4	0.00137	21.2	04/12/2024 17:47	WG2263766
3,3-Dichlorobenzidine	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
4-Bromophenyl-phenylether	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
4-Chlorophenyl-phenylether	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Acenaphthene	ND		0.00188	21.2	04/12/2024 17:47	WG2263766
Acenaphthylene	ND		0.00195	21.2	04/12/2024 17:47	WG2263766
Anthracene	ND		0.00170	21.2	04/12/2024 17:47	WG2263766
Benzo(a)anthracene	ND		0.00422	21.2	04/12/2024 17:47	WG2263766
Benzo(a)pyrene	ND		0.00100	21.2	04/12/2024 17:47	WG2263766
Benzo(b)fluoranthene	ND		0.00276	21.2	04/12/2024 17:47	WG2263766
Benzo(g,h,i)perylene	ND		0.00257	21.2	04/12/2024 17:47	WG2263766
Benzo(k)fluoranthene	ND		0.00254	21.2	04/12/2024 17:47	WG2263766
Benzyl alcohol	ND		0.0119	21.2	04/12/2024 17:47	WG2263766
Benzylbutyl phthalate	ND		0.0162	21.2	04/12/2024 17:47	WG2263766
Bis(2-Ethylhexyl)phthalate	ND		0.0190	21.2	04/12/2024 17:47	WG2263766
Bis(2-chlorethoxy)methane	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Bis(2-chloroethyl)ether	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Chrysene	ND		0.00276	21.2	04/12/2024 17:47	WG2263766
Di-n-butyl phthalate	ND		0.00960	21.2	04/12/2024 17:47	WG2263766
Di-n-octyl phthalate	ND		0.0198	21.2	04/12/2024 17:47	WG2263766
Dibenz(a,h)anthracene	ND		0.00137	21.2	04/12/2024 17:47	WG2263766
Dibenzofuran	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Diethyl phthalate	ND		0.00608	21.2	04/12/2024 17:47	WG2263766
Dimethyl phthalate	ND		0.00551	21.2	04/12/2024 17:47	WG2263766
Fluoranthene	ND		0.00216	21.2	04/12/2024 17:47	WG2263766
Fluorene	ND	J4	0.00179	21.2	04/12/2024 17:47	WG2263766
Hexachloro-1,3-butadiene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Hexachlorobenzene	ND		0.00160	21.2	04/12/2024 17:47	WG2263766
Hexachlorocyclopentadiene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Hexachloroethane	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Indeno(1,2,3-cd)pyrene	ND		0.00591	21.2	04/12/2024 17:47	WG2263766
Isophorone	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Naphthalene	ND		0.00789	21.2	04/12/2024 17:47	WG2263766
Nitrobenzene	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
Phenanthrene	ND		0.00237	21.2	04/12/2024 17:47	WG2263766
Pyrene	ND		0.00227	21.2	04/12/2024 17:47	WG2263766
n-Nitrosodi-n-propylamine	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
n-Nitrosodiphenylamine	ND		0.0502	21.2	04/12/2024 17:47	WG2263766
2,2-Oxybis(1-Chloropropane)	ND		0.0100	21.2	04/12/2024 17:47	WG2263766
(S) Nitrobenzene-d5	*64.1*	J7		*15.0-314*	*04/12/2024 17:47*	WG2263766
(S) 2-Fluorobiphenyl	*47.3*	J7		*22.0-127*	*04/12/2024 17:47*	WG2263766
(S) p-Terphenyl-d14	*35.9*	J7		*29.0-141*	*04/12/2024 17:47*	WG2263766

Sample Narrative:

L1722918-02 WG2263766: Dilution due to matrix.

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Dissolved Oxygen (on-site)	1.7	mg/l
pH (On Site)	9.27	su
Specific Conductance (on site)	13950	umhos/cm
Temperature (on-site)	9	Deg. C

Pesticides (GC) by Method EPA 608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
4,4-DDD	ND		0.0000500	1	04/08/2024 15:00	WG2261689
4,4-DDE	ND		0.0000500	1	04/08/2024 15:00	WG2261689
4,4-DDT	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Aldrin	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Beta BHC	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Chlordane	ND		0.000500	1	04/08/2024 15:00	WG2261689
Delta BHC	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Dieldrin	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Endosulfan I	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Endosulfan II	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Endosulfan sulfate	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Endrin	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Endrin aldehyde	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Gamma BHC	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Heptachlor	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Heptachlor epoxide	ND		0.0000500	1	04/08/2024 15:00	WG2261689
Toxaphene	ND		0.000500	1	04/08/2024 15:00	WG2261689
(S) Tetrachloro-m-xylene	*30.5*			*10.0-135*	*04/08/2024 15:00*	WG2261689
(S) Decachlorobiphenyl	*12.6*			*10.0-144*	*04/08/2024 15:00*	WG2261689

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.000500	1	04/08/2024 15:00	WG2261689
PCB 1221	ND		0.000500	1	04/08/2024 15:00	WG2261689
PCB 1232	ND		0.000500	1	04/08/2024 15:00	WG2261689
PCB 1242	ND		0.000500	1	04/08/2024 15:00	WG2261689
PCB 1248	ND		0.000500	1	04/08/2024 15:00	WG2261689
PCB 1254	ND		0.000500	1	04/08/2024 15:00	WG2261689
PCB 1260	ND		0.000500	1	04/08/2024 15:00	WG2261689
(S) Tetrachloro-m-xylene	*28.5*			*10.0-135*	*04/08/2024 15:00*	WG2261689
(S) Decachlorobiphenyl	*10.8*			*10.0-144*	*04/08/2024 15:00*	WG2261689

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.0100	1	04/16/2024 07:43	WG2263766
1,2-Dichlorobenzene	ND		0.0100	1	04/16/2024 07:43	WG2263766
1,3-Dichlorobenzene	ND		0.0100	1	04/16/2024 07:43	WG2263766
1,4-Dichlorobenzene	ND		0.0100	1	04/16/2024 07:43	WG2263766
2,4-Dinitrotoluene	ND		0.0100	1	04/16/2024 07:43	WG2263766
2,6-Dinitrotoluene	ND		0.0100	1	04/16/2024 07:43	WG2263766
2-Chloronaphthalene	ND	J4	0.00100	1	04/16/2024 07:43	WG2263766
3,3-Dichlorobenzidine	0.0237		0.0100	1	04/16/2024 07:43	WG2263766
4-Bromophenyl-phenylether	ND		0.0100	1	04/16/2024 07:43	WG2263766
4-Chlorophenyl-phenylether	ND		0.0100	1	04/16/2024 07:43	WG2263766

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Acenaphthylene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Anthracene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Benzo(a)anthracene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Benzo(a)pyrene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Benzo(b)fluoranthene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Benzo(g,h,i)perylene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Benzo(k)fluoranthene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Benzyl alcohol	ND		0.0100	1	04/16/2024 07:43	WG2263766
Benzylbutyl phthalate	ND		0.00300	1	04/16/2024 07:43	WG2263766
Bis(2-Ethylhexyl)phthalate	ND		0.0100	1	04/16/2024 07:43	WG2263766
Bis(2-chlorethoxy)methane	ND		0.0100	1	04/16/2024 07:43	WG2263766
Bis(2-chloroethyl)ether	ND		0.0100	1	04/16/2024 07:43	WG2263766
Chrysene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Di-n-butyl phthalate	ND		0.00300	1	04/16/2024 07:43	WG2263766
Di-n-octyl phthalate	ND		0.00300	1	04/16/2024 07:43	WG2263766
Dibenz(a,h)anthracene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Dibenzofuran	ND		0.0100	1	04/16/2024 07:43	WG2263766
Diethyl phthalate	ND		0.00300	1	04/16/2024 07:43	WG2263766
Dimethyl phthalate	ND		0.00300	1	04/16/2024 07:43	WG2263766
Fluoranthene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Fluorene	ND	J4	0.00100	1	04/16/2024 07:43	WG2263766
Hexachloro-1,3-butadiene	ND		0.0100	1	04/16/2024 07:43	WG2263766
Hexachlorobenzene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Hexachlorocyclopentadiene	ND		0.0100	1	04/16/2024 07:43	WG2263766
Hexachloroethane	ND		0.0100	1	04/16/2024 07:43	WG2263766
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Isophorone	ND		0.0100	1	04/16/2024 07:43	WG2263766
Naphthalene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Nitrobenzene	ND		0.0100	1	04/16/2024 07:43	WG2263766
Phenanthrene	ND		0.00100	1	04/16/2024 07:43	WG2263766
Pyrene	ND		0.00100	1	04/16/2024 07:43	WG2263766
n-Nitrosodi-n-propylamine	ND		0.0100	1	04/16/2024 07:43	WG2263766
n-Nitrosodiphenylamine	ND		0.0100	1	04/16/2024 07:43	WG2263766
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	04/16/2024 07:43	WG2263766
(S) Nitrobenzene-d5	*71.6*			*15.0-314*	*04/16/2024 07:43*	WG2263766
(S) 2-Fluorobiphenyl	*46.7*			*22.0-127*	*04/16/2024 07:43*	WG2263766
(S) p-Terphenyl-d14	*40.3*			*29.0-141*	*04/16/2024 07:43*	WG2263766

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Dissolved Oxygen (on-site)	1.4	mg/l
pH (On Site)	9.38	su
Specific Conductance (on site)	14180	umhos/cm
Temperature (on-site)	11.5	Deg. C

Pesticides (GC) by Method EPA 608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
4,4-DDD	ND		0.0000500	1	04/08/2024 15:10	WG2261689
4,4-DDE	ND		0.0000500	1	04/08/2024 15:10	WG2261689
4,4-DDT	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Aldrin	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Beta BHC	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Chlordane	ND		0.000500	1	04/08/2024 15:10	WG2261689
Delta BHC	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Dieldrin	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Endosulfan I	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Endosulfan II	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Endosulfan sulfate	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Endrin	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Endrin aldehyde	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Gamma BHC	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Heptachlor	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Heptachlor epoxide	ND		0.0000500	1	04/08/2024 15:10	WG2261689
Toxaphene	ND		0.000500	1	04/08/2024 15:10	WG2261689
(S) Tetrachloro-m-xylene	*38.8*			*10.0-135*	*04/08/2024 15:10*	WG2261689
(S) Decachlorobiphenyl	*13.4*			*10.0-144*	*04/08/2024 15:10*	WG2261689

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.000500	1	04/08/2024 15:10	WG2261689
PCB 1221	ND		0.000500	1	04/08/2024 15:10	WG2261689
PCB 1232	ND		0.000500	1	04/08/2024 15:10	WG2261689
PCB 1242	ND		0.000500	1	04/08/2024 15:10	WG2261689
PCB 1248	ND		0.000500	1	04/08/2024 15:10	WG2261689
PCB 1254	ND		0.000500	1	04/08/2024 15:10	WG2261689
PCB 1260	ND		0.000500	1	04/08/2024 15:10	WG2261689
(S) Tetrachloro-m-xylene	*42.6*			*10.0-135*	*04/08/2024 15:10*	WG2261689
(S) Decachlorobiphenyl	*12.8*			*10.0-144*	*04/08/2024 15:10*	WG2261689

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
1,2-Dichlorobenzene	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
1,3-Dichlorobenzene	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
1,4-Dichlorobenzene	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
2,4-Dinitrotoluene	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
2,6-Dinitrotoluene	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
2-Chloronaphthalene	ND	J4	0.00100	1.05	04/16/2024 07:22	WG2263766
3,3-Dichlorobenzidine	0.0149		0.0100	1.05	04/16/2024 07:22	WG2263766
4-Bromophenyl-phenylether	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
4-Chlorophenyl-phenylether	ND		0.0100	1.05	04/16/2024 07:22	WG2263766

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Acenaphthene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Acenaphthylene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Anthracene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Benzo(a)anthracene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Benzo(a)pyrene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Benzo(b)fluoranthene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Benzo(g,h,i)perylene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Benzo(k)fluoranthene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Benzyl alcohol	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
Benzylbutyl phthalate	ND		0.00300	1.05	04/16/2024 07:22	WG2263766
Bis(2-Ethylhexyl)phthalate	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
Bis(2-chlorethoxy)methane	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
Bis(2-chloroethyl)ether	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
Chrysene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Di-n-butyl phthalate	ND		0.00300	1.05	04/16/2024 07:22	WG2263766
Di-n-octyl phthalate	ND		0.00300	1.05	04/16/2024 07:22	WG2263766
Dibenz(a,h)anthracene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Dibenzofuran	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
Diethyl phthalate	ND		0.00300	1.05	04/16/2024 07:22	WG2263766
Dimethyl phthalate	ND		0.00300	1.05	04/16/2024 07:22	WG2263766
Fluoranthene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Fluorene	ND	J4	0.00100	1.05	04/16/2024 07:22	WG2263766
Hexachloro-1,3-butadiene	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
Hexachlorobenzene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Hexachlorocyclopentadiene	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
Hexachloroethane	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
Indeno(1,2,3-cd)pyrene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Isophorone	ND		0.0100	1.05	04/17/2024 12:03	WG2263766
Naphthalene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Nitrobenzene	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
Phenanthrene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
Pyrene	ND		0.00100	1.05	04/16/2024 07:22	WG2263766
n-Nitrosodi-n-propylamine	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
n-Nitrosodiphenylamine	ND		0.0100	1.05	04/16/2024 07:22	WG2263766
2,2-Oxybis(1-Chloropropane)	ND		0.0100	5.25	04/15/2024 21:41	WG2263766
(S) Nitrobenzene-d5	*36.6*			*15.0-314*	*04/17/2024 12:03*	WG2263766
(S) Nitrobenzene-d5	*70.4*			*15.0-314*	*04/16/2024 07:22*	WG2263766
(S) Nitrobenzene-d5	*39.5*			*15.0-314*	*04/15/2024 21:41*	WG2263766
(S) 2-Fluorobiphenyl	*41.5*			*22.0-127*	*04/15/2024 21:41*	WG2263766
(S) 2-Fluorobiphenyl	*42.9*			*22.0-127*	*04/16/2024 07:22*	WG2263766
(S) 2-Fluorobiphenyl	*44.9*			*22.0-127*	*04/17/2024 12:03*	WG2263766
(S) p-Terphenyl-d14	*40.7*			*29.0-141*	*04/16/2024 07:22*	WG2263766
(S) p-Terphenyl-d14	*57.1*			*29.0-141*	*04/15/2024 21:41*	WG2263766
(S) p-Terphenyl-d14	*37.5*			*29.0-141*	*04/17/2024 12:03*	WG2263766

Sample Narrative:

L1722918-04 WG2263766: IS/SURR failed on lower dilution.

Method Blank (MB)

(MB) R4055206-1 04/08/24 12:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
4,4-DDD	ND		0.0000170	0.0000500
4,4-DDE	ND		0.0000164	0.0000500
4,4-DDT	ND		0.0000177	0.0000500
Aldrin	ND		0.00000813	0.0000500
Beta BHC	ND		0.0000184	0.0000500
Chlordane	ND		0.0000977	0.000500
Delta BHC	ND		0.0000197	0.0000500
Dieldrin	ND		0.00000751	0.0000500
Endosulfan I	ND		0.0000179	0.0000500
Endosulfan II	ND		0.0000176	0.0000500
Endosulfan sulfate	ND		0.0000196	0.0000500
Endrin	ND		0.0000189	0.0000500
Endrin aldehyde	ND		0.0000142	0.0000500
Gamma BHC	ND		0.0000176	0.0000500
Heptachlor	ND		0.0000108	0.0000500
Heptachlor epoxide	ND		0.0000175	0.0000500
Toxaphene	ND		0.000168	0.000500
(S) Tetrachloro-m-xylene	*76.8*			*10.0-135*
(S) Decachlorobiphenyl	*60.8*			*10.0-144*

Laboratory Control Sample (LCS)

(LCS) R4055206-2 04/08/24 12:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
4,4-DDD	0.00100	0.000961	96.1	31.0-141	
4,4-DDE	0.00100	0.000916	91.6	30.0-145	
4,4-DDT	0.00100	0.000897	89.7	25.0-160	
Aldrin	0.00100	0.000943	94.3	42.0-140	
Beta BHC	0.00100	0.000979	97.9	17.0-147	
Delta BHC	0.00100	0.000929	92.9	19.0-140	
Dieldrin	0.00100	0.000989	98.9	36.0-146	
Endosulfan I	0.00100	0.000959	95.9	45.0-153	
Endosulfan II	0.00100	0.000955	95.5	1.00-202	
Endosulfan sulfate	0.00100	0.000956	95.6	26.0-144	
Endrin	0.00100	0.000967	96.7	30.0-147	
Endrin aldehyde	0.00100	0.000890	89.0	56.0-128	
Gamma BHC	0.00100	0.00102	102	32.0-140	
Heptachlor	0.00100	0.000956	95.6	34.0-140	

Laboratory Control Sample (LCS)

(LCS) R4055206-2 04/08/24 12:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Heptachlor epoxide	0.00100	0.000964	96.4	37.0-142	
(S) Tetrachloro-m-xylene			*80.5*	*10.0-135*	
(S) Decachlorobiphenyl			*65.9*	*10.0-144*	

L1723148-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1723148-01 04/08/24 15:29 • (MS) R4055206-3 04/08/24 15:39 • (MSD) R4055206-4 04/08/24 15:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
4,4-DDD	0.00100	ND	0.000678	0.000732	67.8	73.2	1	31.0-141			7.66	39
4,4-DDE	0.00100	ND	0.000637	0.000711	63.7	71.1	1	30.0-145			11.0	35
4,4-DDT	0.00100	ND	0.000667	0.000725	66.7	72.5	1	25.0-160			8.33	42
Aldrin	0.00100	ND	0.000662	0.000723	66.2	72.3	1	42.0-140			8.81	35
Beta BHC	0.00100	ND	0.000870	0.000893	87.0	89.3	1	17.0-147			2.61	44
Delta BHC	0.00100	ND	0.000823	0.000833	82.3	83.3	1	19.0-140			1.21	52
Dieldrin	0.00100	ND	0.000762	0.000812	76.2	81.2	1	36.0-146			6.35	49
Endosulfan I	0.00100	ND	0.000793	0.000817	79.3	81.7	1	45.0-153			2.98	28
Endosulfan II	0.00100	ND	0.000800	0.000809	80.0	80.9	1	1.00-202			1.12	53
Endosulfan sulfate	0.00100	ND	0.000846	0.000861	84.6	86.1	1	26.0-144			1.76	38
Endrin	0.00100	ND	0.000766	0.000796	76.6	79.6	1	30.0-147			3.84	48
Endrin aldehyde	0.00100	ND	0.000780	0.000795	78.0	79.5	1	56.0-128			1.90	20
Gamma BHC	0.00100	ND	0.000908	0.000932	90.8	93.2	1	32.0-140			2.61	39
Heptachlor	0.00100	ND	0.000691	0.000756	69.1	75.6	1	34.0-140			8.98	43
Heptachlor epoxide	0.00100	ND	0.000769	0.000832	76.9	83.2	1	37.0-142			7.87	26
(S) Tetrachloro-m-xylene					*62.2*	*68.0*		*10.0-135*				
(S) Decachlorobiphenyl					*52.9*	*57.1*		*10.0-144*				

Method Blank (MB)

(MB) R4055206-1 04/08/24 12:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
PCB 1016	ND		0.000100	0.000500
PCB 1221	ND		0.0000730	0.000500
PCB 1232	ND		0.0000420	0.000500
PCB 1242	ND		0.0000470	0.000500
PCB 1248	ND		0.0000860	0.000500
PCB 1254	ND		0.0000470	0.000500
PCB 1260	ND		0.000120	0.000500
(S) Tetrachloro-m-xylene	*80.2*			*10.0-135*
(S) Decachlorobiphenyl	*62.6*			*10.0-144*

Laboratory Control Sample (LCS)

(LCS) R4055206-5 04/08/24 12:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1016	0.00250	0.00255	102	50.0-140	
PCB 1260	0.00250	0.00147	58.8	8.00-140	
(S) Tetrachloro-m-xylene			*85.8*	*10.0-135*	
(S) Decachlorobiphenyl			*57.9*	*10.0-144*	

L1723148-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1723148-01 04/08/24 15:29 • (MS) R4055206-6 04/08/24 15:59 • (MSD) R4055206-7 04/08/24 16:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1016	0.00250	ND	0.00185	0.00247	74.0	98.8	1	50.0-140			28.7	36
PCB 1260	0.00250	ND	0.00123	0.00169	49.2	67.6	1	8.00-140			31.5	38
(S) Tetrachloro-m-xylene					*56.4*	*69.6*		*10.0-135*				
(S) Decachlorobiphenyl					*43.1*	*62.4*		*10.0-144*				

Method Blank (MB)

(MB) R4057023-2 04/12/24 11:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,2,4-Trichlorobenzene	ND		0.0000698	0.0100
1,2-Dichlorobenzene	ND		0.0000713	0.0100
1,3-Dichlorobenzene	ND		0.000132	0.0100
1,4-Dichlorobenzene	ND		0.0000942	0.0100
2,4-Dinitrotoluene	ND		0.0000983	0.0100
2,6-Dinitrotoluene	ND		0.000250	0.0100
2-Chloronaphthalene	ND		0.0000648	0.00100
3,3-Dichlorobenzidine	ND		0.000212	0.0100
4-Bromophenyl-phenylether	ND		0.0000877	0.0100
4-Chlorophenyl-phenylether	ND		0.0000926	0.0100
Acenaphthene	ND		0.0000886	0.00100
Acenaphthylene	ND		0.0000921	0.00100
Anthracene	ND		0.0000804	0.00100
Benzo(a)anthracene	ND		0.000199	0.00100
Benzo(a)pyrene	ND		0.0000381	0.00100
Benzo(b)fluoranthene	ND		0.000130	0.00100
Benzo(g,h,i)perylene	ND		0.000121	0.00100
Benzo(k)fluoranthene	ND		0.000120	0.00100
Benzyl alcohol	ND		0.000563	0.0100
Benzylbutyl phthalate	ND		0.000765	0.00300
Bis(2-Ethylhexyl)phthalate	ND		0.000895	0.00300
Bis(2-chlorethoxy)methane	ND		0.000116	0.0100
Bis(2-chloroethyl)ether	ND		0.000137	0.0100
Chrysene	ND		0.000130	0.00100
Di-n-butyl phthalate	ND		0.000453	0.00300
Di-n-octyl phthalate	ND		0.000932	0.00300
Dibenz(a,h)anthracene	ND		0.0000644	0.00100
Dibenzofuran	ND		0.0000967	0.0100
Diethyl phthalate	ND		0.000287	0.00300
Dimethyl phthalate	ND		0.000260	0.00300
Fluoranthene	ND		0.000102	0.00100
Fluorene	ND		0.0000844	0.00100
Hexachloro-1,3-butadiene	ND		0.0000968	0.0100
Hexachlorobenzene	ND		0.0000755	0.00100
Hexachlorocyclopentadiene	ND		0.0000598	0.0100
Hexachloroethane	ND		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	ND		0.000279	0.00100
Isophorone	ND		0.000143	0.0100
Naphthalene	ND		0.000372	0.00100
Nitrobenzene	ND		0.000297	0.0100

Method Blank (MB)

(MB) R4057023-2 04/12/24 11:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phenanthrene	ND		0.000112	0.00100
Pyrene	ND		0.000107	0.00100
n-Nitrosodi-n-propylamine	ND		0.000261	0.0100
n-Nitrosodiphenylamine	ND		0.00237	0.0100
2,2-Oxybis(1-Chloropropane)	ND		0.000210	0.0100
(S) Nitrobenzene-d5	*55.4*			*15.0-314*
(S) 2-Fluorobiphenyl	*45.5*			*22.0-127*
(S) p-Terphenyl-d14	*59.4*			*29.0-141*

Laboratory Control Sample (LCS)

(LCS) R4057023-1 04/12/24 11:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trichlorobenzene	0.0500	0.0229	45.8	44.0-142	
1,2-Dichlorobenzene	0.0500	0.0197	39.4	27.0-120	
1,3-Dichlorobenzene	0.0500	0.0196	39.2	26.0-120	
1,4-Dichlorobenzene	0.0500	0.0209	41.8	26.0-120	
2,4-Dinitrotoluene	0.0500	0.0323	64.6	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0298	59.6	50.0-158	
2-Chloronaphthalene	0.0500	0.0240	48.0	60.0-120	J4
3,3-Dichlorobenzidine	0.100	0.0742	74.2	1.00-262	
4-Bromophenyl-phenylether	0.0500	0.0341	68.2	53.0-127	
4-Chlorophenyl-phenylether	0.0500	0.0313	62.6	25.0-158	
Acenaphthene	0.0500	0.0261	52.2	47.0-145	
Acenaphthylene	0.0500	0.0276	55.2	33.0-145	
Anthracene	0.0500	0.0305	61.0	27.0-133	
Benzo(a)anthracene	0.0500	0.0316	63.2	33.0-143	
Benzo(a)pyrene	0.0500	0.0311	62.2	17.0-163	
Benzo(b)fluoranthene	0.0500	0.0299	59.8	24.0-159	
Benzo(g,h,i)perylene	0.0500	0.0320	64.0	1.00-219	
Benzo(k)fluoranthene	0.0500	0.0286	57.2	11.0-162	
Benzyl alcohol	0.0500	0.0204	40.8	20.0-120	
Benzylbutyl phthalate	0.0500	0.0256	51.2	1.00-152	
Bis(2-Ethylhexyl)phthalate	0.0500	0.0249	49.8	8.00-158	
Bis(2-chlorethoxy)methane	0.0500	0.0227	45.4	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0231	46.2	33.0-185	
Chrysene	0.0500	0.0306	61.2	17.0-168	
Di-n-butyl phthalate	0.0500	0.0299	59.8	1.00-120	

Laboratory Control Sample (LCS)

(LCS) R4057023-1 04/12/24 11:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Di-n-octyl phthalate	0.0500	0.0259	51.8	4.00-146	
Dibenz(a,h)anthracene	0.0500	0.0328	65.6	1.00-227	
Dibenzofuran	0.0500	0.0274	54.8	42.0-120	
Diethyl phthalate	0.0500	0.0322	64.4	1.00-120	
Dimethyl phthalate	0.0500	0.0316	63.2	1.00-120	
Fluoranthene	0.0500	0.0343	68.6	26.0-137	
Fluorene	0.0500	0.0282	56.4	59.0-121	J4
Hexachloro-1,3-butadiene	0.0500	0.0238	47.6	24.0-120	
Hexachlorobenzene	0.0500	0.0329	65.8	1.00-152	
Hexachlorocyclopentadiene	0.0500	0.0168	33.6	10.0-120	
Hexachloroethane	0.0500	0.0211	42.2	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0330	66.0	1.00-171	
Isophorone	0.0500	0.0260	52.0	21.0-196	
Naphthalene	0.0500	0.0202	40.4	21.0-133	
Nitrobenzene	0.0500	0.0264	52.8	35.0-180	
Phenanthrene	0.0500	0.0298	59.6	54.0-120	
Pyrene	0.0500	0.0285	57.0	52.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0243	48.6	1.00-230	
n-Nitrosodiphenylamine	0.0500	0.0294	58.8	44.0-120	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0188	37.6	36.0-166	
(S) Nitrobenzene-d5			*50.0*	*15.0-314*	
(S) 2-Fluorobiphenyl			*46.4*	*22.0-127*	
(S) p-Terphenyl-d14			*57.3*	*29.0-141*	

L1722476-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722476-01 04/12/24 12:31 • (MS) R4057023-3 04/12/24 12:52 • (MSD) R4057023-4 04/12/24 13:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,2,4-Trichlorobenzene	0.0459	ND	0.0214	0.0178	46.6	39.1	1	44.0-142		J6	18.4	50
1,2-Dichlorobenzene	0.0459	ND	0.0180	0.0146	39.2	32.1	1	14.0-125			20.9	24
1,3-Dichlorobenzene	0.0459	ND	0.0179	0.0149	39.0	32.7	1	12.0-123			18.3	22
1,4-Dichlorobenzene	0.0459	ND	0.0187	0.0155	40.7	34.1	1	12.0-125			18.7	23
2,4-Dinitrotoluene	0.0459	ND	0.0313	0.0280	68.2	61.5	1	39.0-139			11.1	42
2,6-Dinitrotoluene	0.0459	ND	0.0294	0.0252	64.1	55.4	1	50.0-158			15.4	48
2-Chloronaphthalene	0.0459	ND	0.0234	0.0190	51.0	41.8	1	60.0-120	J6	J6	20.8	24
3,3-Dichlorobenzidine	0.0918	ND	0.0648	0.0569	70.6	62.5	1	1.00-262			13.0	108
4-Bromophenyl-phenylether	0.0459	ND	0.0323	0.0278	70.4	61.1	1	53.0-127			15.0	43
4-Chlorophenyl-phenylether	0.0459	ND	0.0316	0.0273	68.8	60.0	1	25.0-158			14.6	61

L1722476-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1722476-01 04/12/24 12:31 • (MS) R4057023-3 04/12/24 12:52 • (MSD) R4057023-4 04/12/24 13:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0459	ND	0.0257	0.0215	56.0	47.3	1	47.0-145			17.8	48
Acenaphthylene	0.0459	ND	0.0272	0.0224	59.3	49.2	1	33.0-145			19.4	74
Anthracene	0.0459	ND	0.0287	0.0252	62.5	55.4	1	27.0-133			13.0	66
Benzo(a)anthracene	0.0459	ND	0.0297	0.0262	64.7	57.6	1	33.0-143			12.5	53
Benzo(a)pyrene	0.0459	ND	0.0292	0.0259	63.6	56.9	1	17.0-163			12.0	72
Benzo(b)fluoranthene	0.0459	ND	0.0272	0.0247	59.3	54.3	1	24.0-159			9.63	71
Benzo(g,h,i)perylene	0.0459	ND	0.0289	0.0260	63.0	57.1	1	1.00-219			10.6	97
Benzo(k)fluoranthene	0.0459	ND	0.0269	0.0237	58.6	52.1	1	11.0-162			12.6	63
Benzyl alcohol	0.0459	ND	0.0174	0.0140	37.9	30.8	1	17.0-120			21.7	40
Benzylbutyl phthalate	0.0459	ND	0.0246	0.0216	53.6	47.5	1	1.00-152			13.0	60
Bis(2-Ethylhexyl)phthalate	0.0459	ND	0.0241	0.0214	52.5	47.0	1	8.00-158			11.9	82
Bis(2-chlorethoxy)methane	0.0459	ND	0.0212	0.0181	46.2	39.8	1	33.0-184			15.8	54
Bis(2-chloroethyl)ether	0.0459	ND	0.0207	0.0161	45.1	35.4	1	12.0-158			25.0	108
Chrysene	0.0459	ND	0.0277	0.0255	60.3	56.0	1	17.0-168			8.27	87
Di-n-butyl phthalate	0.0459	ND	0.0289	0.0255	63.0	56.0	1	1.00-120			12.5	47
Di-n-octyl phthalate	0.0459	ND	0.0251	0.0221	54.7	48.6	1	4.00-146			12.7	69
Dibenz(a,h)anthracene	0.0459	ND	0.0302	0.0270	65.8	59.3	1	1.00-227			11.2	126
Dibenzofuran	0.0459	ND	0.0263	0.0223	57.3	49.0	1	17.0-150			16.5	27
Diethyl phthalate	0.0459	ND	0.0305	0.0272	66.4	59.8	1	1.00-120			11.4	100
Dimethyl phthalate	0.0459	ND	0.0304	0.0266	65.5	57.7	1	1.00-120			13.3	183
Fluoranthene	0.0459	ND	0.0321	0.0282	69.9	62.0	1	26.0-137			12.9	66
Fluorene	0.0459	ND	0.0277	0.0240	60.3	52.7	1	59.0-121		J6	14.3	38
Hexachloro-1,3-butadiene	0.0459	ND	0.0224	0.0193	48.8	42.4	1	24.0-120			14.9	62
Hexachlorobenzene	0.0459	ND	0.0318	0.0274	69.3	60.2	1	1.00-152			14.9	55
Hexachlorocyclopentadiene	0.0459	ND	0.0178	0.0136	38.8	29.9	1	10.0-146			26.8	34
Hexachloroethane	0.0459	ND	0.0189	0.0156	41.2	34.3	1	40.0-120		J6	19.1	52
Indeno(1,2,3-cd)pyrene	0.0459	ND	0.0306	0.0271	66.7	59.6	1	1.00-171			12.1	99
Isophorone	0.0459	ND	0.0242	0.0209	52.7	45.9	1	21.0-196			14.6	93
Naphthalene	0.0459	ND	0.0186	0.0160	40.5	35.2	1	21.0-133			15.0	65
Nitrobenzene	0.0459	ND	0.0237	0.0204	51.6	44.8	1	35.0-180			15.0	62
Phenanthrene	0.0459	ND	0.0285	0.0250	62.1	54.9	1	54.0-120			13.1	39
Pyrene	0.0459	ND	0.0266	0.0237	58.0	52.1	1	52.0-120			11.5	49
n-Nitrosodi-n-propylamine	0.0459	ND	0.0226	0.0179	49.2	39.3	1	1.00-230			23.2	87
n-Nitrosodiphenylamine	0.0459	ND	0.0279	0.0249	60.8	54.7	1	16.0-160			11.4	28
2,2-Oxybis(1-Chloropropane)	0.0459	ND	0.0172	0.0140	37.5	30.8	1	36.0-166		J6	20.5	76
(S) Nitrobenzene-d5					*48.1*	*42.5*		*15.0-314*				
(S) 2-Fluorobiphenyl					*50.4*	*43.1*		*22.0-127*				
(S) p-Terphenyl-d14					*55.7*	*51.6*		*29.0-141*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J4	The associated batch QC was outside the established quality control range for accuracy.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
J7	Surrogate recovery cannot be used for control limit evaluation due to dilution.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: Todd Halbersma

Email To: chris.kaiser@stantec.com;cory.anderson2@stan

Project Description: Semi-Annual WWTP Leachate List 2

City/State Collected:

Please Circle: PT MT CT ET

Phone: 763-479-5185

Client Project # 500

Lab Project # WMCENIA-00009

Collected by (print): Kenneth Smith

Site/Facility ID # IA02

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	608.3 100ml Amb-NoPres	625.1BN 100ml Amb-NaTio	Remarks	Sample # (lab only)
Leachate Pond #1	Grab	WW	N/A	4/4/24	1200	4	X	X		-01
Leachate Pond #2	↓	WW	↓	↓	1245	4	X	X		-02
Leachate Pond #4	↓	WW	↓	↓	1300	4	X	X		-03
Leachate Pond #3	↓	WW	↓	↓	1215	4	X	X		-04

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1722918

B154

Acctnum: WMCENIA
Template: T237539
Prelogin: P1064521
PM: 364 - T. Alan Harvill
PB: 3.25.24BK
Shipped Via: FedEX Ground

* Matrix:
SS - Soil AIR - Air F - Filter
GW - Groundwater B - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 7359 4593 0917

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeOH TBR	If preservation required by Login: Date/Time
	4/4/24	1545			
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: DPT °C 2.1+0.1=2.2 Bottles Received: 16	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/5/24 Time: 900	Hold: Condition: NCF / OK

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 1	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	
Sampling Method:		Volume Purged:	
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)					
Temperature (deg. C)					7.2
Sp. Cond. (umhos/cm)					451
Dissolved Oxygen (mg/L)					5.1
pH (Std. Units)					11.29
Turbidity (NTU)					
ORP (mV)					-50.9

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 1
Date/Time: 4/4/24
Sampler: KMS

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 2	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	
Sampling Method:		Volume Purged:	
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)					
Temperature (deg. C)					7.1
Sp. Cond. (umhos/cm)					16460
Dissolved Oxygen (mg/L)					2.2
pH (Std. Units)					8.96
Turbidity (NTU)					
ORP (mV)					

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 2
Date/Time: 4/4/24
Sampler: KMS

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 3	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	
Sampling Method:		Volume Purged:	
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)					
Temperature (deg. C)					11.5
Sp. Cond. (umhos/cm)					14180
Dissolved Oxygen (mg/L)					1.4
pH (Std. Units)					9.38
Turbidity (NTU)					
ORP (mV)					

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 3
Date/Time: 4/4/24
Sampler: KMS

ALLIANCE ANALYTICAL SERVICES
FIELD SAMPLING INFORMATION FORM

Unique Well Number:	Pond 4	Site Name:	Central Disposal
Well Common Name:		SW Permit:	
Casing Diameter (in):		Water Column (ft):	
Well Depth (ft):		Vol./Reading (gal):	
Pump Rate (gpm):		Vol. Interval (min):	#DIV/0!
Sampling Method:		Volume Purged:	#DIV/0!
Sample Matrix:		Purged Water Column (ft):	
Static Depth (ft) (Intial):		# of Volumes Removed:	
Static Depth (ft) (Final):		Field Tech:	KMS
Purge Start Time:		Sample Time:	
Purge Start Date:		Sample Date:	4/4/24

Stabilization / Recovery Data

	1st/initial	2nd	3rd	4th	5th/recovery
Time (hours)	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
Temperature (deg. C)					9.0
Sp. Cond. (umhos/cm)					13950
Dissolved Oxygen (mg/L)					1.7
pH (Std. Units)					9.27
Turbidity (NTU)					
ORP (mV)					

Appearance

Color		Phases	
Odor		Turbidity	

Natural Attenuation Field Results

Fe II (mg/L)		CO2 (mg/L)	
Mn II (mg/L)		CaCO3 (mg/L)	
H2S (mg/L)			

Comments:

Label:

Site: Central
ID: Pond 4
Date/Time: 4/4/24
Sampler: KMS

ANALYTICAL REPORT

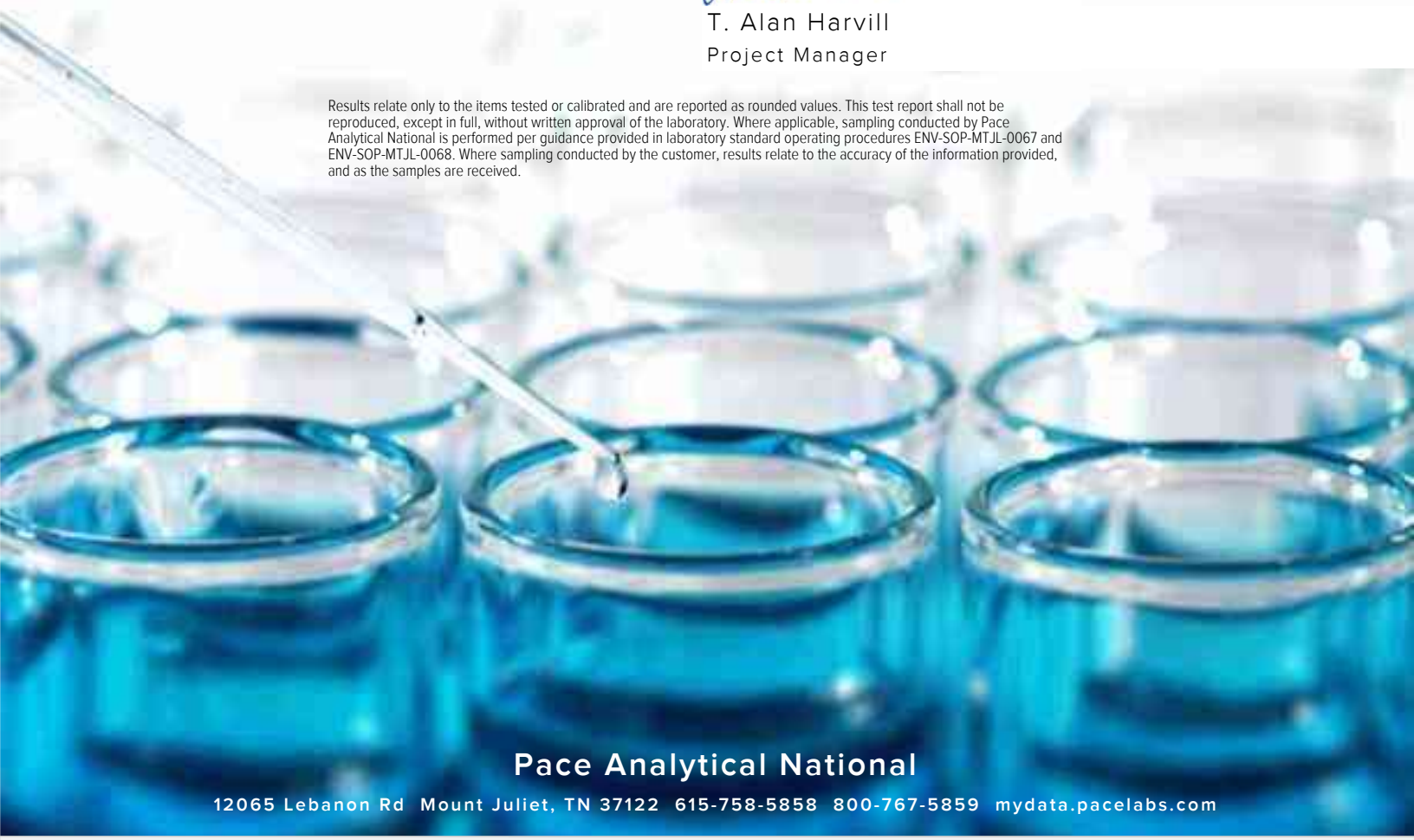
July 29, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1754337
Samples Received:	07/09/2024
Project Number:	500
Description:	Qrtly WWTP-Leachate List 1(1,4,7,10)
Site:	IA02
Report To:	Aaron Rebmann 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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LEACHATE POND #1 L1754337-01 GW

Collected by: Mike H. | Collected date/time: 07/08/24 10:15 | Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2319904	1	07/11/24 11:37	07/11/24 11:37	JAS	Mt. Juliet, TN
Preparation by Method 1311	WG2321659	1	07/13/24 17:50	07/13/24 17:50	PNK	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2319669	1	07/09/24 14:51	07/10/24 00:00	MEU	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2322075	1	07/12/24 16:32	07/12/24 23:15	MAB	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2319372	1	07/09/24 16:17	07/09/24 16:17	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2321434	200	07/12/24 11:38	07/12/24 11:38	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2320161	10	07/10/24 08:25	07/11/24 11:37	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2319904	1	07/09/24 23:47	07/09/24 23:47	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2318979	25	07/09/24 16:48	07/10/24 13:05	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2319502	10	07/09/24 13:36	07/14/24 11:03	EAO	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2319646	1	07/09/24 13:01	07/09/24 13:01	CAH	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2320199	1	07/10/24 15:44	07/10/24 20:51	LDT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2319848	1	07/09/24 18:30	07/09/24 18:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326334	5	07/21/24 04:33	07/21/24 04:33	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2319861	1	07/11/24 11:30	07/11/24 19:12	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2319610	1	07/11/24 12:29	07/11/24 15:49	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2322501	1	07/13/24 16:41	07/13/24 16:41	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2319324	10.5	07/09/24 15:35	07/15/24 13:21	ADF	Mt. Juliet, TN

LEACHATE POND #2 L1754337-02 GW

Collected by: Mike H. | Collected date/time: 07/08/24 10:00 | Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2319904	1	07/11/24 11:38	07/11/24 11:38	JAS	Mt. Juliet, TN
Preparation by Method 1311	WG2321659	1	07/13/24 17:50	07/13/24 17:50	PNK	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2321075	1	07/11/24 10:18	07/11/24 13:41	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2322075	1	07/12/24 16:32	07/12/24 23:15	MAB	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2319372	1	07/09/24 16:22	07/09/24 16:22	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2321434	200	07/12/24 11:39	07/12/24 11:39	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2320161	50	07/10/24 08:25	07/11/24 11:38	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2319904	2	07/09/24 23:48	07/09/24 23:48	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2318979	100	07/09/24 16:48	07/10/24 13:06	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2319502	10	07/09/24 13:42	07/14/24 11:08	EAO	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2319646	1	07/09/24 13:02	07/09/24 13:02	CAH	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2320199	1	07/10/24 15:44	07/10/24 20:53	LDT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2319848	1	07/09/24 18:30	07/09/24 18:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326334	20	07/21/24 04:59	07/21/24 04:59	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2319861	10	07/11/24 11:30	07/11/24 19:15	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2319610	1	07/11/24 12:29	07/11/24 15:51	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2319610	5	07/11/24 12:29	07/11/24 20:11	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2322501	5	07/13/24 18:43	07/13/24 18:43	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2319324	10	07/09/24 15:35	07/15/24 15:10	ADF	Mt. Juliet, TN

LEACHATE POND #3 L1754337-03 GW

Collected by: Mike H. | Collected date/time: 07/08/24 09:30 | Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2319904	1	07/11/24 11:39	07/11/24 11:39	JAS	Mt. Juliet, TN
Preparation by Method 1311	WG2321659	1	07/13/24 17:50	07/13/24 17:50	PNK	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2319669	1	07/09/24 14:51	07/10/24 00:00	MEU	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2322075	1	07/12/24 16:32	07/12/24 23:15	MAB	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2319372	1	07/09/24 16:27	07/09/24 16:27	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2321434	200	07/12/24 11:41	07/12/24 11:41	LAS	Mt. Juliet, TN

LEACHATE POND #3 L1754337-03 GW

Collected by: Mike H. | Collected date/time: 07/08/24 09:30 | Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Wet Chemistry by Method 351.2	WG2320161	20	07/10/24 08:25	07/11/24 11:39	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2319904	2	07/09/24 23:49	07/09/24 23:49	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2318979	100	07/09/24 16:48	07/10/24 13:08	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2319502	10	07/09/24 13:50	07/14/24 11:15	EAO	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2319646	1	07/09/24 13:02	07/09/24 13:02	CAH	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2320199	1	07/10/24 15:44	07/10/24 20:57	LDT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2319848	1	07/09/24 18:30	07/09/24 18:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326334	10	07/21/24 05:24	07/21/24 05:24	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2319861	10	07/11/24 11:30	07/11/24 19:17	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2319610	1	07/11/24 12:29	07/11/24 15:53	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2319610	5	07/11/24 12:29	07/11/24 20:13	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2322501	5	07/13/24 19:03	07/13/24 19:03	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2319324	5	07/09/24 15:35	07/15/24 18:29	ADF	Mt. Juliet, TN

LEACHATE POND #4 L1754337-04 GW

Collected by: Mike H. | Collected date/time: 07/08/24 09:15 | Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2319904	1	07/11/24 11:43	07/11/24 11:43	JAS	Mt. Juliet, TN
Preparation by Method 1311	WG2321659	1	07/13/24 17:50	07/13/24 17:50	PNK	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2319669	1	07/09/24 14:51	07/10/24 00:00	MEU	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2322075	1	07/12/24 16:32	07/12/24 23:15	MAB	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2320195	1	07/10/24 09:31	07/10/24 09:31	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2321434	200	07/12/24 11:42	07/12/24 11:42	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2320161	50	07/10/24 08:25	07/11/24 11:43	JAS	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2319904	2	07/09/24 23:50	07/09/24 23:50	RTW	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2318979	100	07/09/24 16:48	07/10/24 13:10	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2319502	10	07/09/24 14:02	07/14/24 11:24	EAO	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2319646	1	07/09/24 13:02	07/09/24 13:02	CAH	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2320199	1	07/10/24 15:44	07/10/24 20:59	LDT	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2319848	1	07/09/24 18:30	07/09/24 18:30	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2326334	20	07/21/24 05:50	07/21/24 05:50	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2319861	10	07/11/24 11:30	07/11/24 19:20	LAS	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2319610	1	07/11/24 12:29	07/11/24 15:55	ZSA	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2319610	5	07/11/24 12:29	07/11/24 20:15	ZSA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2322501	5	07/13/24 19:24	07/13/24 19:24	DYW	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2319324	5	07/09/24 15:35	07/15/24 18:51	ADF	Mt. Juliet, TN

LEACHATE POND #1 L1754337-06 Waste

Collected by: Mike H. | Collected date/time: 07/08/24 10:15 | Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2321659	1	07/25/24 08:46	07/25/24 08:46	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2323189	1	07/15/24 12:33	07/15/24 19:41	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2323247	1	07/16/24 08:05	07/16/24 12:50	JTM	Mt. Juliet, TN

LEACHATE POND #2 L1754337-07 Waste

Collected by: Mike H. | Collected date/time: 07/08/24 10:00 | Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2321659	1	07/25/24 08:46	07/25/24 08:46	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2323189	1	07/15/24 12:33	07/15/24 20:03	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2323247	1	07/16/24 08:05	07/16/24 12:55	JTM	Mt. Juliet, TN

LEACHATE POND #3 L1754337-08 Waste

Collected by: Mike H.
Collected date/time: 07/08/24 09:30
Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2321659	1	07/25/24 08:46	07/25/24 08:46	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2323189	1	07/15/24 12:33	07/15/24 20:05	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2323247	1	07/16/24 08:05	07/16/24 12:57	JTM	Mt. Juliet, TN

LEACHATE POND #4 L1754337-09 Waste

Collected by: Mike H.
Collected date/time: 07/08/24 09:15
Received date/time: 07/09/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2321659	1	07/25/24 08:47	07/25/24 08:47	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2323189	1	07/15/24 12:33	07/15/24 20:08	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2323247	1	07/16/24 08:05	07/16/24 12:58	JTM	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Sample Delivery Group (SDG) Narrative

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

Batch	Method	Lab Sample ID
WG2319646	7196A	L1754337-01, 02, 03, 04
WG2319848	9040C	L1754337-01, 02, 03, 04

The laboratory analysis was performed from an unpreserved, insufficiently or inadequately preserved sample.

Batch	Method	Lab Sample ID
WG2322075	1664B	L1754337-02, 04

Gravimetric Analysis by Method 2540 D-2011

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2319669	(DUP) R4092053-3	Suspended Solids
WG2321075	(DUP) R4093021-4	Suspended Solids

Wet Chemistry by Method 351.2

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2320161	(MS) R4092523-7	Kjeldahl Nitrogen, TKN

Wet Chemistry by Method 353.2

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG2319904	(MS) R4091818-4, (MS) R4091818-6, (MSD) R4091818-5	Nitrate-Nitrite

Wet Chemistry by Method 5210 B-2011

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2319502	(DUP) R4093690-4	BOD

Wet Chemistry by Method 9012B

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2320199	(MSD) R4092299-7	Cyanide

Metals (ICP) by Method 6010C

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2319610	(MS) R4092712-7, (MSD) R4092712-8	Barium, Calcium, Magnesium, Potassium and Sodium

Volatile Organic Compounds (GC/MS) by Method 8260C

The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.

Batch	Lab Sample ID	Analytes
WG2322501	L1754337-01	Bromomethane and Iodomethane
WG2322501	L1754337-02	Bromomethane and Iodomethane
WG2322501	L1754337-03	Bromomethane and Iodomethane
WG2322501	L1754337-04	Bromomethane and Iodomethane

The associated batch QC was above the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG2322501	(LCS) R4094554-1, (LCSD) R4094554-2, L1754337-01, 02, 03, 04	2-Chloroethyl vinyl ether, Bromochloromethane and Carbon tetrachloride

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

The associated batch QC was below the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG2319324	(LCSD) R4093775-2, L1754337-01, 02, 03, 04	Benzoic acid

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG2319324	(LCSD) R4093775-2, L1754337-01, 02, 03, 04	Benzoic acid

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.62	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	80.3		0.100	1	07/11/2024 11:37	WG2319904

Preparation by Method 1311

Analyte	Result	Qualifier	Prep	Batch
			date / time	
TCLP Extraction	-		7/13/2024 5:50:04 PM	WG2321659
Initial pH	N/A		7/13/2024 5:50:04 PM	WG2321659
Final pH	N/A		7/13/2024 5:50:04 PM	WG2321659

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	224		7.00	1	07/10/2024 00:00	WG2319669

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	07/12/2024 23:15	WG2322075

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	826		20.0	1	07/09/2024 16:17	WG2319372
Alkalinity,Bicarbonate	740		20.0	1	07/09/2024 16:17	WG2319372

Sample Narrative:

L1754337-01 WG2319372: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	69.8		6.34	200	07/12/2024 11:38	WG2321434

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	80.2		0.350	10	07/11/2024 11:37	WG2320161

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	1	07/09/2024 23:47	WG2319904

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	1.55		0.0250	25	07/10/2024 13:05	WG2318979

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	215		33.3	10	07/14/2024 11:03	WG2319502

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	07/09/2024 13:01	WG2319646

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.0100	1	07/10/2024 20:51	WG2320199

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.40	T8	1	07/09/2024 18:30	WG2319848

Sample Narrative:

L1754337-01 WG2319848: 8.4 at 21.7C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	428		1.00	5	07/21/2024 04:33	WG2326334
Sulfate	ND		5.00	5	07/21/2024 04:33	WG2326334

Sample Narrative:

L1754337-01 WG2326334: dilution due to high CL

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	07/11/2024 19:12	WG2319861

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200		1	07/11/2024 19:12	WG2319861

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	07/11/2024 15:49	WG2319610
Arsenic	0.0153		0.0100	1	07/11/2024 15:49	WG2319610
Barium	0.249		0.00500	1	07/11/2024 15:49	WG2319610
Beryllium	ND		0.00200	1	07/11/2024 15:49	WG2319610
Cadmium	ND		0.00200	1	07/11/2024 15:49	WG2319610
Calcium	64.1		1.00	1	07/11/2024 15:49	WG2319610
Chromium	0.0182		0.0100	1	07/11/2024 15:49	WG2319610
Cobalt	ND		0.0100	1	07/11/2024 15:49	WG2319610
Copper	ND		0.0100	1	07/11/2024 15:49	WG2319610
Lead	ND		0.00500	1	07/11/2024 15:49	WG2319610
Magnesium	36.5		1.00	1	07/11/2024 15:49	WG2319610

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Molybdenum	ND		0.0100	1	07/11/2024 15:49	WG2319610
Nickel	0.0508		0.0100	1	07/11/2024 15:49	WG2319610
Potassium	81.2		1.00	1	07/11/2024 15:49	WG2319610
Selenium	ND		0.0250	1	07/11/2024 15:49	WG2319610
Silver	ND		0.00600	1	07/11/2024 15:49	WG2319610
Sodium	318		1.00	1	07/11/2024 15:49	WG2319610
Thallium	ND		0.0200	1	07/11/2024 15:49	WG2319610
Vanadium	ND		0.0200	1	07/11/2024 15:49	WG2319610
Zinc	0.0758		0.0500	1	07/11/2024 15:49	WG2319610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	07/13/2024 16:41	WG2322501
1,1,1-Trichloroethane	ND		1.00	1	07/13/2024 16:41	WG2322501
1,1,2,2-Tetrachloroethane	ND		1.00	1	07/13/2024 16:41	WG2322501
1,1,2-Trichloroethane	ND		1.00	1	07/13/2024 16:41	WG2322501
1,1-Dichloroethane	ND		1.00	1	07/13/2024 16:41	WG2322501
1,1-Dichloroethene	ND		1.00	1	07/13/2024 16:41	WG2322501
1,2,3-Trichloropropane	ND		2.50	1	07/13/2024 16:41	WG2322501
1,2-Dibromo-3-Chloropropane	ND		2.50	1	07/13/2024 16:41	WG2322501
1,2-Dibromoethane	ND		1.00	1	07/13/2024 16:41	WG2322501
1,2-Dichloroethane	ND		1.00	1	07/13/2024 16:41	WG2322501
1,2-Dichloropropane	ND		1.00	1	07/13/2024 16:41	WG2322501
2-Butanone (MEK)	257		10.0	1	07/13/2024 16:41	WG2322501
2-Chloroethyl vinyl ether	ND	J4	50.0	1	07/13/2024 16:41	WG2322501
2-Hexanone	ND		5.00	1	07/13/2024 16:41	WG2322501
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	07/13/2024 16:41	WG2322501
Acetone	116		25.0	1	07/13/2024 16:41	WG2322501
Acrylonitrile	ND		5.00	1	07/13/2024 16:41	WG2322501
Benzene	ND		1.00	1	07/13/2024 16:41	WG2322501
Bromochloromethane	ND	J4	1.00	1	07/13/2024 16:41	WG2322501
Bromodichloromethane	ND		1.00	1	07/13/2024 16:41	WG2322501
Bromoform	ND		1.00	1	07/13/2024 16:41	WG2322501
Bromomethane	ND	C3	2.50	1	07/13/2024 16:41	WG2322501
Carbon disulfide	ND		1.00	1	07/13/2024 16:41	WG2322501
Carbon tetrachloride	ND	J4	1.00	1	07/13/2024 16:41	WG2322501
Chlorobenzene	ND		1.00	1	07/13/2024 16:41	WG2322501
Chloroethane	ND		2.50	1	07/13/2024 16:41	WG2322501
Chloroform	ND		1.00	1	07/13/2024 16:41	WG2322501
Chloromethane	ND		1.25	1	07/13/2024 16:41	WG2322501
Dibromochloromethane	ND		1.00	1	07/13/2024 16:41	WG2322501
Dibromomethane	ND		1.00	1	07/13/2024 16:41	WG2322501
Ethylbenzene	ND		1.00	1	07/13/2024 16:41	WG2322501
Iodomethane	ND	C3	10.0	1	07/13/2024 16:41	WG2322501
Methylene Chloride	ND		2.50	1	07/13/2024 16:41	WG2322501
Styrene	ND		1.00	1	07/13/2024 16:41	WG2322501
Tetrachloroethene	ND		1.00	1	07/13/2024 16:41	WG2322501
Toluene	ND		1.00	1	07/13/2024 16:41	WG2322501
Trichloroethene	ND		1.00	1	07/13/2024 16:41	WG2322501
Trichlorofluoromethane	ND		2.50	1	07/13/2024 16:41	WG2322501
Vinyl acetate	ND		5.00	1	07/13/2024 16:41	WG2322501
Vinyl chloride	ND		1.00	1	07/13/2024 16:41	WG2322501
Xylenes, Total	ND		2.00	1	07/13/2024 16:41	WG2322501
cis-1,2-Dichloroethene	ND		1.00	1	07/13/2024 16:41	WG2322501
cis-1,3-Dichloropropene	ND		1.00	1	07/13/2024 16:41	WG2322501

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
trans-1,2-Dichloroethene	ND		1.00	1	07/13/2024 16:41	WG2322501
trans-1,3-Dichloropropene	ND		1.00	1	07/13/2024 16:41	WG2322501
trans-1,4-Dichloro-2-butene	ND		5.00	1	07/13/2024 16:41	WG2322501
(S) 4-Bromofluorobenzene	*95.9*			*77.0-126*	*07/13/2024 16:41*	WG2322501
(S) Toluene-d8	*108*			*80.0-120*	*07/13/2024 16:41*	WG2322501
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*	*07/13/2024 16:41*	WG2322501

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
2,4,6-Trichlorophenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
2,4-Dichlorophenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
2,4-Dimethylphenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
2,4-Dinitrophenol	ND		0.0623	10.5	07/15/2024 13:21	WG2319324
2-Chlorophenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
2-Nitrophenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
4,6-Dinitro-2-methylphenol	ND		0.0118	10.5	07/15/2024 13:21	WG2319324
4-Chloro-3-methylphenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
4-Nitrophenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
Benzoic acid	ND	J3 J4	0.0500	10.5	07/15/2024 13:21	WG2319324
Pentachlorophenol	ND		0.0100	10.5	07/15/2024 13:21	WG2319324
(S) Phenol-d5	*25.9*			*10.0-120*	*07/15/2024 13:21*	WG2319324
(S) p-Terphenyl-d14	*44.8*			*10.0-128*	*07/15/2024 13:21*	WG2319324
(S) Nitrobenzene-d5	*50.5*			*10.0-127*	*07/15/2024 13:21*	WG2319324
(S) 2-Fluorophenol	*25.4*			*10.0-120*	*07/15/2024 13:21*	WG2319324
(S) 2-Fluorobiphenyl	*40.9*			*10.0-130*	*07/15/2024 13:21*	WG2319324
(S) 2,4,6-Tribromophenol	*37.7*			*10.0-155*	*07/15/2024 13:21*	WG2319324

Sample Narrative:

L1754337-01 WG2319324: Dilution due to matrix.

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.02	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	515		0.100	1	07/11/2024 11:38	WG2319904

Preparation by Method 1311

Analyte	Result	Qualifier	Prep	Batch
			date / time	
TCLP Extraction	-		7/13/2024 5:50:04 PM	WG2321659
Initial pH	N/A		7/13/2024 5:50:04 PM	WG2321659
Final pH	N/A		7/13/2024 5:50:04 PM	WG2321659

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	127		4.67	1	07/11/2024 13:41	WG2321075

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	07/12/2024 23:15	WG2322075

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	4190		20.0	1	07/09/2024 16:22	WG2319372
Alkalinity,Bicarbonate	4190		20.0	1	07/09/2024 16:22	WG2319372

Sample Narrative:

L1754337-02 WG2319372: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	610		6.34	200	07/12/2024 11:39	WG2321434

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	515		1.75	50	07/11/2024 11:38	WG2320161

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	0.199		0.100	2	07/09/2024 23:48	WG2319904

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	6.83		0.100	100	07/10/2024 13:06	WG2318979

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	2060		333	10	07/14/2024 11:08	WG2319502

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	07/09/2024 13:02	WG2319646

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.0100	1	07/10/2024 20:53	WG2320199

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.00	T8	1	07/09/2024 18:30	WG2319848

Sample Narrative:

L1754337-02 WG2319848: 8 at 21.6C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	1820		1.04	20	07/21/2024 04:59	WG2326334
Sulfate	11.0		5.00	20	07/21/2024 04:59	WG2326334

Sample Narrative:

L1754337-02 WG2326334: dilution due to high CL

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000490	10	07/11/2024 19:15	WG2319861

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	0.0160		0.0100	1	07/11/2024 15:51	WG2319610
Arsenic	0.0417		0.0100	1	07/11/2024 15:51	WG2319610
Barium	1.28		0.00500	1	07/11/2024 15:51	WG2319610
Beryllium	ND		0.00200	1	07/11/2024 15:51	WG2319610
Cadmium	ND		0.00200	1	07/11/2024 15:51	WG2319610
Calcium	315		1.00	1	07/11/2024 15:51	WG2319610
Chromium	0.0852		0.0100	1	07/11/2024 15:51	WG2319610
Cobalt	0.0279		0.0100	1	07/11/2024 15:51	WG2319610
Copper	ND		0.0100	1	07/11/2024 15:51	WG2319610
Lead	0.00576		0.00500	1	07/11/2024 15:51	WG2319610
Magnesium	134		1.00	1	07/11/2024 15:51	WG2319610
Molybdenum	ND		0.0100	1	07/11/2024 15:51	WG2319610
Nickel	0.205		0.0100	1	07/11/2024 15:51	WG2319610
Potassium	315		1.00	1	07/11/2024 15:51	WG2319610
Selenium	ND		0.0250	1	07/11/2024 15:51	WG2319610
Silver	ND		0.00600	1	07/11/2024 15:51	WG2319610

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Sodium	1370		1.00	5	07/11/2024 20:11	WG2319610
Thallium	ND		0.0200	1	07/11/2024 15:51	WG2319610
Vanadium	0.0281		0.0200	1	07/11/2024 15:51	WG2319610
Zinc	0.0862		0.0500	1	07/11/2024 15:51	WG2319610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	5	07/13/2024 18:43	WG2322501
1,1,1-Trichloroethane	ND		1.00	5	07/13/2024 18:43	WG2322501
1,1,2,2-Tetrachloroethane	ND		1.00	5	07/13/2024 18:43	WG2322501
1,1,2-Trichloroethane	ND		1.00	5	07/13/2024 18:43	WG2322501
1,1-Dichloroethane	ND		1.00	5	07/13/2024 18:43	WG2322501
1,1-Dichloroethene	ND		1.00	5	07/13/2024 18:43	WG2322501
1,2,3-Trichloropropane	ND		2.50	5	07/13/2024 18:43	WG2322501
1,2-Dibromo-3-Chloropropane	ND		2.50	5	07/13/2024 18:43	WG2322501
1,2-Dibromoethane	ND		1.00	5	07/13/2024 18:43	WG2322501
1,2-Dichloroethane	ND		1.00	5	07/13/2024 18:43	WG2322501
1,2-Dichloropropane	ND		1.00	5	07/13/2024 18:43	WG2322501
2-Butanone (MEK)	2200		10.0	5	07/13/2024 18:43	WG2322501
2-Chloroethyl vinyl ether	ND	J4	50.0	5	07/13/2024 18:43	WG2322501
2-Hexanone	ND		5.00	5	07/13/2024 18:43	WG2322501
4-Methyl-2-pentanone (MIBK)	5.79		5.00	5	07/13/2024 18:43	WG2322501
Acetone	787		25.0	5	07/13/2024 18:43	WG2322501
Acrylonitrile	ND		5.00	5	07/13/2024 18:43	WG2322501
Benzene	ND		1.00	5	07/13/2024 18:43	WG2322501
Bromochloromethane	ND	J4	1.00	5	07/13/2024 18:43	WG2322501
Bromodichloromethane	ND		1.00	5	07/13/2024 18:43	WG2322501
Bromoform	ND		1.00	5	07/13/2024 18:43	WG2322501
Bromomethane	ND	C3	2.50	5	07/13/2024 18:43	WG2322501
Carbon disulfide	ND		1.00	5	07/13/2024 18:43	WG2322501
Carbon tetrachloride	ND	J4	1.00	5	07/13/2024 18:43	WG2322501
Chlorobenzene	ND		1.00	5	07/13/2024 18:43	WG2322501
Chloroethane	ND		2.50	5	07/13/2024 18:43	WG2322501
Chloroform	1.12		1.00	5	07/13/2024 18:43	WG2322501
Chloromethane	ND		1.25	5	07/13/2024 18:43	WG2322501
Dibromochloromethane	ND		1.00	5	07/13/2024 18:43	WG2322501
Dibromomethane	ND		1.00	5	07/13/2024 18:43	WG2322501
Ethylbenzene	1.86		1.00	5	07/13/2024 18:43	WG2322501
Iodomethane	ND	C3	10.0	5	07/13/2024 18:43	WG2322501
Methylene Chloride	ND		5.35	5	07/13/2024 18:43	WG2322501
Styrene	ND		1.00	5	07/13/2024 18:43	WG2322501
Tetrachloroethene	ND		1.00	5	07/13/2024 18:43	WG2322501
Toluene	11.8		2.06	5	07/13/2024 18:43	WG2322501
Trichloroethene	ND		1.00	5	07/13/2024 18:43	WG2322501
Trichlorofluoromethane	ND		2.50	5	07/13/2024 18:43	WG2322501
Vinyl acetate	ND		5.00	5	07/13/2024 18:43	WG2322501
Vinyl chloride	ND		1.00	5	07/13/2024 18:43	WG2322501
Xylenes, Total	4.00		2.00	5	07/13/2024 18:43	WG2322501
cis-1,2-Dichloroethene	ND		1.00	5	07/13/2024 18:43	WG2322501
cis-1,3-Dichloropropene	ND		1.00	5	07/13/2024 18:43	WG2322501
trans-1,2-Dichloroethene	ND		1.00	5	07/13/2024 18:43	WG2322501
trans-1,3-Dichloropropene	ND		1.11	5	07/13/2024 18:43	WG2322501
trans-1,4-Dichloro-2-butene	ND		5.00	5	07/13/2024 18:43	WG2322501
(S) 4-Bromofluorobenzene	*96.9*			*77.0-126*	*07/13/2024 18:43*	WG2322501
(S) Toluene-d8	*105*			*80.0-120*	*07/13/2024 18:43*	WG2322501

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 1,2-Dichloroethane-d4	*100*			*70.0-130*	*07/13/2024 18:43*	WG2322501

Sample Narrative:

L1754337-02 WG2322501: Target compounds too high to run at a lower dilution.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
2,4,6-Trichlorophenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
2,4-Dichlorophenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
2,4-Dimethylphenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
2,4-Dinitrophenol	ND		0.0593	10	07/15/2024 15:10	WG2319324
2-Chlorophenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
2-Nitrophenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
4,6-Dinitro-2-methylphenol	ND		0.0112	10	07/15/2024 15:10	WG2319324
4-Chloro-3-methylphenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
4-Nitrophenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
Benzoic acid	ND	J3 J4	0.0500	10	07/15/2024 15:10	WG2319324
Pentachlorophenol	ND		0.0100	10	07/15/2024 15:10	WG2319324
(S) Phenol-d5	*51.5*			*10.0-120*	*07/15/2024 15:10*	WG2319324
(S) p-Terphenyl-d14	*13.9*			*10.0-128*	*07/15/2024 15:10*	WG2319324
(S) Nitrobenzene-d5	*57.4*			*10.0-127*	*07/15/2024 15:10*	WG2319324
(S) 2-Fluorophenol	*32.3*			*10.0-120*	*07/15/2024 15:10*	WG2319324
(S) 2-Fluorobiphenyl	*32.2*			*10.0-130*	*07/15/2024 15:10*	WG2319324
(S) 2,4,6-Tribromophenol	*45.8*			*10.0-155*	*07/15/2024 15:10*	WG2319324

Sample Narrative:

L1754337-02 WG2319324: Dilution due to matrix.

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	244		0.100	1	07/11/2024 11:39	WG2319904

Preparation by Method 1311

Analyte	Result	Qualifier	Prep	Batch
			date / time	
TCLP Extraction	-		7/13/2024 5:50:04 PM	WG2321659
Initial pH	N/A		7/13/2024 5:50:04 PM	WG2321659
Final pH	N/A		7/13/2024 5:50:04 PM	WG2321659

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	53.0		4.00	1	07/10/2024 00:00	WG2319669

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	07/12/2024 23:15	WG2322075

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	1990		20.0	1	07/09/2024 16:27	WG2319372
Alkalinity,Bicarbonate	1740		20.0	1	07/09/2024 16:27	WG2319372

Sample Narrative:

L1754337-03 WG2319372: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	181		6.34	200	07/12/2024 11:41	WG2321434

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	244		0.700	20	07/11/2024 11:39	WG2320161

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	0.122		0.100	2	07/09/2024 23:49	WG2319904

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	5.83		0.100	100	07/10/2024 13:08	WG2318979

Wet Chemistry by Method 5210 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
BOD	170		33.3	10	07/14/2024 11:15	WG2319502

Wet Chemistry by Method 7196A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chromium,Hexavalent	ND	T8	0.0100	1	07/09/2024 13:02	WG2319646

Wet Chemistry by Method 9012B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Cyanide	ND		0.0100	1	07/10/2024 20:57	WG2320199

Wet Chemistry by Method 9040C

Analyte	Result	Qualifier	Dilution	Analysis	Batch
	su			date / time	
pH	8.55	T8	1	07/09/2024 18:30	WG2319848

Sample Narrative:

L1754337-03 WG2319848: 8.55 at 21.5C

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	1520		1.00	10	07/21/2024 05:24	WG2326334
Sulfate	14.3		5.00	10	07/21/2024 05:24	WG2326334

Sample Narrative:

L1754337-03 WG2326334: dilution due to high CL

Mercury by Method 7470A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Mercury	ND		0.000490	10	07/11/2024 19:17	WG2319861

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Antimony	ND		0.0100	1	07/11/2024 15:53	WG2319610
Arsenic	0.0378		0.0100	1	07/11/2024 15:53	WG2319610
Barium	0.450		0.00500	1	07/11/2024 15:53	WG2319610
Beryllium	ND		0.00200	1	07/11/2024 15:53	WG2319610
Cadmium	ND		0.00200	1	07/11/2024 15:53	WG2319610
Calcium	59.0		1.00	1	07/11/2024 15:53	WG2319610
Chromium	0.0655		0.0100	1	07/11/2024 15:53	WG2319610
Cobalt	0.0267		0.0100	1	07/11/2024 15:53	WG2319610
Copper	ND		0.0100	1	07/11/2024 15:53	WG2319610
Lead	ND		0.00500	1	07/11/2024 15:53	WG2319610
Magnesium	81.0		1.00	1	07/11/2024 15:53	WG2319610
Molybdenum	ND		0.0100	1	07/11/2024 15:53	WG2319610
Nickel	0.153		0.0100	1	07/11/2024 15:53	WG2319610
Potassium	273		1.00	1	07/11/2024 15:53	WG2319610
Selenium	ND		0.0250	1	07/11/2024 15:53	WG2319610
Silver	ND		0.00600	1	07/11/2024 15:53	WG2319610
Sodium	1120		1.00	5	07/11/2024 20:13	WG2319610
Thallium	ND		0.0200	1	07/11/2024 15:53	WG2319610
Vanadium	ND		0.0200	1	07/11/2024 15:53	WG2319610
Zinc	0.0599		0.0500	1	07/11/2024 15:53	WG2319610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	5	07/13/2024 19:03	WG2322501
1,1,1-Trichloroethane	ND		1.00	5	07/13/2024 19:03	WG2322501
1,1,2,2-Tetrachloroethane	ND		1.00	5	07/13/2024 19:03	WG2322501
1,1,2-Trichloroethane	ND		1.00	5	07/13/2024 19:03	WG2322501
1,1-Dichloroethane	ND		1.00	5	07/13/2024 19:03	WG2322501
1,1-Dichloroethene	ND		1.00	5	07/13/2024 19:03	WG2322501
1,2,3-Trichloropropane	ND		2.50	5	07/13/2024 19:03	WG2322501
1,2-Dibromo-3-Chloropropane	ND		2.50	5	07/13/2024 19:03	WG2322501
1,2-Dibromoethane	ND		1.00	5	07/13/2024 19:03	WG2322501
1,2-Dichloroethane	ND		1.00	5	07/13/2024 19:03	WG2322501
1,2-Dichloropropane	ND		1.00	5	07/13/2024 19:03	WG2322501
2-Butanone (MEK)	ND		10.0	5	07/13/2024 19:03	WG2322501
2-Chloroethyl vinyl ether	ND	J4	50.0	5	07/13/2024 19:03	WG2322501
2-Hexanone	ND		5.00	5	07/13/2024 19:03	WG2322501
4-Methyl-2-pentanone (MIBK)	ND		5.00	5	07/13/2024 19:03	WG2322501
Acetone	47.8		25.0	5	07/13/2024 19:03	WG2322501
Acrylonitrile	ND		5.00	5	07/13/2024 19:03	WG2322501
Benzene	ND		1.00	5	07/13/2024 19:03	WG2322501
Bromochloromethane	ND	J4	1.00	5	07/13/2024 19:03	WG2322501
Bromodichloromethane	ND		1.00	5	07/13/2024 19:03	WG2322501
Bromoform	ND		1.00	5	07/13/2024 19:03	WG2322501
Bromomethane	ND	C3	2.50	5	07/13/2024 19:03	WG2322501
Carbon disulfide	ND		1.00	5	07/13/2024 19:03	WG2322501
Carbon tetrachloride	ND	J4	1.00	5	07/13/2024 19:03	WG2322501
Chlorobenzene	ND		1.00	5	07/13/2024 19:03	WG2322501
Chloroethane	ND		2.50	5	07/13/2024 19:03	WG2322501
Chloroform	ND		1.00	5	07/13/2024 19:03	WG2322501
Chloromethane	ND		1.25	5	07/13/2024 19:03	WG2322501
Dibromochloromethane	ND		1.00	5	07/13/2024 19:03	WG2322501
Dibromomethane	ND		1.00	5	07/13/2024 19:03	WG2322501
Ethylbenzene	ND		1.00	5	07/13/2024 19:03	WG2322501
Iodomethane	ND	C3	10.0	5	07/13/2024 19:03	WG2322501
Methylene Chloride	ND		5.35	5	07/13/2024 19:03	WG2322501
Styrene	ND		1.00	5	07/13/2024 19:03	WG2322501
Tetrachloroethene	ND		1.00	5	07/13/2024 19:03	WG2322501
Toluene	ND		2.06	5	07/13/2024 19:03	WG2322501
Trichloroethene	ND		1.00	5	07/13/2024 19:03	WG2322501
Trichlorofluoromethane	ND		2.50	5	07/13/2024 19:03	WG2322501
Vinyl acetate	ND		5.00	5	07/13/2024 19:03	WG2322501
Vinyl chloride	ND		1.00	5	07/13/2024 19:03	WG2322501
Xylenes, Total	ND		2.00	5	07/13/2024 19:03	WG2322501
cis-1,2-Dichloroethene	ND		1.00	5	07/13/2024 19:03	WG2322501
cis-1,3-Dichloropropene	ND		1.00	5	07/13/2024 19:03	WG2322501
trans-1,2-Dichloroethene	ND		1.00	5	07/13/2024 19:03	WG2322501
trans-1,3-Dichloropropene	ND		1.11	5	07/13/2024 19:03	WG2322501
trans-1,4-Dichloro-2-butene	ND		5.00	5	07/13/2024 19:03	WG2322501
(S) 4-Bromofluorobenzene	*98.2*			*77.0-126*	*07/13/2024 19:03*	WG2322501
(S) Toluene-d8	*108*			*80.0-120*	*07/13/2024 19:03*	WG2322501
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*	*07/13/2024 19:03*	WG2322501

Sample Narrative:

L1754337-03 WG2322501: Elevated RL due to foamy matrix.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
2,4,6-Trichlorophenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
2,4-Dichlorophenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
2,4-Dimethylphenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
2,4-Dinitrophenol	ND		0.0297	5	07/15/2024 18:29	WG2319324
2-Chlorophenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
2-Nitrophenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
4,6-Dinitro-2-methylphenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
4-Chloro-3-methylphenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
4-Nitrophenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
Benzoic acid	ND	J3 J4	0.0500	5	07/15/2024 18:29	WG2319324
Pentachlorophenol	ND		0.0100	5	07/15/2024 18:29	WG2319324
(S) Phenol-d5	*28.1*			*10.0-120*	*07/15/2024 18:29*	WG2319324
(S) p-Terphenyl-d14	*14.2*			*10.0-128*	*07/15/2024 18:29*	WG2319324
(S) Nitrobenzene-d5	*69.0*			*10.0-127*	*07/15/2024 18:29*	WG2319324
(S) 2-Fluorophenol	*38.7*			*10.0-120*	*07/15/2024 18:29*	WG2319324
(S) 2-Fluorobiphenyl	*30.8*			*10.0-130*	*07/15/2024 18:29*	WG2319324
(S) 2,4,6-Tribromophenol	*50.5*			*10.0-155*	*07/15/2024 18:29*	WG2319324

Sample Narrative:

L1754337-03 WG2319324: Dilution due to matrix.

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.36	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	650		0.100	1	07/11/2024 11:43	WG2319904

Preparation by Method 1311

Analyte	Result	Qualifier	Prep	Batch
			date / time	
TCLP Extraction	-		7/13/2024 5:50:04 PM	WG2321659
Initial pH	N/A		7/13/2024 5:50:04 PM	WG2321659
Final pH	N/A		7/13/2024 5:50:04 PM	WG2321659

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	71.0		4.00	1	07/10/2024 00:00	WG2319669

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	07/12/2024 23:15	WG2322075

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	3690		20.0	1	07/10/2024 09:31	WG2320195
Alkalinity,Bicarbonate	3610		20.0	1	07/10/2024 09:31	WG2320195

Sample Narrative:

L1754337-04 WG2320195: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	528		6.34	200	07/12/2024 11:42	WG2321434

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	650		1.75	50	07/11/2024 11:43	WG2320161

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	0.161		0.100	2	07/09/2024 23:50	WG2319904

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	8.75		0.100	100	07/10/2024 13:10	WG2318979

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	160		33.3	10	07/14/2024 11:24	WG2319502

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	1	07/09/2024 13:02	WG2319646

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.0105		0.0100	1	07/10/2024 20:59	WG2320199

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.25	T8	1	07/09/2024 18:30	WG2319848

Sample Narrative:

L1754337-04 WG2319848: 8.25 at 21.5C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	1970		1.04	20	07/21/2024 05:50	WG2326334
Sulfate	16.0		5.00	20	07/21/2024 05:50	WG2326334

Sample Narrative:

L1754337-04 WG2326334: dilution due to high CL

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000490	10	07/11/2024 19:20	WG2319861

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	07/11/2024 15:55	WG2319610
Arsenic	0.0523		0.0100	1	07/11/2024 15:55	WG2319610
Barium	0.562		0.00500	1	07/11/2024 15:55	WG2319610
Beryllium	ND		0.00200	1	07/11/2024 15:55	WG2319610
Cadmium	ND		0.00200	1	07/11/2024 15:55	WG2319610
Calcium	72.1		1.00	1	07/11/2024 15:55	WG2319610
Chromium	0.0877		0.0100	1	07/11/2024 15:55	WG2319610
Cobalt	0.0348		0.0100	1	07/11/2024 15:55	WG2319610
Copper	ND		0.0100	1	07/11/2024 15:55	WG2319610
Lead	ND		0.00500	1	07/11/2024 15:55	WG2319610
Magnesium	103		1.00	1	07/11/2024 15:55	WG2319610
Molybdenum	ND		0.0100	1	07/11/2024 15:55	WG2319610
Nickel	0.193		0.0100	1	07/11/2024 15:55	WG2319610
Potassium	352		1.00	1	07/11/2024 15:55	WG2319610
Selenium	ND		0.0250	1	07/11/2024 15:55	WG2319610
Silver	ND		0.00600	1	07/11/2024 15:55	WG2319610

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Sodium	1420		1.00	5	07/11/2024 20:15	WG2319610
Thallium	ND		0.0200	1	07/11/2024 15:55	WG2319610
Vanadium	0.0272		0.0200	1	07/11/2024 15:55	WG2319610
Zinc	0.0526		0.0500	1	07/11/2024 15:55	WG2319610

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	5	07/13/2024 19:24	WG2322501
1,1,1-Trichloroethane	ND		1.00	5	07/13/2024 19:24	WG2322501
1,1,2,2-Tetrachloroethane	ND		1.00	5	07/13/2024 19:24	WG2322501
1,1,2-Trichloroethane	ND		1.00	5	07/13/2024 19:24	WG2322501
1,1-Dichloroethane	ND		1.00	5	07/13/2024 19:24	WG2322501
1,1-Dichloroethene	ND		1.00	5	07/13/2024 19:24	WG2322501
1,2,3-Trichloropropane	ND		2.50	5	07/13/2024 19:24	WG2322501
1,2-Dibromo-3-Chloropropane	ND		2.50	5	07/13/2024 19:24	WG2322501
1,2-Dibromoethane	ND		1.00	5	07/13/2024 19:24	WG2322501
1,2-Dichloroethane	ND		1.00	5	07/13/2024 19:24	WG2322501
1,2-Dichloropropane	ND		1.00	5	07/13/2024 19:24	WG2322501
2-Butanone (MEK)	32.3		10.0	5	07/13/2024 19:24	WG2322501
2-Chloroethyl vinyl ether	ND	J4	50.0	5	07/13/2024 19:24	WG2322501
2-Hexanone	ND		5.00	5	07/13/2024 19:24	WG2322501
4-Methyl-2-pentanone (MIBK)	ND		5.00	5	07/13/2024 19:24	WG2322501
Acetone	97.9		25.0	5	07/13/2024 19:24	WG2322501
Acrylonitrile	ND		5.00	5	07/13/2024 19:24	WG2322501
Benzene	ND		1.00	5	07/13/2024 19:24	WG2322501
Bromochloromethane	ND	J4	1.00	5	07/13/2024 19:24	WG2322501
Bromodichloromethane	ND		1.00	5	07/13/2024 19:24	WG2322501
Bromoform	ND		1.00	5	07/13/2024 19:24	WG2322501
Bromomethane	ND	C3	2.50	5	07/13/2024 19:24	WG2322501
Carbon disulfide	ND		1.00	5	07/13/2024 19:24	WG2322501
Carbon tetrachloride	ND	J4	1.00	5	07/13/2024 19:24	WG2322501
Chlorobenzene	ND		1.00	5	07/13/2024 19:24	WG2322501
Chloroethane	ND		2.50	5	07/13/2024 19:24	WG2322501
Chloroform	ND		1.00	5	07/13/2024 19:24	WG2322501
Chloromethane	ND		1.25	5	07/13/2024 19:24	WG2322501
Dibromochloromethane	ND		1.00	5	07/13/2024 19:24	WG2322501
Dibromomethane	ND		1.00	5	07/13/2024 19:24	WG2322501
Ethylbenzene	ND		1.00	5	07/13/2024 19:24	WG2322501
Iodomethane	ND	C3	10.0	5	07/13/2024 19:24	WG2322501
Methylene Chloride	ND		5.35	5	07/13/2024 19:24	WG2322501
Styrene	ND		1.00	5	07/13/2024 19:24	WG2322501
Tetrachloroethene	ND		1.00	5	07/13/2024 19:24	WG2322501
Toluene	ND		2.06	5	07/13/2024 19:24	WG2322501
Trichloroethene	ND		1.00	5	07/13/2024 19:24	WG2322501
Trichlorofluoromethane	ND		2.50	5	07/13/2024 19:24	WG2322501
Vinyl acetate	ND		5.00	5	07/13/2024 19:24	WG2322501
Vinyl chloride	ND		1.00	5	07/13/2024 19:24	WG2322501
Xylenes, Total	ND		2.00	5	07/13/2024 19:24	WG2322501
cis-1,2-Dichloroethene	ND		1.00	5	07/13/2024 19:24	WG2322501
cis-1,3-Dichloropropene	ND		1.00	5	07/13/2024 19:24	WG2322501
trans-1,2-Dichloroethene	ND		1.00	5	07/13/2024 19:24	WG2322501
trans-1,3-Dichloropropene	ND		1.11	5	07/13/2024 19:24	WG2322501
trans-1,4-Dichloro-2-butene	ND		5.00	5	07/13/2024 19:24	WG2322501
(S) 4-Bromofluorobenzene	*98.1*			*77.0-126*	*07/13/2024 19:24*	WG2322501
(S) Toluene-d8	*105*			*80.0-120*	*07/13/2024 19:24*	WG2322501

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 1,2-Dichloroethane-d4	*104*			*70.0-130*	*07/13/2024 19:24*	WG2322501

Sample Narrative:

L1754337-04 WG2322501: Elevated RL due to foamy matrix.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
2,4,6-Trichlorophenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
2,4-Dichlorophenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
2,4-Dimethylphenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
2,4-Dinitrophenol	ND		0.0297	5	07/15/2024 18:51	WG2319324
2-Chlorophenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
2-Nitrophenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
4,6-Dinitro-2-methylphenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
4-Chloro-3-methylphenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
4-Nitrophenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
Benzoic acid	ND	J3 J4	0.0500	5	07/15/2024 18:51	WG2319324
Pentachlorophenol	ND		0.0100	5	07/15/2024 18:51	WG2319324
(S) Phenol-d5	*35.7*			*10.0-120*	*07/15/2024 18:51*	WG2319324
(S) p-Terphenyl-d14	*29.4*			*10.0-128*	*07/15/2024 18:51*	WG2319324
(S) Nitrobenzene-d5	*48.5*			*10.0-127*	*07/15/2024 18:51*	WG2319324
(S) 2-Fluorophenol	*32.8*			*10.0-120*	*07/15/2024 18:51*	WG2319324
(S) 2-Fluorobiphenyl	*30.6*			*10.0-130*	*07/15/2024 18:51*	WG2319324
(S) 2,4,6-Tribromophenol	*45.6*			*10.0-155*	*07/15/2024 18:51*	WG2319324

Sample Narrative:

L1754337-04 WG2319324: Dilution due to matrix.

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		7/25/2024 8:46:55 AM	WG2321659

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	07/15/2024 19:41	WG2323189

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	07/16/2024 12:50	WG2323247
Barium, TCLP	0.225		0.100	100	1	07/16/2024 12:50	WG2323247
Cadmium, TCLP	ND		0.100	1	1	07/16/2024 12:50	WG2323247
Chromium, TCLP	ND		0.100	5	1	07/16/2024 12:50	WG2323247
Lead, TCLP	ND		0.100	5	1	07/16/2024 12:50	WG2323247
Selenium, TCLP	ND		0.100	1	1	07/16/2024 12:50	WG2323247
Silver, TCLP	ND		0.100	5	1	07/16/2024 12:50	WG2323247

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		7/25/2024 8:46:57 AM	WG2321659

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	07/15/2024 20:03	WG2323189

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	07/16/2024 12:55	WG2323247
Barium, TCLP	1.23		0.100	100	1	07/16/2024 12:55	WG2323247
Cadmium, TCLP	ND		0.100	1	1	07/16/2024 12:55	WG2323247
Chromium, TCLP	0.106		0.100	5	1	07/16/2024 12:55	WG2323247
Lead, TCLP	ND		0.100	5	1	07/16/2024 12:55	WG2323247
Selenium, TCLP	ND		0.100	1	1	07/16/2024 12:55	WG2323247
Silver, TCLP	ND		0.100	5	1	07/16/2024 12:55	WG2323247

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		7/25/2024 8:46:59 AM	WG2321659

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	07/15/2024 20:05	WG2323189

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	07/16/2024 12:57	WG2323247
Barium, TCLP	0.394		0.100	100	1	07/16/2024 12:57	WG2323247
Cadmium, TCLP	ND		0.100	1	1	07/16/2024 12:57	WG2323247
Chromium, TCLP	ND		0.100	5	1	07/16/2024 12:57	WG2323247
Lead, TCLP	ND		0.100	5	1	07/16/2024 12:57	WG2323247
Selenium, TCLP	ND		0.100	1	1	07/16/2024 12:57	WG2323247
Silver, TCLP	ND		0.100	5	1	07/16/2024 12:57	WG2323247

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		7/25/2024 8:47:00 AM	WG2321659

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	07/15/2024 20:08	WG2323189

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	07/16/2024 12:58	WG2323247
Barium, TCLP	0.570		0.100	100	1	07/16/2024 12:58	WG2323247
Cadmium, TCLP	ND		0.100	1	1	07/16/2024 12:58	WG2323247
Chromium, TCLP	0.106		0.100	5	1	07/16/2024 12:58	WG2323247
Lead, TCLP	ND		0.100	5	1	07/16/2024 12:58	WG2323247
Selenium, TCLP	ND		0.100	1	1	07/16/2024 12:58	WG2323247
Silver, TCLP	ND		0.100	5	1	07/16/2024 12:58	WG2323247

Method Blank (MB)

(MB) R4092053-1 07/10/24 00:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1754312-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754312-01 07/10/24 00:00 • (DUP) R4092053-3 07/10/24 00:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	50.0	37.0	1	29.9	P1	10

Laboratory Control Sample (LCS)

(LCS) R4092053-2 07/10/24 00:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	800	103	85.0-115	

Method Blank (MB)

(MB) R4093021-1 07/11/24 13:41

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1754701-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754701-01 07/11/24 13:41 • (DUP) R4093021-3 07/11/24 13:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	ND	ND	1	0.000		10

L1754757-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754757-01 07/11/24 13:41 • (DUP) R4093021-4 07/11/24 13:41

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	35.5	52.0	1	37.7	P1	10

Laboratory Control Sample (LCS)

(LCS) R4093021-2 07/11/24 13:41

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	816	106	85.0-115	

Method Blank (MB)

(MB) R4093328-1 07/12/24 23:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	ND		1.16	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4093328-2 07/12/24 23:15 • (LCSD) R4093328-3 07/12/24 23:15

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	36.3	35.6	90.8	89.0	78.0-114			1.95	20

L1754331-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1754331-02 07/12/24 23:15 • (MS) R4093328-4 07/12/24 23:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	36.0	90.0	1	78.0-114	

Method Blank (MB)

(MB) R4091684-2 07/09/24 13:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0
Alkalinity,Bicarbonate	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1753216-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753216-01 07/09/24 13:43 • (DUP) R4091684-3 07/09/24 13:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	6970	7260	1	4.05		20
Alkalinity,Bicarbonate	6970	7260	1	4.05		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1753934-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753934-01 07/09/24 15:56 • (DUP) R4091684-4 07/09/24 16:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	158	163	1	2.79		20
Alkalinity,Bicarbonate	144	148	1	3.09		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4091684-1 07/09/24 13:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	107	107	90.0-110	

Laboratory Control Sample (LCS)

(LCS) R4091684-1 07/09/24 13:22

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4092015-2 07/10/24 09:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0
Alkalinity,Bicarbonate	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1754360-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754360-01 07/10/24 09:24 • (DUP) R4092015-3 07/10/24 09:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	756	752	1	0.510		20
Alkalinity,Bicarbonate	756	752	1	0.510		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1754677-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754677-01 07/10/24 10:54 • (DUP) R4092015-4 07/10/24 10:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	1680	1670	1	0.338		20
Alkalinity,Bicarbonate	1680	1670	1	0.338		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4092015-1 07/10/24 09:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	107	107	90.0-110	

Laboratory Control Sample (LCS)

(LCS) R4092015-1 07/10/24 09:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4093157-1 07/12/24 11:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

L1754485-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1754485-02 07/12/24 12:03 • (DUP) R4093157-5 07/12/24 12:05

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

L1754485-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1754485-04 07/12/24 12:14 • (DUP) R4093157-7 07/12/24 12:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.299	0.292	1	2.37		10

Laboratory Control Sample (LCS)

(LCS) R4093157-2 07/12/24 11:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.65	102	90.0-110	

L1754485-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754485-01 07/12/24 11:59 • (MS) R4093157-3 07/12/24 12:00 • (MSD) R4093157-4 07/12/24 12:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	ND	5.13	5.18	103	104	1	90.0-110			0.989	10

L1754485-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1754485-03 07/12/24 12:06 • (MS) R4093157-6 07/12/24 12:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	0.115	5.32	106	1	90.0-110	

Method Blank (MB)

(MB) R4092523-1 07/11/24 10:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	ND		0.0350	0.250

L1754209-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754209-01 07/11/24 11:28 • (DUP) R4092523-10 07/11/24 11:29

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	28.2	27.4	2	2.88		20

Sample Narrative:

OS: dilution due to sample matrix(no2no3 interference)

L1754212-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754212-01 07/11/24 11:30 • (DUP) R4092523-11 07/11/24 11:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	24.2	27.6	2	13.1		20

Laboratory Control Sample (LCS)

(LCS) R4092523-2 07/11/24 10:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	13.5	110	80.0-120	

L1754352-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1754352-01 07/11/24 10:23 • (MS) R4092523-7 07/11/24 10:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Kjeldahl Nitrogen, TKN	5.00	ND	2.67	53.4	1	90.0-110	J6

Method Blank (MB)

(MB) R4091818-1 07/09/24 22:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	0.0478		0.0197	0.100

L1753934-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753934-01 07/09/24 22:23 • (DUP) R4091818-3 07/09/24 22:25

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	ND	ND	1	5.55		20

L1754209-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754209-01 07/09/24 22:39 • (DUP) R4091818-7 07/09/24 22:40

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	0.163	0.162	1	0.615		20

Laboratory Control Sample (LCS)

(LCS) R4091818-2 07/09/24 22:21

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.48	99.2	90.0-110	

L1753936-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753936-01 07/09/24 22:26 • (MS) R4091818-4 07/09/24 22:27 • (MSD) R4091818-5 07/09/24 22:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	ND	3.31	3.07	129	119	1	90.0-110	J5	J5	7.52	20

L1754017-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1754017-01 07/09/24 22:35 • (MS) R4091818-6 07/09/24 22:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	ND	3.33	133	1	90.0-110	J5

Method Blank (MB)

(MB) R4092044-1 07/10/24 12:40

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	ND		0.00100	0.00300

L1753218-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753218-01 07/10/24 12:51 • (DUP) R4092044-3 07/10/24 12:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	5.29	5.56	100	4.98		20

Laboratory Control Sample (LCS)

(LCS) R4092044-2 07/10/24 12:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	0.0722	0.0671	92.9	78.9-121	

L1753218-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1753218-01 07/10/24 12:51 • (MS) R4092044-4 07/10/24 12:54 • (MSD) R4092044-5 07/10/24 12:59

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	5.00	5.29	10.5	10.6	104	106	100	90.0-110			0.948	20

Method Blank (MB)

(MB) R4093690-1 07/14/24 09:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
BOD	ND		0.200	0.200

L1754135-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754135-01 07/14/24 09:25 • (DUP) R4093690-3 07/14/24 09:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	7.70	6.80	1	12.4		30

L1754357-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1754357-02 07/14/24 11:32 • (DUP) R4093690-4 07/14/24 11:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	10.9	ND	1	200	P1	30

Laboratory Control Sample (LCS)

(LCS) R4093690-2 07/14/24 09:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	188	95.1	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4093690-5 07/14/24 11:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	187	94.4	84.6-115	

Method Blank (MB)

(MB) R4091530-1 07/09/24 12:58

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	ND		0.00300	0.0100

L1754269-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754269-01 07/09/24 12:58 • (DUP) R4091530-3 07/09/24 12:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4091530-2 07/09/24 12:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.528	106	80.0-120	

L1754331-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754331-01 07/09/24 12:59 • (MS) R4091530-4 07/09/24 12:59 • (MSD) R4091530-5 07/09/24 13:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	ND	0.549	0.546	109	108	1	75.0-125			0.548	20

Method Blank (MB)

(MB) R4092299-1 07/10/24 20:23

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	ND		0.00180	0.00500

L1754321-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1754321-03 07/10/24 20:44 • (DUP) R4092299-3 07/10/24 20:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

L1754530-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1754530-06 07/10/24 21:10 • (DUP) R4092299-8 07/10/24 21:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4092299-2 07/10/24 20:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.101	101	87.1-120	

L1754331-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754331-03 07/10/24 20:47 • (MS) R4092299-4 07/10/24 20:49 • (MSD) R4092299-5 07/10/24 20:50

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0988	0.0953	98.8	95.3	1	90.0-110			3.61	20

L1754407-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754407-02 07/10/24 21:00 • (MS) R4092299-6 07/10/24 21:02 • (MSD) R4092299-7 07/10/24 21:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.102	0.0887	102	88.7	1	90.0-110		J6	13.9	20

L1754244-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1754244-02 07/09/24 18:30 • (DUP) R4091774-2 07/09/24 18:30

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.28	8.27	1	0.121		1

Sample Narrative:

OS: 8.28 at 22C

DUP: 8.27 at 21.9C

L1754474-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1754474-01 07/09/24 18:30 • (DUP) R4091774-3 07/09/24 18:30

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.79	7.80	1	0.128		1

Sample Narrative:

OS: 7.79 at 22.6C

DUP: 7.8 at 22.5C

Laboratory Control Sample (LCS)

(LCS) R4091774-1 07/09/24 18:30

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	10.0	100	99.0-101	

Sample Narrative:

LCS: 10.02 at 22.9C

Method Blank (MB)

(MB) R4096792-1 07/20/24 22:11

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.0989		0.0519	1.00
Sulfate	0.115		0.0774	5.00

L1753481-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1753481-01 07/21/24 01:48 • (DUP) R4096792-3 07/21/24 02:01

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	4.96	4.81	1	3.10		15
Sulfate	ND	ND	1	1.66		15

L1757595-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1757595-06 07/21/24 07:44 • (DUP) R4096792-5 07/21/24 07:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	19.3	19.2	1	0.323		15
Sulfate	19.0	19.1	1	0.184		15

Laboratory Control Sample (LCS)

(LCS) R4096792-2 07/20/24 22:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.4	98.6	80.0-120	
Sulfate	40.0	39.2	98.1	80.0-120	

L1753481-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1753481-01 07/21/24 01:48 • (MS) R4096792-4 07/21/24 02:13

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	4.96	44.1	97.8	1	80.0-120	
Sulfate	40.0	ND	41.3	96.5	1	80.0-120	

L1757595-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1757595-06 07/21/24 07:44 • (MS) R4096792-6 07/21/24 08:10 • (MSD) R4096792-7 07/21/24 08:22

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	19.3	54.9	54.7	89.1	88.6	1	80.0-120			0.345	15
Sulfate	40.0	19.0	54.8	54.4	89.4	88.4	1	80.0-120			0.719	15

Method Blank (MB)

(MB) R4092904-1 07/11/24 18:26

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	ND		0.0000490	0.000200

Laboratory Control Sample (LCS)

(LCS) R4092904-2 07/11/24 18:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00284	94.8	80.0-120	

L1754319-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754319-01 07/11/24 18:31 • (MS) R4092904-4 07/11/24 18:41 • (MSD) R4092904-5 07/11/24 18:44

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00292	0.00293	97.3	97.8	1	75.0-125			0.529	20

Method Blank (MB)

(MB) R4094109-1 07/15/24 19:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury, TCLP	ND		0.0000490	0.0100

Laboratory Control Sample (LCS)

(LCS) R4094109-2 07/15/24 19:38

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury, TCLP	0.0300	0.0277	92.4	80.0-120	

L1754337-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754337-01 07/15/24 19:41 • (MS) R4094109-4 07/15/24 19:45 • (MSD) R4094109-5 07/15/24 19:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0264	0.0275	87.9	91.7	1	75.0-125			4.30	20

L1754795-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754795-01 07/15/24 19:55 • (MS) R4094109-6 07/15/24 19:58 • (MSD) R4094109-7 07/15/24 20:00

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0281	0.0275	93.6	91.6	1	75.0-125			2.18	20

L1754337-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754337-06 07/15/24 19:41 • (MS) R4094109-9 07/15/24 19:45 • (MSD) R4094109-10 07/15/24 19:53

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0264	0.0275	87.9	91.7	1	75.0-125			4.30	20

Method Blank (MB)

(MB) R4092712-1 07/11/24 15:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	ND		0.00750	0.0100
Arsenic	ND		0.00650	0.0100
Barium	ND		0.00170	0.00500
Beryllium	ND		0.000700	0.00200
Cadmium	ND		0.000700	0.00200
Calcium	ND		0.0463	1.00
Chromium	ND		0.00140	0.0100
Cobalt	ND		0.00230	0.0100
Copper	ND		0.00530	0.0100
Lead	0.00247		0.00190	0.00500
Magnesium	ND		0.0111	1.00
Molybdenum	ND		0.00160	0.00500
Nickel	ND	J	0.00490	0.0100
Potassium	0.162		0.102	1.00
Selenium	ND		0.00740	0.0100
Silver	ND		0.00280	0.00500
Sodium	ND		0.0985	1.00
Thallium	ND		0.00650	0.0100
Vanadium	ND		0.00240	0.0200
Zinc	ND		0.00590	0.0500

Laboratory Control Sample (LCS)

(LCS) R4092712-2 07/11/24 15:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1.00	0.988	98.8	80.0-120	
Arsenic	1.00	0.999	99.9	80.0-120	
Barium	1.00	1.07	107	80.0-120	
Beryllium	1.00	1.03	103	80.0-120	
Cadmium	1.00	0.996	99.6	80.0-120	
Calcium	10.0	10.3	103	80.0-120	
Chromium	1.00	1.06	106	80.0-120	
Cobalt	1.00	1.01	101	80.0-120	
Copper	1.00	1.07	107	80.0-120	
Lead	1.00	1.01	101	80.0-120	
Magnesium	10.0	10.8	108	80.0-120	
Molybdenum	1.00	1.03	103	80.0-120	
Nickel	1.00	0.986	98.6	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4092712-2 07/11/24 15:24

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Potassium	10.0	10.5	105	80.0-120	
Selenium	1.00	0.928	92.8	80.0-120	
Silver	0.200	0.204	102	80.0-120	
Sodium	10.0	10.3	103	80.0-120	
Thallium	1.00	1.02	102	80.0-120	
Vanadium	1.00	1.01	101	80.0-120	
Zinc	1.00	1.01	101	80.0-120	

L1751532-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1751532-01 07/11/24 20:02 • (MS) R4092712-7 07/11/24 20:06 • (MSD) R4092712-8 07/11/24 20:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	ND	1.06	0.957	106	95.7	20	75.0-125			10.2	20
Arsenic	1.00	ND	1.04	1.05	104	105	20	75.0-125			1.30	20
Barium	1.00	81.7	75.8	77.5	0.000	0.000	20	75.0-125	V	V	2.21	20
Beryllium	1.00	ND	0.986	1.02	98.6	102	20	75.0-125			2.95	20
Cadmium	1.00	ND	0.963	0.983	96.3	98.3	20	75.0-125			2.08	20
Calcium	10.0	1300	1200	1220	0.000	0.000	20	75.0-125	V	V	1.55	20
Chromium	1.00	ND	0.967	1.01	96.7	101	20	75.0-125			4.78	20
Cobalt	1.00	ND	0.955	0.982	95.5	98.2	20	75.0-125			2.76	20
Copper	1.00	ND	0.983	1.01	98.3	101	20	75.0-125			2.83	20
Lead	1.00	0.0560	1.03	1.07	103	107	20	75.0-125			3.57	20
Magnesium	10.0	121	121	123	0.978	17.0	20	75.0-125	V	V	1.31	20
Molybdenum	1.00	0.0331	0.995	1.04	96.2	101	20	75.0-125			4.34	20
Nickel	1.00	ND	0.994	1.04	99.4	104	20	75.0-125			4.29	20
Potassium	10.0	72.0	76.1	77.6	41.0	55.3	20	75.0-125	V	V	1.87	20
Selenium	1.00	ND	1.08	1.20	108	120	20	75.0-125			10.9	20
Silver	0.200	ND	0.206	0.206	103	103	20	75.0-125			0.187	20
Sodium	10.0	12300	11300	11400	0.000	0.000	20	75.0-125	V	V	1.46	20
Thallium	1.00	ND	0.937	1.07	93.7	107	20	75.0-125			13.1	20
Vanadium	1.00	ND	1.01	1.03	101	103	20	75.0-125			2.64	20
Zinc	1.00	ND	0.990	1.01	99.0	101	20	75.0-125			2.38	20

Method Blank (MB)

(MB) R4094345-1 07/16/24 12:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic, TCLP	0.0370	J	0.00650	0.100
Barium, TCLP	0.00391		0.00170	0.100
Cadmium, TCLP	ND		0.0463	0.100
Chromium, TCLP	ND		0.00140	0.100
Lead, TCLP	0.0134		0.00190	0.100
Selenium, TCLP	0.0392	J	0.00740	0.100
Silver, TCLP	ND		0.00280	0.100

Laboratory Control Sample (LCS)

(LCS) R4094345-2 07/16/24 12:17

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic, TCLP	10.0	10.2	102	80.0-120	
Barium, TCLP	10.0	9.85	98.5	80.0-120	
Cadmium, TCLP	10.0	10.2	102	80.0-120	
Chromium, TCLP	10.0	10.0	100	80.0-120	
Lead, TCLP	10.0	10.1	101	80.0-120	
Selenium, TCLP	10.0	10.5	105	80.0-120	
Silver, TCLP	2.00	1.88	93.9	80.0-120	

L1754016-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754016-02 07/16/24 12:18 • (MS) R4094345-4 07/16/24 12:22 • (MSD) R4094345-5 07/16/24 12:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	9.93	9.85	98.6	97.8	1	75.0-125			0.812	20
Barium, TCLP	10.0	ND	9.94	9.89	99.0	98.5	1	75.0-125			0.515	20
Cadmium, TCLP	10.0	ND	9.98	9.93	99.8	99.3	1	75.0-125			0.485	20
Chromium, TCLP	10.0	ND	10.2	10.1	102	101	1	75.0-125			1.08	20
Lead, TCLP	10.0	ND	9.75	9.73	97.5	97.3	1	75.0-125			0.250	20
Selenium, TCLP	10.0	ND	9.67	9.76	96.2	97.1	1	75.0-125			0.923	20
Silver, TCLP	2.00	ND	1.89	1.85	94.5	92.5	1	75.0-125			2.21	20

L1754395-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1754395-02 07/16/24 12:25 • (MS) R4094345-6 07/16/24 12:27 • (MSD) R4094345-7 07/16/24 12:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	10.5	10.5	104	104	1	75.0-125			0.204	20
Barium, TCLP	10.0	ND	9.88	9.94	98.8	99.4	1	75.0-125			0.589	20
Cadmium, TCLP	10.0	ND	10.3	10.3	103	103	1	75.0-125			0.0571	20
Chromium, TCLP	10.0	ND	10.1	10.2	101	102	1	75.0-125			0.284	20
Lead, TCLP	10.0	ND	10.1	10.2	101	102	1	75.0-125			0.294	20
Selenium, TCLP	10.0	ND	10.7	10.8	107	108	1	75.0-125			0.879	20
Silver, TCLP	2.00	ND	1.89	1.90	94.3	94.8	1	75.0-125			0.556	20

Method Blank (MB)

(MB) R4094554-4 07/13/24 13:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.120	0.500
1,1,1-Trichloroethane	ND		0.0940	0.500
1,1,2,2-Tetrachloroethane	ND		0.130	0.500
1,1,2-Trichloroethane	ND		0.186	0.500
1,1-Dichloroethane	ND		0.114	0.500
1,1-Dichloroethene	ND		0.188	0.500
1,2,3-Trichloropropane	ND		0.247	2.50
1,2-Dibromo-3-Chloropropane	ND		0.325	2.50
1,2-Dibromoethane	ND		0.193	0.500
1,2-Dichloroethane	ND		0.108	0.500
1,2-Dichloropropane	ND		0.190	0.500
2-Butanone (MEK)	ND		1.28	5.00
2-Chloroethyl vinyl ether	ND		0.575	50.0
2-Hexanone	ND		0.757	5.00
4-Methyl-2-pentanone (MIBK)	ND		0.823	5.00
Acetone	ND		1.05	25.0
Acrylonitrile	ND		0.873	5.00
Benzene	ND		0.0896	0.500
Bromochloromethane	ND		0.145	0.500
Bromodichloromethane	ND		0.0800	0.500
Bromoform	ND		0.186	0.500
Bromomethane	ND		0.157	2.50
Carbon disulfide	ND		0.101	0.500
Carbon tetrachloride	ND		0.159	0.500
Chlorobenzene	ND		0.140	0.500
Chloroethane	ND		0.141	2.50
Chloroform	0.621		0.0860	0.500
Chloromethane	ND		0.153	1.25
Dibromochloromethane	ND		0.128	0.500
Dibromomethane	ND		0.117	0.500
Ethylbenzene	ND		0.158	0.500
Iodomethane	ND		0.377	10.0
Methylene Chloride	ND		1.07	2.50
Styrene	ND		0.117	0.500
Tetrachloroethene	ND		0.199	0.500
Toluene	ND		0.412	0.500
Trichloroethene	ND		0.153	0.500
Trichlorofluoromethane	ND		0.130	2.50
Vinyl acetate	ND		0.645	5.00
Vinyl chloride	ND		0.118	0.500

Method Blank (MB)

(MB) R4094554-4 07/13/24 13:49

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	ND		0.316	1.50
cis-1,2-Dichloroethene	ND		0.0933	0.500
cis-1,3-Dichloropropene	ND		0.0976	0.500
trans-1,2-Dichloroethene	ND		0.152	0.500
trans-1,3-Dichloropropene	ND		0.222	0.500
trans-1,4-Dichloro-2-butene	ND		0.257	5.00
(S) 4-Bromofluorobenzene	*97.1*			*77.0-126*
(S) Toluene-d8	*107*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*109*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4094554-1 07/13/24 12:27 • (LCSD) R4094554-2 07/13/24 12:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	5.67	6.02	113	120	75.0-125			5.99	20
1,1,1-Trichloroethane	5.00	5.66	5.62	113	112	73.0-124			0.709	20
1,1,2,2-Tetrachloroethane	5.00	5.14	5.40	103	108	65.0-130			4.93	20
1,1,2-Trichloroethane	5.00	5.52	5.42	110	108	80.0-120			1.83	20
1,1-Dichloroethane	5.00	5.45	5.47	109	109	70.0-126			0.366	20
1,1-Dichloroethene	5.00	5.77	5.42	115	108	71.0-124			6.26	20
1,2,3-Trichloropropane	5.00	5.54	5.46	111	109	73.0-130			1.45	20
1,2-Dibromo-3-Chloropropane	5.00	5.34	5.37	107	107	58.0-134			0.560	20
1,2-Dibromoethane	5.00	5.46	5.59	109	112	80.0-122			2.35	20
1,2-Dichloroethane	5.00	5.60	5.56	112	111	70.0-128			0.717	20
1,2-Dichloropropane	5.00	5.02	5.18	100	104	77.0-125			3.14	20
2-Butanone (MEK)	25.0	25.9	25.9	104	104	44.0-160			0.000	20
2-Chloroethyl vinyl ether	25.0	42.2	43.1	169	172	51.0-160	J J4	J J4	2.11	20
2-Hexanone	25.0	26.1	26.3	104	105	67.0-149			0.763	20
4-Methyl-2-pentanone (MIBK)	25.0	28.3	28.8	113	115	68.0-142			1.75	20
Acetone	25.0	26.8	26.6	107	106	19.0-160			0.749	27
Acrylonitrile	25.0	27.6	27.5	110	110	55.0-149			0.363	20
Benzene	5.00	5.42	5.41	108	108	70.0-123			0.185	20
Bromochloromethane	5.00	6.16	6.21	123	124	76.0-122	J4	J4	0.808	20
Bromodichloromethane	5.00	5.50	5.57	110	111	75.0-120			1.26	20
Bromoform	5.00	5.52	5.52	110	110	68.0-132			0.000	20
Bromomethane	5.00	2.77	3.17	55.4	63.4	10.0-160			13.5	25
Carbon disulfide	5.00	5.22	5.22	104	104	61.0-128			0.000	20
Carbon tetrachloride	5.00	6.39	6.53	128	131	68.0-126	J4	J4	2.17	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4094554-1 07/13/24 12:27 • (LCSD) R4094554-2 07/13/24 12:47

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chlorobenzene	5.00	5.55	5.62	111	112	80.0-121			1.25	20
Chloroethane	5.00	6.66	6.21	133	124	47.0-150			6.99	20
Chloroform	5.00	5.83	5.81	117	116	73.0-120			0.344	20
Chloromethane	5.00	5.39	5.26	108	105	41.0-142			2.44	20
Dibromochloromethane	5.00	5.64	5.57	113	111	77.0-125			1.25	20
Dibromomethane	5.00	5.69	5.55	114	111	80.0-120			2.49	20
Ethylbenzene	5.00	5.48	5.53	110	111	79.0-123			0.908	20
Iodomethane	25.0	16.4	20.7	65.6	82.8	33.0-147			23.2	26
Methylene Chloride	5.00	5.48	5.19	110	104	67.0-120			5.44	20
Styrene	5.00	5.18	5.34	104	107	73.0-130			3.04	20
Tetrachloroethene	5.00	5.86	6.33	117	127	72.0-132			7.71	20
Toluene	5.00	5.45	5.40	109	108	79.0-120			0.922	20
Trichloroethene	5.00	5.83	5.64	117	113	78.0-124			3.31	20
Trichlorofluoromethane	5.00	6.81	6.86	136	137	59.0-147			0.732	20
Vinyl acetate	25.0	22.1	21.9	88.4	87.6	11.0-160			0.909	20
Vinyl chloride	5.00	6.03	5.78	121	116	67.0-131			4.23	20
Xylenes, Total	15.0	16.1	16.4	107	109	79.0-123			1.85	20
cis-1,2-Dichloroethene	5.00	5.74	5.40	115	108	73.0-120			6.10	20
cis-1,3-Dichloropropene	5.00	5.13	4.98	103	99.6	80.0-123			2.97	20
trans-1,2-Dichloroethene	5.00	5.42	5.58	108	112	73.0-120			2.91	20
trans-1,3-Dichloropropene	5.00	5.64	5.53	113	111	78.0-124			1.97	20
trans-1,4-Dichloro-2-butene	5.00	4.57	5.40	91.4	108	33.0-144	J		16.6	20
(S) 4-Bromofluorobenzene				*95.7*	*95.2*	*77.0-126*				
(S) Toluene-d8				*102*	*104*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*106*	*104*	*70.0-130*				

Method Blank (MB)

(MB) R4093775-3 07/10/24 06:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4,5-Trichlorophenol	ND		0.000236	0.0100
2,4,6-Trichlorophenol	ND		0.000100	0.0100
2,4-Dichlorophenol	ND		0.000102	0.0100
2,4-Dimethylphenol	ND		0.0000636	0.0100
2,4-Dinitrophenol	ND		0.00593	0.0100
2-Chlorophenol	ND		0.000133	0.0100
2-Nitrophenol	ND		0.000117	0.0100
4,6-Dinitro-2-methylphenol	ND		0.00112	0.0100
4-Chloro-3-methylphenol	ND		0.000131	0.0100
4-Nitrophenol	ND		0.000143	0.0100
Benzoic acid	ND		0.00170	0.0500
Pentachlorophenol	ND		0.000313	0.0100
(S) Phenol-d5	*23.2*			*10.0-120*
(S) p-Terphenyl-d14	*64.7*			*10.0-128*
(S) Nitrobenzene-d5	*76.1*			*10.0-127*
(S) 2-Fluorophenol	*32.0*			*10.0-120*
(S) 2-Fluorobiphenyl	*69.7*			*10.0-130*
(S) 2,4,6-Tribromophenol	*53.0*			*10.0-155*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4093775-1 07/10/24 05:49 • (LCSD) R4093775-2 07/10/24 06:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4,5-Trichlorophenol	0.0500	0.0399	0.0383	79.8	76.6	44.0-120			4.09	22
2,4,6-Trichlorophenol	0.0500	0.0381	0.0397	76.2	79.4	42.0-120			4.11	23
2,4-Dichlorophenol	0.0500	0.0327	0.0338	65.4	67.6	36.0-120			3.31	26
2,4-Dimethylphenol	0.0500	0.0410	0.0401	82.0	80.2	33.0-120			2.22	26
2,4-Dinitrophenol	0.0500	0.0342	0.0324	68.4	64.8	10.0-120			5.41	39
2-Chlorophenol	0.0500	0.0302	0.0301	60.4	60.2	25.0-120			0.332	35
2-Nitrophenol	0.0500	0.0340	0.0323	68.0	64.6	31.0-120			5.13	29
4,6-Dinitro-2-methylphenol	0.0500	0.0383	0.0373	76.6	74.6	38.0-138			2.65	25
4-Chloro-3-methylphenol	0.0500	0.0327	0.0322	65.4	64.4	40.0-120			1.54	21
4-Nitrophenol	0.0500	0.0163	0.0126	32.6	25.2	10.0-120			25.6	33
Benzoic acid	0.100	0.0181	0.00765	18.1	7.65	10.0-120	J	J J3 J4	81.2	40
Pentachlorophenol	0.0500	0.0234	0.0185	46.8	37.0	23.0-120			23.4	25
(S) Phenol-d5				*25.1*	*27.7*	*10.0-120*				
(S) p-Terphenyl-d14				*63.8*	*69.3*	*10.0-128*				
(S) Nitrobenzene-d5				*61.0*	*57.4*	*10.0-127*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4093775-1 07/10/24 05:49 • (LCSD) R4093775-2 07/10/24 06:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) 2-Fluorophenol				*38.0*	*39.4*	*10.0-120*				
(S) 2-Fluorobiphenyl				*69.7*	*72.9*	*10.0-130*				
(S) 2,4,6-Tribromophenol				*67.0*	*68.0*	*10.0-155*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to:
Aaron Rebmann

Email To:
chris.kaiser@stantec.com;cory.anderson2@stan

Project Description:
Qrtly WWTP-Leachate List 1(1,4,7,10)

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project #
500

Lab Project #
WMCENIA-00003

Collected by (print):
Mike Harvill

Site/Facility ID #
IA02

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270 100ml Amb NoPres	ALK,Cl,SO4, pH 125mlHDPE-NoPres	BODLL 1L-HDPE-NoPres	CN 250mlHDPEAmb-NaOH	CR6 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3,NO2NO3,PT-LL,TKN 250mlHDPE-H2SO4	OGHEX 1L-Clr-WT-HCl	TCLP Mtls 1L-Clr-NoPres	TSS 1L-HDPE NoPres	Remarks	Sample # (lab only)
LEACHATE POND #1	Comp	GW		7/8/24	1015	15	X	X	X	X	X	X	X	X	X	X		-01
LEACHATE POND #2	↓	GW		↓	1000	15	X	X	X	X	X	X	X	X	X	X		-02
LEACHATE POND #3		GW			0930	15	X	X	X	X	X	X	X	X	X	X		-03
LEACHATE POND #4		GW			0915	15	X	X	X	X	X	X	X	X	X	X		-04

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1754337
Tabl C194
Acctnum: **WMCENIA**
Template: **T237544**
Prelogin: **P1083517**
PM: **364 - T. Alan Harvill**
PB: mv 6/19/24
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR	If preservati... Date/Time
	7/8/24	1500	Fed Ex		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: 60	
					PH-10BDH4321 TRC-3223A228
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/9/24 Time: 900	Hold:
			am		NCF / OK

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to:
Aaron Rebmann

Email To:
chris.kaiser@stantec.com;cory.anderson2@stan

Project Description:
Qrtly WWTP-Leachate List 1(1,4,7,10)

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project #
500

Lab Project #
WMCENIA-00003

Collected by (print): Mike Harr

Site/Facility ID #
IA02

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

V8260LLAP9C 40mlAmb-HCl

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LLAP9C 40mlAmb-HCl	Remarks	Sample # (lab only)
LEACHATE POND #1	Comp	GW		7/8/24	1015	15	X		-01
LEACHATE POND #2	↓	GW		↓	1000	15	X		-02
LEACHATE POND #3		GW			0930	15	X		-03
LEACHATE POND #4	↓	GW		↓	0915	15	X		-04

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1734737

Table #

Acctnum: **WMCENIA**
Template: **T237544**
Prelogin: **P1083517**
PM: **364 - T. Alan Harvill**
PB: MV 6/19/24
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Mike Harr	7/8/24	1500	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 7/9/24 Time: 900	Hold: / Condition: NCF / OK

1754337

Tracking Numbers	[redacted]	Temperature
7315 3205 4280		EDA7 1.7+0.3=2.0
7315 3205 4291		EDA7 3.2+0.3=35
7315 3205 4269		EDA7 4.8+0.3=5.1
7315 3205 4270		EDA7 3.6+0.3=3.9

Arlo
Name

7/9/24
Date

L17[illegible]

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.:

Site Name: Central Disposal

Sample I.D. Leachate Pond 1

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: D — D - Direct, I - Indirect, V - Visual

Sampling Equipment: D — D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other

Sample Type: C — Grab / Composite (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
07/08/2024	1015	8.62	3038	26.9			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Moderate Color: Grey Other:

Sheen Present Y or N (N circled) Foam Present: Y or N (N circled) Floating Solids: Y or N (N circled)

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: Precipitation: Y or N

Specific Comments:

Date	Name	Signature	Company
7/8/24	Mike Hen[illegible]	[signature]	All[illegible]

L1744737

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.:

Site Name: Central Disposal

Sample I.D. Leachate Pond 2

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: [D] D - Direct, I - Indirect, V - Visual

Sampling Equipment: [D] D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other [ ]

Sample Type: [C] Grab / Composite (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
07/08/2024	1000	8.02	~~13338~~ 13358	25.1			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Moderate Color: Grey Other:

Sheen Present [Y] or [N] Foam Present: [Y] or [N] Floating Solids: [Y] or [N]

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: Precipitation: [Y] or [N]

Specific Comments:

Date	Name	Signature	Company
7/8/24	Mike Hamon		ALL-Q

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.:

Site Name: Central Disposal

Sample I.D.: Leachate Pond 3

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: [D] D - Direct, I - Indirect, V - Visual

Sampling Equipment: [D] D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other [ ]

Sample Type: [C] Grab / ~~Composite~~ (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
07/08/2024	0930	8.72	8392	24.2			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Moderate Color: Grey Other:

Sheen Present [Y] or [N] Foam Present: [Y] or [N] Floating Solids: [Y] or [N]

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: Precipitation: [Y] or [N]

Specific Comments:

Date	Name	Signature	Company
7/8/24	Mike Hess	[signature]	All.

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.:

Site Name: Central Disposal

Sample I.D. Leachate Pond 4

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: [D] D - Direct, I - Indirect, V - Visual

Sampling Equipment: [D] D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other [ ]

Sample Type: [C] Grab / Composite (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
07/08/2024	0915	8.36	12760	24.1			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Moderate Color: Grey Other:

Sheen Present [Y] or [N] Foam Present: [Y] or [N] Floating Solids: [Y] or [N]

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: Precipitation: [Y] or [N]

Specific Comments:

Date	Name	Signature	Company
7/8/24	Mike Hess		All.

07/09/24-NCF-L1754337-WMCENIA R2/R3/R4/RX/EX

Time estimate: oh **Time spent:** oh **Grouping date:** 9 July 2024

Members

DP Devin Piedimonte (responsible) AH Alan Harvill

- [ ] Login Clarification needed
- [ ] Chain of custody is incomplete
- [ ] Please specify Metals requested
- [ ] Please specify TCLP requested
- [ ] Received additional samples not listed on COC
- [ ] Sample IDs on containers do not match IDs on COC
- [ ] Client did not "X" analysis
- [ ] Chain of Custody is missing
- [ ] If no COC: Received by:_____
- [ ] If no COC: Date/Time:_____
- [ ] If no COC: Temp./Cont.Rec./pH:_____
- [ ] If no COC: Carrier:_____
- [ ] If no COC: Tracking #:_____
- [ ] Client informed by call
- [ ] Client informed by Email
- [ ] Client informed by Voicemail
- [x] Date/Time:7/9/24 13:14
- [x] PM initials: TAH
- [ ] Client Contact:_____

Comments

Devin Piedimonte *9 July 2024 11:21 AM*

PH not in range for -02 through -04

Alan Harvill *9 July 2024 1:14 PM*

samples collected in pre-preserved containers provided by the lab. The amount of preservative was not adequate to achieve or maintain the target pH. Document with NCF and send to lab for additional preservation.

Devin Piedimonte *9 July 2024 1:33 PM*

Thank you for your time and help. Completed!

ANALYTICAL REPORT

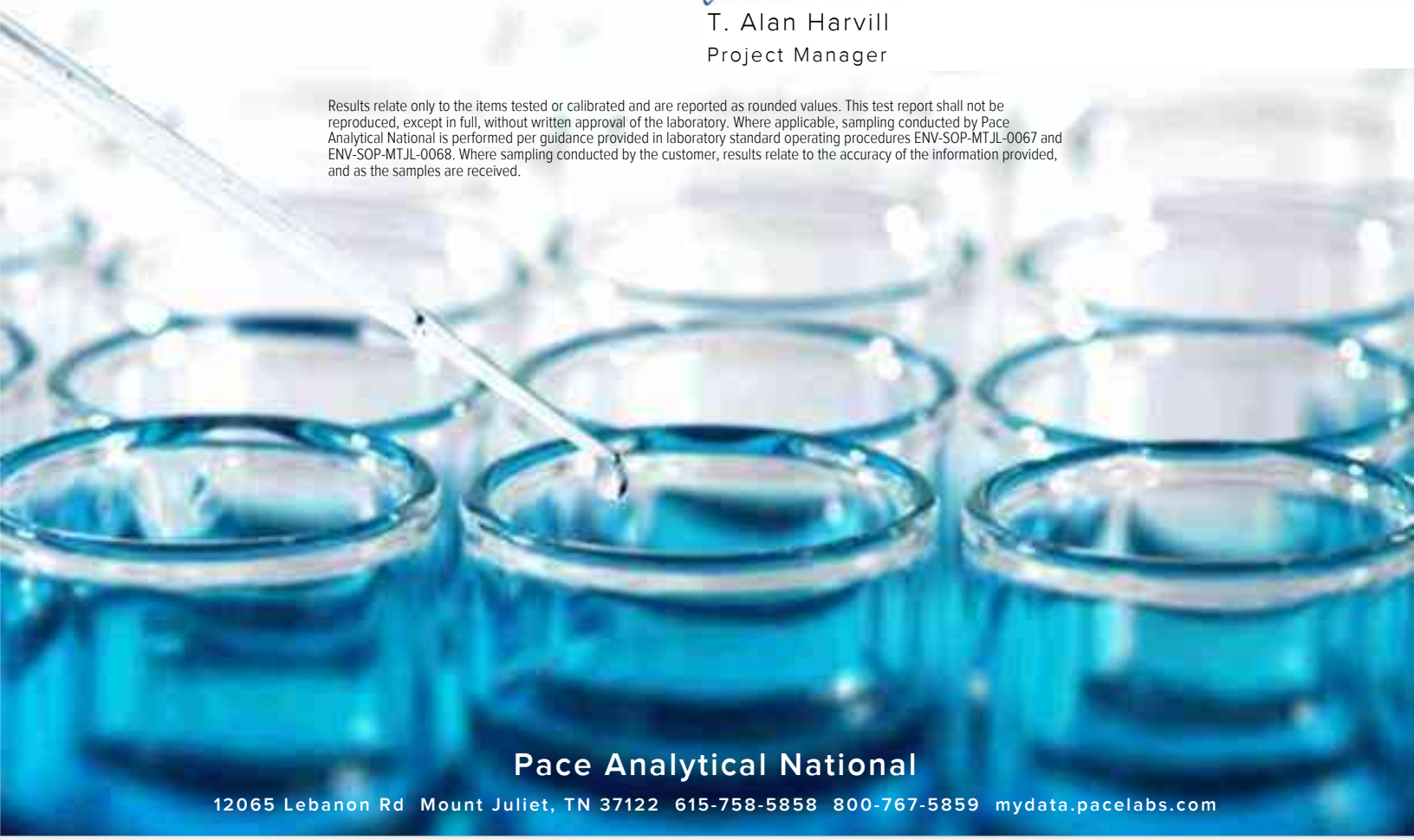
October 18, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1784674
Samples Received:	10/03/2024
Project Number:	500
Description:	Qrtly WWTP-Leachate List 1(1,4,7,10)
Site:	IA02
Report To:	Aaron Rebmann 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

LEACHATE POND #1 L1784674-01 GW

Collected by: Mike H | Collected date/time: 10/02/24 10:00 | Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2375107	1	10/04/24 16:46	10/04/24 16:46	LDT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2375662	1	10/04/24 06:15	10/04/24 15:32	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2382113	1	10/15/24 07:37	10/15/24 10:45	TJL	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2375405	1	10/04/24 12:55	10/04/24 12:55	KA	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2375830	200	10/04/24 16:00	10/04/24 16:00	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2375390	100	10/03/24 20:15	10/04/24 16:46	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2375107	2	10/03/24 16:02	10/03/24 16:02	KMB	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2375230	50	10/03/24 16:41	10/03/24 21:16	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2375180	10	10/03/24 15:35	10/08/24 17:08	MEL	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2374907	2	10/03/24 12:54	10/03/24 12:54	SJA	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2376826	1	10/06/24 14:25	10/06/24 22:00	AEC	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2375545	1	10/04/24 17:00	10/04/24 17:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2375125	50	10/08/24 21:23	10/08/24 21:23	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2375207	1	10/06/24 15:06	10/07/24 12:12	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2378120	1	10/14/24 08:30	10/14/24 12:41	DJS	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2378120	3	10/14/24 08:30	10/14/24 12:47	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2379619	10	10/10/24 18:32	10/10/24 18:32	DWR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2377357	5	10/08/24 15:01	10/18/24 04:01	AMS	Mt. Juliet, TN

LEACHATE POND #1 L1784674-02 Waste

Collected by: Mike H | Collected date/time: 10/02/24 10:00 | Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2375701	1	10/04/24 13:47	10/04/24 13:47	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2376750	1	10/05/24 17:44	10/06/24 17:12	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2376902	1	10/10/24 00:51	10/10/24 09:34	JTM	Mt. Juliet, TN

LEACHATE POND #2 L1784674-03 GW

Collected by: Mike H | Collected date/time: 10/02/24 10:15 | Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2375107	1	10/04/24 16:47	10/04/24 16:47	LDT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2375682	1	10/04/24 09:14	10/04/24 09:18	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2382113	1	10/15/24 07:37	10/15/24 10:45	TJL	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2375405	1	10/04/24 13:25	10/04/24 13:25	KA	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2375830	100	10/04/24 16:06	10/04/24 16:06	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2375390	20	10/03/24 20:15	10/04/24 16:47	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2375107	2	10/03/24 16:04	10/03/24 16:04	KMB	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2375230	50	10/03/24 16:41	10/03/24 21:17	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2375180	10	10/03/24 15:39	10/08/24 17:14	MEL	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2374907	2	10/03/24 12:54	10/03/24 12:54	SJA	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2376826	1	10/06/24 14:25	10/06/24 22:02	AEC	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2375545	1	10/04/24 17:00	10/04/24 17:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2375125	20	10/08/24 21:39	10/08/24 21:39	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2375207	1	10/06/24 15:06	10/07/24 12:14	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2378120	1	10/14/24 08:30	10/14/24 12:42	DJS	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2379619	10	10/10/24 18:54	10/10/24 18:54	DWR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2377357	2.04	10/08/24 15:01	10/18/24 08:59	AMS	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

LEACHATE POND #2 L1784674-04 Waste

Collected by: Mike H | Collected date/time: 10/02/24 10:15 | Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2375701	1	10/04/24 13:47	10/04/24 13:47	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2376750	1	10/05/24 17:44	10/06/24 15:17	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2376902	1	10/10/24 00:51	10/10/24 09:35	JTM	Mt. Juliet, TN

LEACHATE POND #3 L1784674-05 GW

Collected by: Mike H | Collected date/time: 10/02/24 10:45 | Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2375107	1	10/04/24 16:48	10/04/24 16:48	LDT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2375682	1	10/04/24 09:14	10/04/24 09:18	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2382113	1	10/15/24 07:37	10/15/24 10:45	TJL	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2375405	1	10/04/24 13:29	10/04/24 13:29	KA	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2375830	200	10/04/24 16:07	10/04/24 16:07	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2375390	100	10/03/24 20:15	10/04/24 16:48	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2375107	5	10/03/24 16:05	10/03/24 16:05	KMB	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2375230	50	10/03/24 16:41	10/03/24 21:22	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2375180	10	10/03/24 15:46	10/08/24 17:18	MEL	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2374907	2	10/03/24 12:55	10/03/24 12:55	SJA	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2376826	1	10/06/24 14:25	10/06/24 22:03	AEC	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2375545	1	10/04/24 17:00	10/04/24 17:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2375125	50	10/08/24 21:55	10/08/24 21:55	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2375207	1	10/06/24 15:06	10/07/24 12:17	NDL	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2378121	1	10/16/24 10:11	10/16/24 18:17	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2378121	5	10/16/24 10:11	10/16/24 20:13	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2379619	10	10/10/24 19:16	10/10/24 19:16	DWR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2377357	1	10/08/24 15:01	10/18/24 09:20	AMS	Mt. Juliet, TN

LEACHATE POND #3 L1784674-06 Waste

Collected by: Mike H | Collected date/time: 10/02/24 10:45 | Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2375701	1	10/04/24 13:47	10/04/24 13:47	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2376750	1	10/05/24 17:44	10/06/24 15:20	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2376902	1	10/10/24 00:51	10/10/24 09:37	JTM	Mt. Juliet, TN

LEACHATE POND #4 L1784674-07 GW

Collected by: Mike H | Collected date/time: 10/02/24 11:00 | Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Calculated Results	WG2375107	1	10/04/24 16:49	10/04/24 16:49	LDT	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2375992	1	10/04/24 12:51	10/04/24 14:32	DLS	Mt. Juliet, TN
Wet Chemistry by Method 1664B	WG2382113	1	10/15/24 07:37	10/15/24 10:45	TJL	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2375405	1	10/04/24 13:34	10/04/24 13:34	KA	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2375830	200	10/04/24 16:09	10/04/24 16:09	LAS	Mt. Juliet, TN
Wet Chemistry by Method 351.2	WG2375390	100	10/03/24 20:15	10/04/24 16:49	LDT	Mt. Juliet, TN
Wet Chemistry by Method 353.2	WG2375107	2	10/03/24 16:06	10/03/24 16:06	KMB	Mt. Juliet, TN
Wet Chemistry by Method 365.1	WG2375230	50	10/03/24 16:41	10/03/24 21:24	CAT	Mt. Juliet, TN
Wet Chemistry by Method 5210 B-2011	WG2375180	10	10/03/24 15:53	10/08/24 17:25	MEL	Mt. Juliet, TN
Wet Chemistry by Method 7196A	WG2374907	2	10/03/24 12:55	10/03/24 12:55	SJA	Mt. Juliet, TN
Wet Chemistry by Method 9012B	WG2376826	1	10/06/24 14:25	10/06/24 22:05	AEC	Mt. Juliet, TN
Wet Chemistry by Method 9040C	WG2375545	1	10/04/24 17:00	10/04/24 17:00	KRB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2375125	50	10/08/24 22:10	10/08/24 22:10	DLH	Mt. Juliet, TN
Mercury by Method 7470A	WG2375207	1	10/06/24 15:06	10/07/24 12:24	NDL	Mt. Juliet, TN

LEACHATE POND #4 L1784674-07 GW

Collected by: Mike H
Collected date/time: 10/02/24 11:00
Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010C	WG2378121	1	10/16/24 10:11	10/16/24 18:20	MAP	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2378121	5	10/16/24 10:11	10/16/24 20:14	MAP	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260C	WG2379619	10	10/10/24 19:37	10/10/24 19:37	DWR	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 8270E	WG2377357	1	10/08/24 15:01	10/18/24 03:18	AMS	Mt. Juliet, TN

LEACHATE POND #4 L1784674-08 Waste

Collected by: Mike H
Collected date/time: 10/02/24 11:00
Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Preparation by Method 1311	WG2375701	1	10/04/24 13:47	10/04/24 13:47	PNK	Mt. Juliet, TN
Mercury by Method 7470A	WG2376750	1	10/05/24 17:44	10/06/24 15:22	SDG	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2376902	1	10/10/24 00:51	10/10/24 08:55	JTM	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Sample Delivery Group (SDG) Narrative

pH outside of method requirement.

Batch	Method	Lab Sample ID
WG2379619	8260C	L1784674-01, 03, 05, 07

The following samples were prepared and/or analyzed past recommended holding time. Concentrations should be considered minimum values.

Batch	Method	Lab Sample ID
WG2374907	7196A	L1784674-01, 03, 05, 07
WG2375545	9040C	L1784674-01, 03, 05, 07

The laboratory analysis was performed from an unpreserved, insufficiently or inadequately preserved sample.

Batch	Method	Lab Sample ID
WG2382113	1664B	L1784674-01, 05, 07

Wet Chemistry by Method 1664B

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2382113	(MS) R4132828-4	Oil & Grease (Hexane Extr)

Gravimetric Analysis by Method 2540 D-2011

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2375992	(DUP) R4128884-3, L1784674-07	Suspended Solids

Wet Chemistry by Method 351.2

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2375390	(MS) R4128659-4, (MSD) R4128659-5	Kjeldahl Nitrogen, TKN

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG2375390	(MSD) R4128659-5	Kjeldahl Nitrogen, TKN

Metals (ICP) by Method 6010C

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2378121	(MS) R4133699-4, (MSD) R4133699-5	Calcium and Sodium

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2378121	(MS) R4133699-4	Magnesium

Volatile Organic Compounds (GC/MS) by Method 8260C

The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result.

Batch	Lab Sample ID	Analytes
WG2379619	L1784674-05	Acetone

The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.

Batch	Lab Sample ID	Analytes
WG2379619	L1784674-01	trans-1,4-Dichloro-2-butene
WG2379619	L1784674-03	trans-1,4-Dichloro-2-butene
WG2379619	L1784674-05	trans-1,4-Dichloro-2-butene
WG2379619	L1784674-07	trans-1,4-Dichloro-2-butene

The associated batch QC was above the established quality control range for accuracy.

Batch	Lab Sample ID	Analytes
WG2379619	(LCS) R4131121-1, L1784674-01, 03, 05, 07	Methylene Chloride

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG2379619	(MS) R4131121-5, (MSD) R4131121-6	2-Butanone (MEK), 2-Hexanone, 4-Methyl-2-pentanone (MIBK), Chloroethane and Vinyl acetate

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2379619	(MS) R4131121-5, (MSD) R4131121-6	2-Chloroethyl vinyl ether

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG2379619	(MSD) R4131121-6	2-Butanone (MEK)

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.16	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	646		0.100	1	10/04/2024 16:46	WG2375107

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	95.3		4.00	1	10/04/2024 15:32	WG2375662

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	10/15/2024 10:45	WG2382113

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	3570		20.0	1	10/04/2024 12:55	WG2375405
Alkalinity,Bicarbonate	3570		20.0	1	10/04/2024 12:55	WG2375405

Sample Narrative:

L1784674-01 WG2375405: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	474		6.34	200	10/04/2024 16:00	WG2375830

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	646		3.50	100	10/04/2024 16:46	WG2375390

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	2	10/03/2024 16:02	WG2375107

Sample Narrative:

L1784674-01 WG2375107: Dilution due to matrix.

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	10.0		0.0500	50	10/03/2024 21:16	WG2375230

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	157		33.3	10	10/08/2024 17:08	WG2375180

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	2	10/03/2024 12:54	WG2374907

Sample Narrative:
L1784674-01 WG2374907: Dilution due to matrix.

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	0.0119		0.0100	1	10/06/2024 22:00	WG2376826

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.33	T8	1	10/04/2024 17:00	WG2375545

Sample Narrative:
L1784674-01 WG2375545: 8.33 at 21C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	2160		2.60	50	10/08/2024 21:23	WG2375125
Sulfate	27.1		5.00	50	10/08/2024 21:23	WG2375125

Sample Narrative:
L1784674-01 WG2375125: Dilution due to matrix

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/07/2024 12:12	WG2375207

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	10/14/2024 12:41	WG2378120
Arsenic	0.0563		0.0100	1	10/14/2024 12:41	WG2378120
Barium	0.655		0.00500	1	10/14/2024 12:41	WG2378120
Beryllium	ND		0.00200	1	10/14/2024 12:41	WG2378120
Cadmium	ND		0.00200	1	10/14/2024 12:41	WG2378120
Calcium	77.2		1.00	1	10/14/2024 12:41	WG2378120
Chromium	0.0995		0.0100	1	10/14/2024 12:41	WG2378120
Cobalt	0.0379		0.0100	1	10/14/2024 12:41	WG2378120
Copper	ND		0.0100	1	10/14/2024 12:41	WG2378120
Lead	ND		0.00500	1	10/14/2024 12:41	WG2378120
Magnesium	118		1.00	1	10/14/2024 12:41	WG2378120
Molybdenum	ND		0.0100	1	10/14/2024 12:41	WG2378120
Nickel	0.215		0.0100	1	10/14/2024 12:41	WG2378120

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Potassium	427		1.00	1	10/14/2024 12:41	WG2378120
Selenium	ND		0.0250	1	10/14/2024 12:41	WG2378120
Silver	ND		0.00600	1	10/14/2024 12:41	WG2378120
Sodium	1720		1.00	3	10/14/2024 12:47	WG2378120
Thallium	ND		0.0200	1	10/14/2024 12:41	WG2378120
Vanadium	0.0300		0.0200	1	10/14/2024 12:41	WG2378120
Zinc	ND		0.0500	1	10/14/2024 12:41	WG2378120

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.20	10	10/10/2024 18:32	WG2379619
1,1,1-Trichloroethane	ND		1.00	10	10/10/2024 18:32	WG2379619
1,1,2,2-Tetrachloroethane	ND		1.30	10	10/10/2024 18:32	WG2379619
1,1,2-Trichloroethane	ND		1.86	10	10/10/2024 18:32	WG2379619
1,1-Dichloroethane	ND		1.14	10	10/10/2024 18:32	WG2379619
1,1-Dichloroethene	ND		1.88	10	10/10/2024 18:32	WG2379619
1,2,3-Trichloropropane	ND		2.50	10	10/10/2024 18:32	WG2379619
1,2-Dibromo-3-Chloropropane	ND		3.25	10	10/10/2024 18:32	WG2379619
1,2-Dibromoethane	ND		1.93	10	10/10/2024 18:32	WG2379619
1,2-Dichloroethane	ND		1.08	10	10/10/2024 18:32	WG2379619
1,2-Dichloropropane	ND		1.90	10	10/10/2024 18:32	WG2379619
2-Butanone (MEK)	32.1		12.8	10	10/10/2024 18:32	WG2379619
2-Chloroethyl vinyl ether	ND		50.0	10	10/10/2024 18:32	WG2379619
2-Hexanone	ND		7.57	10	10/10/2024 18:32	WG2379619
4-Methyl-2-pentanone (MIBK)	ND		8.23	10	10/10/2024 18:32	WG2379619
Acetone	118		25.0	10	10/10/2024 18:32	WG2379619
Acrylonitrile	ND		8.73	10	10/10/2024 18:32	WG2379619
Benzene	ND		1.00	10	10/10/2024 18:32	WG2379619
Bromochloromethane	ND		1.45	10	10/10/2024 18:32	WG2379619
Bromodichloromethane	ND		1.00	10	10/10/2024 18:32	WG2379619
Bromoform	ND		1.86	10	10/10/2024 18:32	WG2379619
Bromomethane	ND		2.50	10	10/10/2024 18:32	WG2379619
Carbon disulfide	ND		1.01	10	10/10/2024 18:32	WG2379619
Carbon tetrachloride	ND		1.59	10	10/10/2024 18:32	WG2379619
Chlorobenzene	ND		1.40	10	10/10/2024 18:32	WG2379619
Chloroethane	ND		2.50	10	10/10/2024 18:32	WG2379619
Chloroform	ND		1.00	10	10/10/2024 18:32	WG2379619
Chloromethane	ND		1.53	10	10/10/2024 18:32	WG2379619
Dibromochloromethane	ND		1.28	10	10/10/2024 18:32	WG2379619
Dibromomethane	ND		1.17	10	10/10/2024 18:32	WG2379619
Ethylbenzene	ND		1.58	10	10/10/2024 18:32	WG2379619
Iodomethane	ND		10.0	10	10/10/2024 18:32	WG2379619
Methylene Chloride	ND	J4	10.7	10	10/10/2024 18:32	WG2379619
Styrene	ND		1.17	10	10/10/2024 18:32	WG2379619
Tetrachloroethene	ND		1.99	10	10/10/2024 18:32	WG2379619
Toluene	ND		4.12	10	10/10/2024 18:32	WG2379619
Trichloroethene	ND		1.53	10	10/10/2024 18:32	WG2379619
Trichlorofluoromethane	ND		2.50	10	10/10/2024 18:32	WG2379619
Vinyl acetate	ND		6.45	10	10/10/2024 18:32	WG2379619
Vinyl chloride	ND		1.18	10	10/10/2024 18:32	WG2379619
Xylenes, Total	ND		3.16	10	10/10/2024 18:32	WG2379619
cis-1,2-Dichloroethene	ND		1.00	10	10/10/2024 18:32	WG2379619
cis-1,3-Dichloropropene	ND		1.00	10	10/10/2024 18:32	WG2379619
trans-1,2-Dichloroethene	ND		1.52	10	10/10/2024 18:32	WG2379619
trans-1,3-Dichloropropene	ND		2.22	10	10/10/2024 18:32	WG2379619

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
trans-1,4-Dichloro-2-butene	ND	C3	5.00	10	10/10/2024 18:32	WG2379619
(S) 4-Bromofluorobenzene	*105*			*77.0-126*	*10/10/2024 18:32*	WG2379619
(S) Toluene-d8	*92.3*			*80.0-120*	*10/10/2024 18:32*	WG2379619
(S) 1,2-Dichloroethane-d4	*98.8*			*70.0-130*	*10/10/2024 18:32*	WG2379619

Sample Narrative:

L1784674-01 WG2379619: Lowest possible dilution due to sample matrix.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
2,4,6-Trichlorophenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
2,4-Dichlorophenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
2,4-Dimethylphenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
2,4-Dinitrophenol	ND		0.0297	5	10/18/2024 04:01	WG2377357
2-Chlorophenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
2-Nitrophenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
4,6-Dinitro-2-methylphenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
4-Chloro-3-methylphenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
4-Nitrophenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
Benzoic acid	ND		0.0500	5	10/18/2024 04:01	WG2377357
Pentachlorophenol	ND		0.0100	5	10/18/2024 04:01	WG2377357
(S) Phenol-d5	*32.9*			*10.0-120*	*10/18/2024 04:01*	WG2377357
(S) p-Terphenyl-d14	*26.4*			*10.0-128*	*10/18/2024 04:01*	WG2377357
(S) Nitrobenzene-d5	*69.4*			*10.0-127*	*10/18/2024 04:01*	WG2377357
(S) 2-Fluorophenol	*32.6*			*10.0-120*	*10/18/2024 04:01*	WG2377357
(S) 2-Fluorobiphenyl	*55.9*			*10.0-130*	*10/18/2024 04:01*	WG2377357
(S) 2,4,6-Tribromophenol	*80.5*			*10.0-155*	*10/18/2024 04:01*	WG2377357

Sample Narrative:

L1784674-01 WG2377357: Dilution due to matrix

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		10/4/2024 1:47:26 PM	WG2375701
Initial pH	N/A		10/4/2024 1:47:26 PM	WG2375701
Final pH	N/A		10/4/2024 1:47:26 PM	WG2375701

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	10/06/2024 17:12	WG2376750

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	10/10/2024 09:34	WG2376902
Barium, TCLP	0.545		0.100	100	1	10/10/2024 09:34	WG2376902
Cadmium, TCLP	ND		0.100	1	1	10/10/2024 09:34	WG2376902
Chromium, TCLP	ND		0.100	5	1	10/10/2024 09:34	WG2376902
Lead, TCLP	ND		0.100	5	1	10/10/2024 09:34	WG2376902
Selenium, TCLP	ND		0.100	1	1	10/10/2024 09:34	WG2376902
Silver, TCLP	ND		0.100	5	1	10/10/2024 09:34	WG2376902

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.02	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	163		0.100	1	10/04/2024 16:47	WG2375107

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	134		7.00	1	10/04/2024 09:18	WG2375682

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	10/15/2024 10:45	WG2382113

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	1390		20.0	1	10/04/2024 13:25	WG2375405
Alkalinity,Bicarbonate	1390		20.0	1	10/04/2024 13:25	WG2375405

Sample Narrative:

L1784674-03 WG2375405: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	124		3.17	100	10/04/2024 16:06	WG2375830

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	163		0.700	20	10/04/2024 16:47	WG2375390

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	2	10/03/2024 16:04	WG2375107

Sample Narrative:

L1784674-03 WG2375107: Dilution due to matrix.

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	1.82		0.0500	50	10/03/2024 21:17	WG2375230

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	95.7		33.3	10	10/08/2024 17:14	WG2375180

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	2	10/03/2024 12:54	WG2374907

Sample Narrative:
L1784674-03 WG2374907: Dilution due to matrix.

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.0100	1	10/06/2024 22:02	WG2376826

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.10	T8	1	10/04/2024 17:00	WG2375545

Sample Narrative:
L1784674-03 WG2375545: 8.1 at 21.4C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	907		1.04	20	10/08/2024 21:39	WG2375125
Sulfate	10.7		5.00	20	10/08/2024 21:39	WG2375125

Sample Narrative:
L1784674-03 WG2375125: Dilution due to matrix

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/07/2024 12:14	WG2375207

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	10/14/2024 12:42	WG2378120
Arsenic	0.0177		0.0100	1	10/14/2024 12:42	WG2378120
Barium	0.365		0.00500	1	10/14/2024 12:42	WG2378120
Beryllium	ND		0.00200	1	10/14/2024 12:42	WG2378120
Cadmium	ND		0.00200	1	10/14/2024 12:42	WG2378120
Calcium	76.7		1.00	1	10/14/2024 12:42	WG2378120
Chromium	0.0351		0.0100	1	10/14/2024 12:42	WG2378120
Cobalt	0.0106		0.0100	1	10/14/2024 12:42	WG2378120
Copper	ND		0.0100	1	10/14/2024 12:42	WG2378120
Lead	ND		0.00500	1	10/14/2024 12:42	WG2378120
Magnesium	71.1		1.00	1	10/14/2024 12:42	WG2378120
Molybdenum	ND		0.0100	1	10/14/2024 12:42	WG2378120
Nickel	0.0986		0.0100	1	10/14/2024 12:42	WG2378120

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Potassium	182		1.00	1	10/14/2024 12:42	WG2378120
Selenium	ND		0.0250	1	10/14/2024 12:42	WG2378120
Silver	ND		0.00600	1	10/14/2024 12:42	WG2378120
Sodium	725		1.00	1	10/14/2024 12:42	WG2378120
Thallium	ND		0.0200	1	10/14/2024 12:42	WG2378120
Vanadium	ND		0.0200	1	10/14/2024 12:42	WG2378120
Zinc	ND		0.0500	1	10/14/2024 12:42	WG2378120

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.20	10	10/10/2024 18:54	WG2379619
1,1,1-Trichloroethane	ND		1.00	10	10/10/2024 18:54	WG2379619
1,1,2,2-Tetrachloroethane	ND		1.30	10	10/10/2024 18:54	WG2379619
1,1,2-Trichloroethane	ND		1.86	10	10/10/2024 18:54	WG2379619
1,1-Dichloroethane	ND		1.14	10	10/10/2024 18:54	WG2379619
1,1-Dichloroethene	ND		1.88	10	10/10/2024 18:54	WG2379619
1,2,3-Trichloropropane	ND		2.50	10	10/10/2024 18:54	WG2379619
1,2-Dibromo-3-Chloropropane	ND		3.25	10	10/10/2024 18:54	WG2379619
1,2-Dibromoethane	ND		1.93	10	10/10/2024 18:54	WG2379619
1,2-Dichloroethane	ND		1.08	10	10/10/2024 18:54	WG2379619
1,2-Dichloropropane	ND		1.90	10	10/10/2024 18:54	WG2379619
2-Butanone (MEK)	89.3		12.8	10	10/10/2024 18:54	WG2379619
2-Chloroethyl vinyl ether	ND		50.0	10	10/10/2024 18:54	WG2379619
2-Hexanone	ND		7.57	10	10/10/2024 18:54	WG2379619
4-Methyl-2-pentanone (MIBK)	ND		8.23	10	10/10/2024 18:54	WG2379619
Acetone	126		25.0	10	10/10/2024 18:54	WG2379619
Acrylonitrile	ND		8.73	10	10/10/2024 18:54	WG2379619
Benzene	ND		1.00	10	10/10/2024 18:54	WG2379619
Bromochloromethane	ND		1.45	10	10/10/2024 18:54	WG2379619
Bromodichloromethane	ND		1.00	10	10/10/2024 18:54	WG2379619
Bromoform	ND		1.86	10	10/10/2024 18:54	WG2379619
Bromomethane	ND		2.50	10	10/10/2024 18:54	WG2379619
Carbon disulfide	ND		1.01	10	10/10/2024 18:54	WG2379619
Carbon tetrachloride	ND		1.59	10	10/10/2024 18:54	WG2379619
Chlorobenzene	ND		1.40	10	10/10/2024 18:54	WG2379619
Chloroethane	ND		2.50	10	10/10/2024 18:54	WG2379619
Chloroform	ND		1.00	10	10/10/2024 18:54	WG2379619
Chloromethane	ND		1.53	10	10/10/2024 18:54	WG2379619
Dibromochloromethane	ND		1.28	10	10/10/2024 18:54	WG2379619
Dibromomethane	ND		1.17	10	10/10/2024 18:54	WG2379619
Ethylbenzene	ND		1.58	10	10/10/2024 18:54	WG2379619
Iodomethane	ND		10.0	10	10/10/2024 18:54	WG2379619
Methylene Chloride	ND	J4	10.7	10	10/10/2024 18:54	WG2379619
Styrene	ND		1.17	10	10/10/2024 18:54	WG2379619
Tetrachloroethene	ND		1.99	10	10/10/2024 18:54	WG2379619
Toluene	401		4.12	10	10/10/2024 18:54	WG2379619
Trichloroethene	ND		1.53	10	10/10/2024 18:54	WG2379619
Trichlorofluoromethane	ND		2.50	10	10/10/2024 18:54	WG2379619
Vinyl acetate	ND		6.45	10	10/10/2024 18:54	WG2379619
Vinyl chloride	ND		1.18	10	10/10/2024 18:54	WG2379619
Xylenes, Total	ND		3.16	10	10/10/2024 18:54	WG2379619
cis-1,2-Dichloroethene	ND		1.00	10	10/10/2024 18:54	WG2379619
cis-1,3-Dichloropropene	ND		1.00	10	10/10/2024 18:54	WG2379619
trans-1,2-Dichloroethene	ND		1.52	10	10/10/2024 18:54	WG2379619
trans-1,3-Dichloropropene	ND		2.22	10	10/10/2024 18:54	WG2379619

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
trans-1,4-Dichloro-2-butene	ND	C3	5.00	10	10/10/2024 18:54	WG2379619
(S) 4-Bromofluorobenzene	*106*			*77.0-126*	*10/10/2024 18:54*	WG2379619
(S) Toluene-d8	*97.3*			*80.0-120*	*10/10/2024 18:54*	WG2379619
(S) 1,2-Dichloroethane-d4	*101*			*70.0-130*	*10/10/2024 18:54*	WG2379619

Sample Narrative:

L1784674-03 WG2379619: Lowest possible dilution due to sample matrix.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
2,4,6-Trichlorophenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
2,4-Dichlorophenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
2,4-Dimethylphenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
2,4-Dinitrophenol	ND		0.0121	2.04	10/18/2024 08:59	WG2377357
2-Chlorophenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
2-Nitrophenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
4,6-Dinitro-2-methylphenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
4-Chloro-3-methylphenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
4-Nitrophenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
Benzoic acid	ND		0.0500	2.04	10/18/2024 08:59	WG2377357
Pentachlorophenol	ND		0.0100	2.04	10/18/2024 08:59	WG2377357
(S) Phenol-d5	*13.2*			*10.0-120*	*10/18/2024 08:59*	WG2377357
(S) p-Terphenyl-d14	*31.4*			*10.0-128*	*10/18/2024 08:59*	WG2377357
(S) Nitrobenzene-d5	*41.5*			*10.0-127*	*10/18/2024 08:59*	WG2377357
(S) 2-Fluorophenol	*19.1*			*10.0-120*	*10/18/2024 08:59*	WG2377357
(S) 2-Fluorobiphenyl	*37.1*			*10.0-130*	*10/18/2024 08:59*	WG2377357
(S) 2,4,6-Tribromophenol	*39.5*			*10.0-155*	*10/18/2024 08:59*	WG2377357

Sample Narrative:

L1784674-03 WG2377357: Dilution due to matrix impact during extraction procedure

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		10/4/2024 1:47:26 PM	WG2375701
Initial pH	8.12		10/4/2024 1:47:26 PM	WG2375701
Final pH	5.63		10/4/2024 1:47:26 PM	WG2375701

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	10/06/2024 15:17	WG2376750

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	10/10/2024 09:35	WG2376902
Barium, TCLP	ND		0.100	100	1	10/10/2024 09:35	WG2376902
Cadmium, TCLP	ND		0.100	1	1	10/10/2024 09:35	WG2376902
Chromium, TCLP	ND		0.100	5	1	10/10/2024 09:35	WG2376902
Lead, TCLP	ND		0.100	5	1	10/10/2024 09:35	WG2376902
Selenium, TCLP	ND		0.100	1	1	10/10/2024 09:35	WG2376902
Silver, TCLP	ND		0.100	5	1	10/10/2024 09:35	WG2376902

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.39	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	910		0.100	1	10/04/2024 16:48	WG2375107

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	48.7		4.00	1	10/04/2024 09:18	WG2375682

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	10/15/2024 10:45	WG2382113

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	4910		20.0	1	10/04/2024 13:29	WG2375405
Alkalinity,Bicarbonate	4910		20.0	1	10/04/2024 13:29	WG2375405

Sample Narrative:

L1784674-05 WG2375405: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	767		6.34	200	10/04/2024 16:07	WG2375830

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	910		3.50	100	10/04/2024 16:48	WG2375390

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	0.108		0.100	5	10/03/2024 16:05	WG2375107

Sample Narrative:

L1784674-05 WG2375107: Dilution due to matrix.

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	8.45		0.0500	50	10/03/2024 21:22	WG2375230

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	314		100	10	10/08/2024 17:18	WG2375180

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	2	10/03/2024 12:55	WG2374907

Sample Narrative:
L1784674-05 WG2374907: Dilution due to matrix.

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.0100	1	10/06/2024 22:03	WG2376826

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.15	T8	1	10/04/2024 17:00	WG2375545

Sample Narrative:
L1784674-05 WG2375545: 8.15 at 21C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	2310		2.60	50	10/08/2024 21:55	WG2375125
Sulfate	31.8		5.00	50	10/08/2024 21:55	WG2375125

Sample Narrative:
L1784674-05 WG2375125: Dilution due to matrix

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/07/2024 12:17	WG2375207

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	0.0112		0.0100	1	10/16/2024 18:17	WG2378121
Arsenic	0.0646		0.0100	1	10/16/2024 18:17	WG2378121
Barium	1.18		0.00500	1	10/16/2024 18:17	WG2378121
Beryllium	ND		0.00200	1	10/16/2024 18:17	WG2378121
Cadmium	ND		0.00200	1	10/16/2024 18:17	WG2378121
Calcium	179		1.00	1	10/16/2024 18:17	WG2378121
Chromium	0.141		0.0100	1	10/16/2024 18:17	WG2378121
Cobalt	0.0388		0.0100	1	10/16/2024 18:17	WG2378121
Copper	ND		0.0100	1	10/16/2024 18:17	WG2378121
Lead	0.00794		0.00500	1	10/16/2024 18:17	WG2378121
Magnesium	140		1.00	1	10/16/2024 18:17	WG2378121
Molybdenum	ND		0.0100	1	10/16/2024 18:17	WG2378121
Nickel	0.271		0.0100	1	10/16/2024 18:17	WG2378121

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Potassium	486		1.00	1	10/16/2024 18:17	WG2378121
Selenium	ND		0.0250	1	10/16/2024 18:17	WG2378121
Silver	ND		0.00600	1	10/16/2024 18:17	WG2378121
Sodium	1710		1.00	5	10/16/2024 20:13	WG2378121
Thallium	ND		0.0200	1	10/16/2024 18:17	WG2378121
Vanadium	0.0421		0.0200	1	10/16/2024 18:17	WG2378121
Zinc	0.0554		0.0500	1	10/16/2024 18:17	WG2378121

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.20	10	10/10/2024 19:16	WG2379619
1,1,1-Trichloroethane	ND		1.00	10	10/10/2024 19:16	WG2379619
1,1,2,2-Tetrachloroethane	ND		1.30	10	10/10/2024 19:16	WG2379619
1,1,2-Trichloroethane	ND		1.86	10	10/10/2024 19:16	WG2379619
1,1-Dichloroethane	ND		1.14	10	10/10/2024 19:16	WG2379619
1,1-Dichloroethene	ND		1.88	10	10/10/2024 19:16	WG2379619
1,2,3-Trichloropropane	ND		2.50	10	10/10/2024 19:16	WG2379619
1,2-Dibromo-3-Chloropropane	ND		3.25	10	10/10/2024 19:16	WG2379619
1,2-Dibromoethane	ND		1.93	10	10/10/2024 19:16	WG2379619
1,2-Dichloroethane	ND		1.08	10	10/10/2024 19:16	WG2379619
1,2-Dichloropropane	ND		1.90	10	10/10/2024 19:16	WG2379619
2-Butanone (MEK)	431		12.8	10	10/10/2024 19:16	WG2379619
2-Chloroethyl vinyl ether	ND		50.0	10	10/10/2024 19:16	WG2379619
2-Hexanone	ND		7.57	10	10/10/2024 19:16	WG2379619
4-Methyl-2-pentanone (MIBK)	ND		8.23	10	10/10/2024 19:16	WG2379619
Acetone	340	C5	25.0	10	10/10/2024 19:16	WG2379619
Acrylonitrile	ND		8.73	10	10/10/2024 19:16	WG2379619
Benzene	ND		1.00	10	10/10/2024 19:16	WG2379619
Bromochloromethane	ND		1.45	10	10/10/2024 19:16	WG2379619
Bromodichloromethane	ND		1.00	10	10/10/2024 19:16	WG2379619
Bromoform	ND		1.86	10	10/10/2024 19:16	WG2379619
Bromomethane	ND		2.50	10	10/10/2024 19:16	WG2379619
Carbon disulfide	ND		1.01	10	10/10/2024 19:16	WG2379619
Carbon tetrachloride	ND		1.59	10	10/10/2024 19:16	WG2379619
Chlorobenzene	ND		1.40	10	10/10/2024 19:16	WG2379619
Chloroethane	ND		2.50	10	10/10/2024 19:16	WG2379619
Chloroform	ND		1.00	10	10/10/2024 19:16	WG2379619
Chloromethane	ND		1.53	10	10/10/2024 19:16	WG2379619
Dibromochloromethane	ND		1.28	10	10/10/2024 19:16	WG2379619
Dibromomethane	ND		1.17	10	10/10/2024 19:16	WG2379619
Ethylbenzene	ND		1.58	10	10/10/2024 19:16	WG2379619
Iodomethane	ND		10.0	10	10/10/2024 19:16	WG2379619
Methylene Chloride	ND	J4	10.7	10	10/10/2024 19:16	WG2379619
Styrene	ND		1.17	10	10/10/2024 19:16	WG2379619
Tetrachloroethene	ND		1.99	10	10/10/2024 19:16	WG2379619
Toluene	24.4		4.12	10	10/10/2024 19:16	WG2379619
Trichloroethene	ND		1.53	10	10/10/2024 19:16	WG2379619
Trichlorofluoromethane	ND		2.50	10	10/10/2024 19:16	WG2379619
Vinyl acetate	ND		6.45	10	10/10/2024 19:16	WG2379619
Vinyl chloride	ND		1.18	10	10/10/2024 19:16	WG2379619
Xylenes, Total	ND		3.16	10	10/10/2024 19:16	WG2379619
cis-1,2-Dichloroethene	ND		1.00	10	10/10/2024 19:16	WG2379619
cis-1,3-Dichloropropene	ND		1.00	10	10/10/2024 19:16	WG2379619
trans-1,2-Dichloroethene	ND		1.52	10	10/10/2024 19:16	WG2379619
trans-1,3-Dichloropropene	ND		2.22	10	10/10/2024 19:16	WG2379619

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
trans-1,4-Dichloro-2-butene	ND	C3	5.00	10	10/10/2024 19:16	WG2379619
(S) 4-Bromofluorobenzene	*106*			*77.0-126*	*10/10/2024 19:16*	WG2379619
(S) Toluene-d8	*97.1*			*80.0-120*	*10/10/2024 19:16*	WG2379619
(S) 1,2-Dichloroethane-d4	*97.9*			*70.0-130*	*10/10/2024 19:16*	WG2379619

Sample Narrative:

L1784674-05 WG2379619: Lowest possible dilution due to sample matrix.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
2,4,5-Trichlorophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
2,4,6-Trichlorophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
2,4-Dichlorophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
2,4-Dimethylphenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
2,4-Dinitrophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
2-Chlorophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
2-Nitrophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
4,6-Dinitro-2-methylphenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
4-Chloro-3-methylphenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
4-Nitrophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
Benzoic acid	ND		0.0500	1	10/18/2024 09:20	WG2377357
Pentachlorophenol	ND		0.0100	1	10/18/2024 09:20	WG2377357
(S) Phenol-d5	*35.0*			*10.0-120*	*10/18/2024 09:20*	WG2377357
(S) p-Terphenyl-d14	*16.5*			*10.0-128*	*10/18/2024 09:20*	WG2377357
(S) Nitrobenzene-d5	*51.9*			*10.0-127*	*10/18/2024 09:20*	WG2377357
(S) 2-Fluorophenol	*29.3*			*10.0-120*	*10/18/2024 09:20*	WG2377357
(S) 2-Fluorobiphenyl	*37.6*			*10.0-130*	*10/18/2024 09:20*	WG2377357
(S) 2,4,6-Tribromophenol	*67.5*			*10.0-155*	*10/18/2024 09:20*	WG2377357

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		10/4/2024 1:47:26 PM	WG2375701
Initial pH	N/A		10/4/2024 1:47:26 PM	WG2375701
Final pH	N/A		10/4/2024 1:47:26 PM	WG2375701

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	10/06/2024 15:20	WG2376750

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	10/10/2024 09:37	WG2376902
Barium, TCLP	0.885		0.100	100	1	10/10/2024 09:37	WG2376902
Cadmium, TCLP	ND		0.100	1	1	10/10/2024 09:37	WG2376902
Chromium, TCLP	0.146		0.100	5	1	10/10/2024 09:37	WG2376902
Lead, TCLP	ND		0.100	5	1	10/10/2024 09:37	WG2376902
Selenium, TCLP	ND		0.100	1	1	10/10/2024 09:37	WG2376902
Silver, TCLP	ND		0.100	5	1	10/10/2024 09:37	WG2376902

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	8.4	su

Calculated Results

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Total Nitrogen	765		0.100	1	10/04/2024 16:49	WG2375107

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	60.5	P1	4.00	1	10/04/2024 14:32	WG2375992

Wet Chemistry by Method 1664B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Oil & Grease (Hexane Extr)	ND		5.00	1	10/15/2024 10:45	WG2382113

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	4030		20.0	1	10/04/2024 13:34	WG2375405
Alkalinity,Bicarbonate	3950		20.0	1	10/04/2024 13:34	WG2375405

Sample Narrative:

L1784674-07 WG2375405: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	604		6.34	200	10/04/2024 16:09	WG2375830

Wet Chemistry by Method 351.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Kjeldahl Nitrogen, TKN	765		3.50	100	10/04/2024 16:49	WG2375390

Wet Chemistry by Method 353.2

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Nitrate-Nitrite	ND		0.100	2	10/03/2024 16:06	WG2375107

Sample Narrative:

L1784674-07 WG2375107: Dilution due to matrix.

Wet Chemistry by Method 365.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Phosphorus,Total	9.20		0.0500	50	10/03/2024 21:24	WG2375230

Wet Chemistry by Method 5210 B-2011

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
BOD	98.1		33.3	10	10/08/2024 17:25	WG2375180

Wet Chemistry by Method 7196A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chromium,Hexavalent	ND	T8	0.0100	2	10/03/2024 12:55	WG2374907

Sample Narrative:
L1784674-07 WG2374907: Dilution due to matrix.

Wet Chemistry by Method 9012B

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Cyanide	ND		0.0100	1	10/06/2024 22:05	WG2376826

Wet Chemistry by Method 9040C

Analyte	Result su	Qualifier	Dilution	Analysis date / time	Batch
pH	8.35	T8	1	10/04/2024 17:00	WG2375545

Sample Narrative:
L1784674-07 WG2375545: 8.35 at 20.9C

Wet Chemistry by Method 9056A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Chloride	2230		2.60	50	10/08/2024 22:10	WG2375125
Sulfate	28.2		5.00	50	10/08/2024 22:10	WG2375125

Sample Narrative:
L1784674-07 WG2375125: Dilution due to matrix

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Mercury	ND		0.000200	1	10/07/2024 12:24	WG2375207

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.0100	1	10/16/2024 18:20	WG2378121
Arsenic	0.0613		0.0100	1	10/16/2024 18:20	WG2378121
Barium	0.717		0.00500	1	10/16/2024 18:20	WG2378121
Beryllium	ND		0.00200	1	10/16/2024 18:20	WG2378121
Cadmium	ND		0.00200	1	10/16/2024 18:20	WG2378121
Calcium	75.9		1.00	1	10/16/2024 18:20	WG2378121
Chromium	0.0953		0.0100	1	10/16/2024 18:20	WG2378121
Cobalt	0.0405		0.0100	1	10/16/2024 18:20	WG2378121
Copper	ND		0.0100	1	10/16/2024 18:20	WG2378121
Lead	0.00552		0.00500	1	10/16/2024 18:20	WG2378121
Magnesium	122		1.00	1	10/16/2024 18:20	WG2378121
Molybdenum	ND		0.0100	1	10/16/2024 18:20	WG2378121
Nickel	0.229		0.0100	1	10/16/2024 18:20	WG2378121

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Potassium	459		1.00	1	10/16/2024 18:20	WG2378121
Selenium	ND		0.0250	1	10/16/2024 18:20	WG2378121
Silver	ND		0.00600	1	10/16/2024 18:20	WG2378121
Sodium	1600		1.00	5	10/16/2024 20:14	WG2378121
Thallium	ND		0.0200	1	10/16/2024 18:20	WG2378121
Vanadium	0.0339		0.0200	1	10/16/2024 18:20	WG2378121
Zinc	ND		0.0500	1	10/16/2024 18:20	WG2378121

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.20	10	10/10/2024 19:37	WG2379619
1,1,1-Trichloroethane	ND		1.00	10	10/10/2024 19:37	WG2379619
1,1,2,2-Tetrachloroethane	ND		1.30	10	10/10/2024 19:37	WG2379619
1,1,2-Trichloroethane	ND		1.86	10	10/10/2024 19:37	WG2379619
1,1-Dichloroethane	ND		1.14	10	10/10/2024 19:37	WG2379619
1,1-Dichloroethene	ND		1.88	10	10/10/2024 19:37	WG2379619
1,2,3-Trichloropropane	ND		2.50	10	10/10/2024 19:37	WG2379619
1,2-Dibromo-3-Chloropropane	ND		3.25	10	10/10/2024 19:37	WG2379619
1,2-Dibromoethane	ND		1.93	10	10/10/2024 19:37	WG2379619
1,2-Dichloroethane	ND		1.08	10	10/10/2024 19:37	WG2379619
1,2-Dichloropropane	ND		1.90	10	10/10/2024 19:37	WG2379619
2-Butanone (MEK)	ND		12.8	10	10/10/2024 19:37	WG2379619
2-Chloroethyl vinyl ether	ND		50.0	10	10/10/2024 19:37	WG2379619
2-Hexanone	ND		7.57	10	10/10/2024 19:37	WG2379619
4-Methyl-2-pentanone (MIBK)	ND		8.23	10	10/10/2024 19:37	WG2379619
Acetone	101		25.0	10	10/10/2024 19:37	WG2379619
Acrylonitrile	ND		8.73	10	10/10/2024 19:37	WG2379619
Benzene	ND		1.00	10	10/10/2024 19:37	WG2379619
Bromochloromethane	ND		1.45	10	10/10/2024 19:37	WG2379619
Bromodichloromethane	ND		1.00	10	10/10/2024 19:37	WG2379619
Bromoform	ND		1.86	10	10/10/2024 19:37	WG2379619
Bromomethane	ND		2.50	10	10/10/2024 19:37	WG2379619
Carbon disulfide	ND		1.01	10	10/10/2024 19:37	WG2379619
Carbon tetrachloride	ND		1.59	10	10/10/2024 19:37	WG2379619
Chlorobenzene	ND		1.40	10	10/10/2024 19:37	WG2379619
Chloroethane	ND		2.50	10	10/10/2024 19:37	WG2379619
Chloroform	ND		1.00	10	10/10/2024 19:37	WG2379619
Chloromethane	ND		1.53	10	10/10/2024 19:37	WG2379619
Dibromochloromethane	ND		1.28	10	10/10/2024 19:37	WG2379619
Dibromomethane	ND		1.17	10	10/10/2024 19:37	WG2379619
Ethylbenzene	ND		1.58	10	10/10/2024 19:37	WG2379619
Iodomethane	ND		10.0	10	10/10/2024 19:37	WG2379619
Methylene Chloride	ND	J4	10.7	10	10/10/2024 19:37	WG2379619
Styrene	ND		1.17	10	10/10/2024 19:37	WG2379619
Tetrachloroethene	ND		1.99	10	10/10/2024 19:37	WG2379619
Toluene	ND		4.12	10	10/10/2024 19:37	WG2379619
Trichloroethene	ND		1.53	10	10/10/2024 19:37	WG2379619
Trichlorofluoromethane	ND		2.50	10	10/10/2024 19:37	WG2379619
Vinyl acetate	ND		6.45	10	10/10/2024 19:37	WG2379619
Vinyl chloride	ND		1.18	10	10/10/2024 19:37	WG2379619
Xylenes, Total	ND		3.16	10	10/10/2024 19:37	WG2379619
cis-1,2-Dichloroethene	ND		1.00	10	10/10/2024 19:37	WG2379619
cis-1,3-Dichloropropene	ND		1.00	10	10/10/2024 19:37	WG2379619
trans-1,2-Dichloroethene	ND		1.52	10	10/10/2024 19:37	WG2379619
trans-1,3-Dichloropropene	ND		2.22	10	10/10/2024 19:37	WG2379619

Volatile Organic Compounds (GC/MS) by Method 8260C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
trans-1,4-Dichloro-2-butene	ND	C3	5.00	10	10/10/2024 19:37	WG2379619
(S) 4-Bromofluorobenzene	*102*			*77.0-126*	*10/10/2024 19:37*	WG2379619
(S) Toluene-d8	*94.1*			*80.0-120*	*10/10/2024 19:37*	WG2379619
(S) 1,2-Dichloroethane-d4	*98.8*			*70.0-130*	*10/10/2024 19:37*	WG2379619

Sample Narrative:

L1784674-07 WG2379619: Lowest possible dilution due to sample matrix.

Semi Volatile Organic Compounds (GC/MS) by Method 8270E

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
2,4,5-Trichlorophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
2,4,6-Trichlorophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
2,4-Dichlorophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
2,4-Dimethylphenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
2,4-Dinitrophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
2-Chlorophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
2-Nitrophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
4,6-Dinitro-2-methylphenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
4-Chloro-3-methylphenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
4-Nitrophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
Benzoic acid	ND		0.0500	1	10/18/2024 03:18	WG2377357
Pentachlorophenol	ND		0.0100	1	10/18/2024 03:18	WG2377357
(S) Phenol-d5	*28.2*			*10.0-120*	*10/18/2024 03:18*	WG2377357
(S) p-Terphenyl-d14	*15.3*			*10.0-128*	*10/18/2024 03:18*	WG2377357
(S) Nitrobenzene-d5	*55.1*			*10.0-127*	*10/18/2024 03:18*	WG2377357
(S) 2-Fluorophenol	*27.5*			*10.0-120*	*10/18/2024 03:18*	WG2377357
(S) 2-Fluorobiphenyl	*39.8*			*10.0-130*	*10/18/2024 03:18*	WG2377357
(S) 2,4,6-Tribromophenol	*66.8*			*10.0-155*	*10/18/2024 03:18*	WG2377357

Preparation by Method 1311

Analyte	Result	Qualifier	Prep date / time	Batch
TCLP Extraction	-		10/4/2024 1:47:26 PM	WG2375701
Initial pH	N/A		10/4/2024 1:47:26 PM	WG2375701
Final pH	N/A		10/4/2024 1:47:26 PM	WG2375701

Mercury by Method 7470A

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Mercury, TCLP	ND		0.0100	0.20	1	10/06/2024 15:22	WG2376750

Metals (ICP) by Method 6010C

Analyte	Result mg/l	Qualifier	RL mg/l	TCLP Limit mg/l	Dilution	Analysis date / time	Batch
Arsenic, TCLP	ND		0.100	5	1	10/10/2024 08:55	WG2376902
Barium, TCLP	0.607		0.100	100	1	10/10/2024 08:55	WG2376902
Cadmium, TCLP	ND		0.100	1	1	10/10/2024 08:55	WG2376902
Chromium, TCLP	ND		0.100	5	1	10/10/2024 08:55	WG2376902
Lead, TCLP	ND		0.100	5	1	10/10/2024 08:55	WG2376902
Selenium, TCLP	ND		0.100	1	1	10/10/2024 08:55	WG2376902
Silver, TCLP	ND		0.100	5	1	10/10/2024 08:55	WG2376902

Method Blank (MB)

(MB) R4128892-1 10/04/24 15:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1784674-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784674-01 10/04/24 15:32 • (DUP) R4128892-4 10/04/24 15:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	95.3	96.7	1	1.40		10

Laboratory Control Sample (LCS)

(LCS) R4128892-2 10/04/24 15:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	708	91.6	85.0-115	

Method Blank (MB)

(MB) R4128899-1 10/04/24 09:18

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1784674-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1784674-03 10/04/24 09:18 • (DUP) R4128899-3 10/04/24 09:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	134	122	1	9.38		10

L1784674-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1784674-05 10/04/24 09:18 • (DUP) R4128899-4 10/04/24 09:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	48.7	46.0	1	5.64		10

Laboratory Control Sample (LCS)

(LCS) R4128899-2 10/04/24 09:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	760	98.3	85.0-115	

Method Blank (MB)

(MB) R4128884-1 10/04/24 14:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1784674-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1784674-07 10/04/24 14:32 • (DUP) R4128884-3 10/04/24 14:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	60.5	54.0	1	11.4	P1	10

Laboratory Control Sample (LCS)

(LCS) R4128884-2 10/04/24 14:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	768	99.4	85.0-115	

Method Blank (MB)

(MB) R4132828-1 10/15/24 10:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Oil & Grease (Hexane Extr)	ND		1.16	5.00

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4132828-2 10/15/24 10:45 • (LCSD) R4132828-3 10/15/24 10:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Oil & Grease (Hexane Extr)	40.0	34.7	37.7	86.8	94.3	78.0-114			8.29	20

L1784624-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1784624-02 10/15/24 10:45 • (MS) R4132828-4 10/15/24 10:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Oil & Grease (Hexane Extr)	40.0	ND	27.3	68.2	1	78.0-114	J6

Method Blank (MB)

(MB) R4128448-2 10/04/24 10:37

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0
Alkalinity,Bicarbonate	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1783113-27 Original Sample (OS) • Duplicate (DUP)

(OS) L1783113-27 10/04/24 10:45 • (DUP) R4128448-3 10/04/24 10:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	136	134	1	1.72		20
Alkalinity,Bicarbonate	136	134	1	1.72		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1784606-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784606-01 10/04/24 13:10 • (DUP) R4128448-4 10/04/24 13:17

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	232	233	1	0.170		20
Alkalinity,Bicarbonate	232	233	1	0.170		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4128448-1 10/04/24 10:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	101	101	90.0-110	

Laboratory Control Sample (LCS)

(LCS) R4128448-1 10/04/24 10:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4128625-1 10/04/24 15:27

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

L1784407-08 Original Sample (OS) • Duplicate (DUP)

(OS) L1784407-08 10/04/24 15:33 • (DUP) R4128625-3 10/04/24 15:34

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

L1784407-09 Original Sample (OS) • Duplicate (DUP)

(OS) L1784407-09 10/04/24 15:36 • (DUP) R4128625-4 10/04/24 15:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4128625-2 10/04/24 15:28

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.76	103	90.0-110	

L1784407-09 Original Sample (OS) • Matrix Spike (MS)

(OS) L1784407-09 10/04/24 15:36 • (MS) R4128625-5 10/04/24 15:39

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	ND	5.31	106	1	90.0-110	

L1784602-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784602-01 10/04/24 15:46 • (MS) R4128625-6 10/04/24 15:48 • (MSD) R4128625-7 10/04/24 15:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	3.52	8.44	8.46	98.4	98.8	1	90.0-110			0.225	10

Method Blank (MB)

(MB) R4128659-1 10/04/24 15:45

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Kjeldahl Nitrogen, TKN	ND		0.0350	0.250

L1782978-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1782978-03 10/04/24 15:48 • (DUP) R4128659-3 10/04/24 15:49

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Kjeldahl Nitrogen, TKN	ND	ND	1	0.000		20

Sample Narrative:

OS: Duplicate Analysis performed due to spike failure. Results confirm; reporting in hold data

Laboratory Control Sample (LCS)

(LCS) R4128659-2 10/04/24 15:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Kjeldahl Nitrogen, TKN	12.3	14.1	115	80.0-120	

L1782978-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1782978-03 10/04/24 15:48 • (MS) R4128659-4 10/04/24 15:51 • (MSD) R4128659-5 10/04/24 15:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Kjeldahl Nitrogen, TKN	5.00	ND	2.42	0.840	48.4	16.8	1	90.0-110	J6	J3 J6	96.9	20

Sample Narrative:

OS: Duplicate Analysis performed due to spike failure. Results confirm; reporting in hold data

Method Blank (MB)

(MB) R4128029-1 10/03/24 15:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Nitrate-Nitrite	ND		0.0197	0.100

L1784378-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784378-01 10/03/24 15:32 • (DUP) R4128029-3 10/03/24 15:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	1.74	1.74	1	0.000		20

L1784491-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1784491-03 10/03/24 15:43 • (DUP) R4128029-6 10/03/24 15:45

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Nitrate-Nitrite	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4128029-2 10/03/24 15:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nitrate-Nitrite	2.50	2.46	98.4	90.0-110	

L1784378-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784378-01 10/03/24 15:32 • (MS) R4128029-4 10/03/24 15:34 • (MSD) R4128029-5 10/03/24 15:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Nitrate-Nitrite	2.50	1.74	4.23	4.33	99.6	104	1	90.0-110			2.34	20

L1784491-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1784491-03 10/03/24 15:43 • (MS) R4128029-7 10/03/24 15:46

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Nitrate-Nitrite	2.50	ND	2.56	102	1	90.0-110	

Method Blank (MB)

(MB) R4128163-1 10/03/24 21:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phosphorus,Total	ND		0.00100	0.00300

L1784153-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784153-01 10/03/24 21:10 • (DUP) R4128163-3 10/03/24 21:11

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Phosphorus,Total	2.70	2.68	25	0.930		20

Laboratory Control Sample (LCS)

(LCS) R4128163-2 10/03/24 21:05

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Phosphorus,Total	0.0722	0.0704	97.5	78.9-121	

L1784153-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784153-01 10/03/24 21:10 • (MS) R4128163-4 10/03/24 21:13 • (MSD) R4128163-5 10/03/24 21:14

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Phosphorus,Total	1.25	2.70	3.85	3.90	92.0	96.0	25	90.0-110			1.29	20

Method Blank (MB)

(MB) R4130288-1 10/08/24 07:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
BOD	ND		0.200	0.200

L1784600-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784600-01 10/08/24 15:47 • (DUP) R4130288-3 10/08/24 15:50

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	15.4	14.9	1	3.37		30

L1784699-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784699-01 10/08/24 17:33 • (DUP) R4130288-4 10/08/24 17:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
BOD	8.64	7.97	1	8.07		30

Laboratory Control Sample (LCS)

(LCS) R4130288-2 10/08/24 14:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	185	93.6	84.6-115	

Laboratory Control Sample (LCS)

(LCS) R4130288-5 10/08/24 17:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
BOD	198	198	100	84.6-115	

Method Blank (MB)

(MB) R4127873-1 10/03/24 12:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chromium,Hexavalent	ND		0.00300	0.0100

L1784547-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784547-01 10/03/24 12:53 • (DUP) R4127873-5 10/03/24 12:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chromium,Hexavalent	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4127873-2 10/03/24 12:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chromium,Hexavalent	0.500	0.494	98.8	80.0-120	

L1784212-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784212-02 10/03/24 12:52 • (MS) R4127873-3 10/03/24 12:52 • (MSD) R4127873-4 10/03/24 12:52

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chromium,Hexavalent	0.500	ND	0.514	0.492	102	97.8	1	75.0-125			4.37	20

Method Blank (MB)

(MB) R4129178-1 10/06/24 21:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Cyanide	ND		0.00180	0.00500

L1784758-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1784758-02 10/06/24 22:09 • (DUP) R4129178-3 10/06/24 22:10

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

L1784781-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784781-01 10/06/24 22:13 • (DUP) R4129178-4 10/06/24 22:15

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Cyanide	ND	ND	1	0.000		20

Laboratory Control Sample (LCS)

(LCS) R4129178-2 10/06/24 21:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Cyanide	0.100	0.105	105	87.1-120	

L1785304-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1785304-02 10/06/24 22:31 • (MS) R4129178-5 10/06/24 22:32 • (MSD) R4129178-6 10/06/24 22:33

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Cyanide	0.100	ND	0.0968	0.0980	93.2	94.4	1	90.0-110			1.23	20

L1782937-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1782937-01 10/04/24 17:00 • (DUP) R4128707-2 10/04/24 17:00

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	7.65	7.64	1	0.131		1

Sample Narrative:

OS: 7.65 at 21.8C

DUP: 7.64 at 22C

L1784674-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1784674-03 10/04/24 17:00 • (DUP) R4128707-3 10/04/24 17:00

Analyte	Original Result su	DUP Result su	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
pH	8.10	8.09	1	0.124		1

Sample Narrative:

OS: 8.1 at 21.4C

DUP: 8.09 at 21.4C

Laboratory Control Sample (LCS)

(LCS) R4128707-1 10/04/24 17:00

Analyte	Spike Amount su	LCS Result su	LCS Rec. %	Rec. Limits %	LCS Qualifier
pH	10.0	9.97	99.7	99.0-101	

Sample Narrative:

LCS: 9.97 at 21.9C

Method Blank (MB)

(MB) R4130366-1 10/08/24 14:46

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	ND		0.0519	1.00
Sulfate	ND		0.0774	5.00

L1784207-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1784207-01 10/08/24 15:17 • (DUP) R4130366-3 10/08/24 15:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	26.0	26.0	1	0.180		15
Sulfate	43.1	43.2	1	0.121		15

L1784241-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1784241-06 10/08/24 16:52 • (DUP) R4130366-6 10/08/24 17:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	22.1	22.2	1	0.0424		15
Sulfate	12.1	12.1	1	0.134		15

Laboratory Control Sample (LCS)

(LCS) R4130366-2 10/08/24 15:01

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	38.1	95.3	80.0-120	
Sulfate	40.0	37.1	92.8	80.0-120	

L1784207-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784207-01 10/08/24 15:17 • (MS) R4130366-4 10/08/24 15:49 • (MSD) R4130366-5 10/08/24 16:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	26.0	61.1	61.3	87.6	88.2	1	80.0-120			0.400	15
Sulfate	40.0	43.1	75.2	75.5	80.2	80.8	1	80.0-120			0.329	15

L1784241-06 Original Sample (OS) • Matrix Spike (MS)

(OS) L1784241-06 10/08/24 16:52 • (MS) R4130366-7 10/08/24 17:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	22.1	61.1	97.3	1	80.0-120	
Sulfate	40.0	12.1	49.0	92.2	1	80.0-120	

Method Blank (MB)

(MB) R4129474-1 10/07/24 11:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury	ND		0.0000490	0.000200

Laboratory Control Sample (LCS)

(LCS) R4129474-2 10/07/24 11:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury	0.00300	0.00326	109	80.0-120	

L1784658-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784658-01 10/07/24 11:20 • (MS) R4129474-4 10/07/24 11:30 • (MSD) R4129474-5 10/07/24 11:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury	0.00300	ND	0.00325	0.00324	108	108	1	75.0-125			0.468	20

Method Blank (MB)

(MB) R4129144-1 10/06/24 14:33

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Mercury, TCLP	ND		0.0000490	0.0100

Laboratory Control Sample (LCS)

(LCS) R4129144-2 10/06/24 14:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Mercury, TCLP	0.0300	0.0310	103	80.0-120	

L1783685-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1783685-02 10/06/24 14:38 • (MS) R4129144-4 10/06/24 14:46 • (MSD) R4129144-5 10/06/24 14:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0310	0.0311	103	104	1	75.0-125			0.414	20

L1784280-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784280-01 10/06/24 15:02 • (MS) R4129144-6 10/06/24 15:04 • (MSD) R4129144-7 10/06/24 15:07

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Mercury, TCLP	0.0300	ND	0.0304	0.0308	101	103	1	75.0-125			1.53	20

Method Blank (MB)

(MB) R4131035-1 10/10/24 09:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Arsenic, TCLP	ND		0.00650	0.100
Barium, TCLP	ND		0.00170	0.100
Cadmium, TCLP	ND		0.0463	0.100
Chromium, TCLP	0.00259		0.00140	0.100
Lead, TCLP	0.0133		0.00190	0.100
Selenium, TCLP	0.0492	J	0.00740	0.100
Silver, TCLP	0.0129		0.00280	0.100

Laboratory Control Sample (LCS)

(LCS) R4131035-2 10/10/24 09:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Arsenic, TCLP	10.0	10.5	105	80.0-120	
Barium, TCLP	10.0	10.3	103	80.0-120	
Cadmium, TCLP	10.0	10.2	102	80.0-120	
Chromium, TCLP	10.0	10.3	103	80.0-120	
Lead, TCLP	10.0	10.3	103	80.0-120	
Selenium, TCLP	10.0	10.4	104	80.0-120	
Silver, TCLP	2.00	2.14	107	80.0-120	

L1783685-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1783685-02 10/10/24 09:05 • (MS) R4131035-4 10/10/24 09:09 • (MSD) R4131035-5 10/10/24 09:10

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	10.6	10.5	105	104	1	75.0-125			1.08	20
Barium, TCLP	10.0	0.356	10.5	10.4	102	100	1	75.0-125			1.63	20
Cadmium, TCLP	10.0	ND	10.2	10.0	102	100	1	75.0-125			2.10	20
Chromium, TCLP	10.0	ND	10.3	10.1	103	101	1	75.0-125			2.03	20
Lead, TCLP	10.0	ND	10.4	10.2	104	102	1	75.0-125			1.88	20
Selenium, TCLP	10.0	ND	10.4	10.2	104	102	1	75.0-125			1.50	20
Silver, TCLP	2.00	ND	2.13	2.10	106	105	1	75.0-125			1.11	20

L1784561-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784561-02 10/10/24 09:12 • (MS) R4131035-6 10/10/24 09:14 • (MSD) R4131035-7 10/10/24 09:15

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Arsenic, TCLP	10.0	ND	10.6	10.4	105	103	1	75.0-125			1.78	20
Barium, TCLP	10.0	0.301	10.4	10.2	101	99.0	1	75.0-125			2.05	20
Cadmium, TCLP	10.0	ND	10.2	9.90	102	99.0	1	75.0-125			3.00	20
Chromium, TCLP	10.0	ND	10.3	10.0	103	100	1	75.0-125			2.80	20
Lead, TCLP	10.0	ND	10.4	10.1	104	101	1	75.0-125			2.96	20
Selenium, TCLP	10.0	ND	10.5	10.4	105	103	1	75.0-125			1.71	20
Silver, TCLP	2.00	ND	2.14	2.09	107	104	1	75.0-125			2.49	20

Method Blank (MB)

(MB) R4132327-1 10/14/24 11:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	ND		0.00750	0.0100
Arsenic	ND		0.00650	0.0100
Barium	ND		0.00170	0.00500
Beryllium	ND		0.000700	0.00200
Cadmium	ND		0.000700	0.00200
Calcium	ND		0.0463	1.00
Chromium	ND		0.00140	0.0100
Cobalt	ND		0.00230	0.0100
Copper	ND		0.00530	0.0100
Lead	ND		0.00190	0.00500
Magnesium	0.0185		0.0111	1.00
Molybdenum	ND		0.00160	0.00500
Nickel	ND		0.00490	0.0100
Potassium	0.248		0.102	1.00
Selenium	0.00811	J	0.00740	0.0100
Silver	ND		0.00280	0.00500
Sodium	ND		0.0985	1.00
Thallium	ND		0.00650	0.0100
Vanadium	ND		0.00240	0.0200
Zinc	ND		0.00590	0.0500

Laboratory Control Sample (LCS)

(LCS) R4132327-2 10/14/24 11:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1.00	0.932	93.2	80.0-120	
Arsenic	1.00	0.956	95.6	80.0-120	
Barium	1.00	0.980	98.0	80.0-120	
Beryllium	1.00	0.963	96.3	80.0-120	
Cadmium	1.00	0.965	96.5	80.0-120	
Calcium	10.0	10.2	102	80.0-120	
Chromium	1.00	0.972	97.2	80.0-120	
Cobalt	1.00	0.938	93.8	80.0-120	
Copper	1.00	0.927	92.7	80.0-120	
Lead	1.00	0.962	96.2	80.0-120	
Magnesium	10.0	9.76	97.6	80.0-120	
Molybdenum	1.00	0.975	97.5	80.0-120	
Nickel	1.00	0.948	94.8	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4132327-2 10/14/24 11:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Potassium	10.0	10.2	102	80.0-120	
Selenium	1.00	0.955	95.5	80.0-120	
Silver	0.200	0.192	96.2	80.0-120	
Sodium	10.0	9.75	97.5	80.0-120	
Thallium	1.00	0.984	98.4	80.0-120	
Vanadium	1.00	0.942	94.2	80.0-120	
Zinc	1.00	0.978	97.8	80.0-120	

L1784264-96 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784264-96 10/14/24 11:59 • (MS) R4132327-4 10/14/24 12:03 • (MSD) R4132327-5 10/14/24 12:04

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	ND	0.913	0.922	91.3	92.2	1	75.0-125			1.05	20
Arsenic	1.00	ND	0.954	0.945	95.4	94.5	1	75.0-125			1.00	20
Barium	1.00	ND	0.976	0.972	97.6	97.2	1	75.0-125			0.394	20
Beryllium	1.00	ND	0.957	0.951	95.7	95.1	1	75.0-125			0.681	20
Cadmium	1.00	ND	0.968	0.956	96.8	95.6	1	75.0-125			1.30	20
Calcium	10.0	ND	10.4	10.2	102	101	1	75.0-125			1.40	20
Chromium	1.00	ND	0.968	0.961	96.8	96.1	1	75.0-125			0.749	20
Cobalt	1.00	ND	0.931	0.935	93.1	93.5	1	75.0-125			0.502	20
Copper	1.00	ND	0.925	0.923	92.5	92.3	1	75.0-125			0.171	20
Lead	1.00	ND	0.950	0.955	95.0	95.5	1	75.0-125			0.557	20
Magnesium	10.0	ND	9.80	9.70	98.0	97.0	1	75.0-125			1.04	20
Molybdenum	1.00	ND	0.972	0.976	97.2	97.6	1	75.0-125			0.343	20
Nickel	1.00	ND	0.942	0.941	94.2	94.1	1	75.0-125			0.127	20
Potassium	10.0	ND	10.4	10.4	100	99.7	1	75.0-125			0.683	20
Selenium	1.00	ND	0.961	0.949	95.3	94.1	1	75.0-125			1.28	20
Silver	0.200	ND	0.195	0.192	97.4	96.2	1	75.0-125			1.31	20
Sodium	10.0	1.03	10.8	10.6	97.8	95.6	1	75.0-125			2.07	20
Thallium	1.00	ND	0.975	0.981	97.5	98.1	1	75.0-125			0.642	20
Vanadium	1.00	ND	0.945	0.937	94.5	93.7	1	75.0-125			0.823	20
Zinc	1.00	ND	0.981	0.974	98.1	97.4	1	75.0-125			0.671	20

Method Blank (MB)

(MB) R4133699-1 10/16/24 18:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Antimony	ND		0.00750	0.0100
Arsenic	ND		0.00650	0.0100
Barium	ND		0.00170	0.00500
Beryllium	ND		0.000700	0.00200
Cadmium	ND		0.000700	0.00200
Calcium	ND		0.0463	1.00
Chromium	ND		0.00140	0.0100
Cobalt	ND		0.00230	0.0100
Copper	ND		0.00530	0.0100
Lead	ND		0.00190	0.00500
Magnesium	ND		0.0111	1.00
Molybdenum	ND		0.00160	0.00500
Nickel	ND		0.00490	0.0100
Potassium	ND		0.102	1.00
Selenium	ND		0.00740	0.0100
Silver	ND		0.00280	0.00500
Sodium	ND		0.0985	1.00
Thallium	ND		0.00650	0.0100
Vanadium	ND		0.00240	0.0200
Zinc	ND		0.00590	0.0500

Laboratory Control Sample (LCS)

(LCS) R4133699-2 10/16/24 18:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Antimony	1.00	0.981	98.1	80.0-120	
Arsenic	1.00	1.00	100	80.0-120	
Barium	1.00	1.02	102	80.0-120	
Beryllium	1.00	0.999	99.9	80.0-120	
Cadmium	1.00	0.981	98.1	80.0-120	
Calcium	10.0	9.53	95.3	80.0-120	
Chromium	1.00	0.982	98.2	80.0-120	
Cobalt	1.00	0.963	96.3	80.0-120	
Copper	1.00	0.968	96.8	80.0-120	
Lead	1.00	0.957	95.7	80.0-120	
Magnesium	10.0	8.83	88.3	80.0-120	
Molybdenum	1.00	1.02	102	80.0-120	
Nickel	1.00	0.937	93.7	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4133699-2 10/16/24 18:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Potassium	10.0	9.83	98.3	80.0-120	
Selenium	1.00	0.974	97.4	80.0-120	
Silver	0.200	0.200	99.8	80.0-120	
Sodium	10.0	10.0	100	80.0-120	
Thallium	1.00	1.00	100	80.0-120	
Vanadium	1.00	0.965	96.5	80.0-120	
Zinc	1.00	0.984	98.4	80.0-120	

L1784771-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784771-01 10/16/24 18:05 • (MS) R4133699-4 10/16/24 18:11 • (MSD) R4133699-5 10/16/24 18:14

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Antimony	1.00	ND	0.974	0.981	97.4	98.1	1	75.0-125			0.754	20
Arsenic	1.00	ND	1.03	1.04	103	103	1	75.0-125			0.468	20
Barium	1.00	0.144	1.10	1.12	95.8	97.2	1	75.0-125			1.30	20
Beryllium	1.00	ND	0.982	0.995	98.2	99.5	1	75.0-125			1.33	20
Cadmium	1.00	ND	0.978	0.989	97.8	98.9	1	75.0-125			1.13	20
Calcium	10.0	125	127	132	23.0	72.6	1	75.0-125	V	V	3.81	20
Chromium	1.00	ND	0.953	0.958	95.3	95.8	1	75.0-125			0.554	20
Cobalt	1.00	ND	0.959	0.971	95.9	97.1	1	75.0-125			1.27	20
Copper	1.00	ND	0.958	0.969	95.8	96.9	1	75.0-125			1.19	20
Lead	1.00	ND	0.940	0.953	94.0	95.3	1	75.0-125			1.46	20
Magnesium	10.0	25.1	32.3	33.5	71.8	83.4	1	75.0-125	J6		3.54	20
Molybdenum	1.00	ND	0.978	0.989	97.8	98.9	1	75.0-125			1.13	20
Nickel	1.00	ND	0.929	0.943	92.7	94.0	1	75.0-125			1.41	20
Potassium	10.0	16.8	25.5	26.2	87.1	94.0	1	75.0-125			2.69	20
Selenium	1.00	ND	0.996	1.01	99.6	101	1	75.0-125			1.34	20
Silver	0.200	ND	0.202	0.205	101	102	1	75.0-125			1.48	20
Sodium	10.0	232	228	237	0.000	51.6	1	75.0-125	V	V	3.92	20
Thallium	1.00	ND	0.959	0.968	95.9	96.8	1	75.0-125			0.969	20
Vanadium	1.00	ND	0.941	0.957	94.1	95.7	1	75.0-125			1.67	20
Zinc	1.00	ND	0.952	0.964	95.2	96.4	1	75.0-125			1.25	20

Method Blank (MB)

(MB) R4131121-4 10/10/24 11:18

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.120	0.500
1,1,1-Trichloroethane	ND		0.0940	0.500
1,1,2,2-Tetrachloroethane	ND		0.130	0.500
1,1,2-Trichloroethane	ND		0.186	0.500
1,1-Dichloroethane	ND		0.114	0.500
1,1-Dichloroethene	ND		0.188	0.500
1,2,3-Trichloropropane	ND		0.247	2.50
1,2-Dibromo-3-Chloropropane	ND		0.325	2.50
1,2-Dibromoethane	ND		0.193	0.500
1,2-Dichloroethane	ND		0.108	0.500
1,2-Dichloropropane	ND		0.190	0.500
2-Butanone (MEK)	ND		1.28	5.00
2-Chloroethyl vinyl ether	ND		0.575	50.0
2-Hexanone	ND		0.757	5.00
4-Methyl-2-pentanone (MIBK)	ND		0.823	5.00
Acetone	ND		1.05	25.0
Acrylonitrile	ND		0.873	5.00
Benzene	ND		0.0896	0.500
Bromochloromethane	ND		0.145	0.500
Bromodichloromethane	ND		0.0800	0.500
Bromoform	ND		0.186	0.500
Bromomethane	ND		0.157	2.50
Carbon disulfide	ND		0.101	0.500
Carbon tetrachloride	ND		0.159	0.500
Chlorobenzene	ND		0.140	0.500
Chloroethane	ND		0.141	2.50
Chloroform	ND		0.0860	0.500
Chloromethane	ND		0.153	1.25
Dibromochloromethane	ND		0.128	0.500
Dibromomethane	ND		0.117	0.500
Ethylbenzene	ND		0.158	0.500
Iodomethane	ND		0.377	10.0
Methylene Chloride	ND		1.07	2.50
Styrene	ND		0.117	0.500
Tetrachloroethene	ND		0.199	0.500
Toluene	ND		0.412	0.500
Trichloroethene	ND		0.153	0.500
Trichlorofluoromethane	ND		0.130	2.50
Vinyl acetate	ND		0.645	5.00
Vinyl chloride	ND		0.118	0.500

Method Blank (MB)

(MB) R4131121-4 10/10/24 11:18

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Xylenes, Total	ND		0.316	1.50
cis-1,2-Dichloroethene	ND		0.0933	0.500
cis-1,3-Dichloropropene	ND		0.0976	0.500
trans-1,2-Dichloroethene	ND		0.152	0.500
trans-1,3-Dichloropropene	ND		0.222	0.500
trans-1,4-Dichloro-2-butene	ND		0.257	5.00
(S) 4-Bromofluorobenzene	*98.0*			*77.0-126*
(S) Toluene-d8	*93.9*			*80.0-120*
(S) 1,2-Dichloroethane-d4	*113*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4131121-1 10/10/24 09:28 • (LCSD) R4131121-2 10/10/24 09:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	5.00	5.20	100	104	75.0-125			3.92	20
1,1,1-Trichloroethane	5.00	5.81	5.64	116	113	73.0-124			2.97	20
1,1,2,2-Tetrachloroethane	5.00	4.60	4.56	92.0	91.2	65.0-130			0.873	20
1,1,2-Trichloroethane	5.00	4.74	4.61	94.8	92.2	80.0-120			2.78	20
1,1-Dichloroethane	5.00	5.66	5.44	113	109	70.0-126			3.96	20
1,1-Dichloroethene	5.00	5.31	4.79	106	95.8	71.0-124			10.3	20
1,2,3-Trichloropropane	5.00	4.63	4.97	92.6	99.4	73.0-130			7.08	20
1,2-Dibromo-3-Chloropropane	5.00	5.24	4.81	105	96.2	58.0-134			8.56	20
1,2-Dibromoethane	5.00	4.63	4.42	92.6	88.4	80.0-122			4.64	20
1,2-Dichloroethane	5.00	6.01	5.76	120	115	70.0-128			4.25	20
1,2-Dichloropropane	5.00	4.95	4.99	99.0	99.8	77.0-125			0.805	20
2-Butanone (MEK)	25.0	26.0	26.3	104	105	44.0-160			1.15	20
2-Chloroethyl vinyl ether	25.0	23.3	23.9	93.2	95.6	51.0-160	J	J	2.54	20
2-Hexanone	25.0	21.2	21.7	84.8	86.8	67.0-149			2.33	20
4-Methyl-2-pentanone (MIBK)	25.0	25.3	25.0	101	100	68.0-142			1.19	20
Acetone	25.0	33.9	34.1	136	136	19.0-160			0.588	27
Acrylonitrile	25.0	30.1	28.7	120	115	55.0-149			4.76	20
Benzene	5.00	4.98	4.75	99.6	95.0	70.0-123			4.73	20
Bromochloromethane	5.00	5.05	4.87	101	97.4	76.0-122			3.63	20
Bromodichloromethane	5.00	5.29	4.95	106	99.0	75.0-120			6.64	20
Bromoform	5.00	4.98	4.61	99.6	92.2	68.0-132			7.72	20
Bromomethane	5.00	6.59	5.44	132	109	10.0-160			19.1	25
Carbon disulfide	5.00	5.15	4.77	103	95.4	61.0-128			7.66	20
Carbon tetrachloride	5.00	5.86	5.65	117	113	68.0-126			3.65	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4131121-1 10/10/24 09:28 • (LCSD) R4131121-2 10/10/24 09:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chlorobenzene	5.00	4.60	4.52	92.0	90.4	80.0-121			1.75	20
Chloroethane	5.00	5.84	5.46	117	109	47.0-150			6.73	20
Chloroform	5.00	5.68	5.26	114	105	73.0-120			7.68	20
Chloromethane	5.00	4.73	4.01	94.6	80.2	41.0-142			16.5	20
Dibromochloromethane	5.00	4.57	4.78	91.4	95.6	77.0-125			4.49	20
Dibromomethane	5.00	5.25	5.36	105	107	80.0-120			2.07	20
Ethylbenzene	5.00	4.91	4.45	98.2	89.0	79.0-123			9.83	20
Iodomethane	25.0	26.6	24.5	106	98.0	33.0-147			8.22	26
Methylene Chloride	5.00	6.18	5.73	124	115	67.0-120	J4		7.56	20
Styrene	5.00	4.63	4.24	92.6	84.8	73.0-130			8.79	20
Tetrachloroethene	5.00	4.89	4.94	97.8	98.8	72.0-132			1.02	20
Toluene	5.00	4.52	4.30	90.4	86.0	79.0-120			4.99	20
Trichloroethene	5.00	5.12	5.00	102	100	78.0-124			2.37	20
Trichlorofluoromethane	5.00	6.18	5.84	124	117	59.0-147			5.66	20
Vinyl acetate	25.0	30.8	30.2	123	121	11.0-160			1.97	20
Vinyl chloride	5.00	5.35	4.89	107	97.8	67.0-131			8.98	20
Xylenes, Total	15.0	14.5	13.9	96.7	92.7	79.0-123			4.23	20
cis-1,2-Dichloroethene	5.00	5.19	4.74	104	94.8	73.0-120			9.06	20
cis-1,3-Dichloropropene	5.00	5.02	4.95	100	99.0	80.0-123			1.40	20
trans-1,2-Dichloroethene	5.00	5.37	4.96	107	99.2	73.0-120			7.94	20
trans-1,3-Dichloropropene	5.00	4.85	4.93	97.0	98.6	78.0-124			1.64	20
trans-1,4-Dichloro-2-butene	5.00	3.96	4.22	79.2	84.4	33.0-144	J	J	6.36	20
(S) 4-Bromofluorobenzene				*101*	*100*	*77.0-126*				
(S) Toluene-d8				*94.2*	*92.8*	*80.0-120*				
(S) 1,2-Dichloroethane-d4				*112*	*108*	*70.0-130*				

L1784402-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784402-03 10/10/24 16:20 • (MS) R4131121-5 10/10/24 19:59 • (MSD) R4131121-6 10/10/24 20:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	ND	5.64	5.46	113	109	1	36.0-151			3.24	29
1,1,1-Trichloroethane	5.00	ND	6.64	6.52	133	130	1	23.0-160			1.82	28
1,1,2,2-Tetrachloroethane	5.00	ND	6.23	6.27	125	125	1	33.0-150			0.640	28
1,1,2-Trichloroethane	5.00	ND	6.04	6.08	121	122	1	35.0-147			0.660	27
1,1-Dichloroethane	5.00	ND	6.77	6.00	135	120	1	25.0-158			12.1	27
1,1-Dichloroethene	5.00	ND	6.97	6.62	139	132	1	11.0-160			5.15	29
1,2,3-Trichloropropane	5.00	ND	6.62	6.46	132	129	1	34.0-151			2.45	29
1,2-Dibromo-3-Chloropropane	5.00	ND	6.77	6.46	135	129	1	22.0-151			4.69	34

L1784402-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784402-03 10/10/24 16:20 • (MS) R4131121-5 10/10/24 19:59 • (MSD) R4131121-6 10/10/24 20:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,2-Dibromoethane	5.00	ND	5.96	5.88	119	118	1	34.0-147			1.35	27
1,2-Dichloroethane	5.00	ND	6.64	6.80	133	136	1	29.0-151			2.38	27
1,2-Dichloropropane	5.00	ND	6.66	6.05	133	121	1	30.0-156			9.60	27
2-Butanone (MEK)	25.0	ND	44.4	25.7	178	103	1	10.0-160	J5	J3	53.4	32
2-Chloroethyl vinyl ether	25.0	ND	ND	ND	0.000	0.000	1	10.0-160	J6	J6	0.000	31
2-Hexanone	25.0	ND	46.0	44.2	184	177	1	21.0-160	J5	J5	3.99	29
4-Methyl-2-pentanone (MIBK)	25.0	ND	40.9	39.2	164	157	1	29.0-160	J5		4.24	29
Acetone	25.0	ND	ND	ND	83.6	80.4	1	10.0-160			3.90	35
Acrylonitrile	25.0	ND	27.0	24.0	108	96.0	1	21.0-160			11.8	32
Benzene	5.00	ND	6.33	5.92	127	118	1	17.0-158			6.69	27
Bromochloromethane	5.00	ND	5.81	4.71	116	94.2	1	38.0-142			20.9	26
Bromodichloromethane	5.00	ND	5.01	5.38	100	108	1	31.0-150			7.12	27
Bromoform	5.00	ND	2.95	2.91	59.0	58.2	1	29.0-150			1.37	29
Bromomethane	5.00	ND	7.37	7.12	147	142	1	10.0-160			3.45	38
Carbon disulfide	5.00	ND	6.29	5.85	126	117	1	10.0-156			7.25	28
Carbon tetrachloride	5.00	ND	5.82	5.40	116	108	1	23.0-159			7.49	28
Chlorobenzene	5.00	ND	5.97	5.86	119	117	1	33.0-152			1.86	27
Chloroethane	5.00	ND	9.55	8.46	191	169	1	10.0-160	J5	J5	12.1	30
Chloroform	5.00	ND	6.55	5.44	131	109	1	29.0-154			18.5	28
Chloromethane	5.00	ND	5.83	5.64	117	113	1	10.0-160			3.31	29
Dibromochloromethane	5.00	ND	3.59	3.97	71.8	79.4	1	37.0-149			10.1	27
Dibromomethane	5.00	ND	6.42	6.50	128	130	1	30.0-151			1.24	27
Ethylbenzene	5.00	ND	5.72	5.56	114	111	1	30.0-155			2.84	27
Iodomethane	25.0	ND	31.0	28.0	124	112	1	10.0-160			10.2	40
Methylene Chloride	5.00	ND	6.18	5.26	124	105	1	23.0-144			16.1	28
Styrene	5.00	ND	5.56	5.63	111	113	1	33.0-155			1.25	28
Tetrachloroethene	5.00	ND	5.68	6.00	114	120	1	10.0-160			5.48	27
Toluene	5.00	ND	5.59	5.56	112	111	1	26.0-154			0.538	28
Trichloroethene	5.00	ND	6.47	6.08	129	122	1	10.0-160			6.22	25
Trichlorofluoromethane	5.00	ND	3.83	2.86	76.6	57.2	1	17.0-160			29.0	31
Vinyl acetate	25.0	ND	43.0	33.5	172	134	1	12.0-160	J5		24.8	31
Vinyl chloride	5.00	ND	7.73	7.07	155	141	1	10.0-160			8.92	27
Xylenes, Total	15.0	ND	16.8	16.6	112	111	1	29.0-154			1.20	28
cis-1,2-Dichloroethene	5.00	ND	6.15	5.27	123	105	1	10.0-160			15.4	27
cis-1,3-Dichloropropene	5.00	ND	3.10	2.99	62.0	59.8	1	34.0-149			3.61	28
trans-1,2-Dichloroethene	5.00	ND	6.14	5.87	123	117	1	17.0-153			4.50	27
trans-1,3-Dichloropropene	5.00	ND	2.52	2.26	50.4	45.2	1	32.0-149			10.9	28
trans-1,4-Dichloro-2-butene	5.00	ND	ND	ND	38.8	36.4	1	10.0-157			6.38	37
(S) 4-Bromofluorobenzene					*103*	*102*		*77.0-126*				
(S) Toluene-d8					*91.5*	*93.6*		*80.0-120*				

L1784402-03 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784402-03 10/10/24 16:20 • (MS) R4131121-5 10/10/24 19:59 • (MSD) R4131121-6 10/10/24 20:21

Analyte	Spike Amount ug/l	Original Result ug/l	MS Result ug/l	MSD Result ug/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
(S) 1,2-Dichloroethane-d4					*102*	*85.4*		*70.0-130*				

Method Blank (MB)

(MB) R4131130-3 10/09/24 18:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
2,4,5-Trichlorophenol	ND		0.000236	0.0100
2,4,6-Trichlorophenol	ND		0.000100	0.0100
2,4-Dichlorophenol	ND		0.000102	0.0100
2,4-Dimethylphenol	ND		0.0000636	0.0100
2,4-Dinitrophenol	ND		0.00593	0.0100
2-Chlorophenol	ND		0.000133	0.0100
2-Nitrophenol	ND		0.000117	0.0100
4,6-Dinitro-2-methylphenol	ND		0.00112	0.0100
4-Chloro-3-methylphenol	ND		0.000131	0.0100
4-Nitrophenol	ND		0.000143	0.0100
Benzoic acid	ND		0.00170	0.0500
Pentachlorophenol	ND		0.000313	0.0100
(S) Phenol-d5	*23.9*			*10.0-120*
(S) p-Terphenyl-d14	*75.2*			*10.0-128*
(S) Nitrobenzene-d5	*59.5*			*10.0-127*
(S) 2-Fluorophenol	*36.3*			*10.0-120*
(S) 2-Fluorobiphenyl	*71.9*			*10.0-130*
(S) 2,4,6-Tribromophenol	*59.0*			*10.0-155*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4131130-1 10/09/24 17:18 • (LCSD) R4131130-2 10/09/24 17:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
2,4,5-Trichlorophenol	0.0500	0.0397	0.0357	79.4	71.4	44.0-120			10.6	22
2,4,6-Trichlorophenol	0.0500	0.0374	0.0342	74.8	68.4	42.0-120			8.94	23
2,4-Dichlorophenol	0.0500	0.0299	0.0277	59.8	55.4	36.0-120			7.64	26
2,4-Dimethylphenol	0.0500	0.0233	0.0219	46.6	43.8	33.0-120			6.19	26
2,4-Dinitrophenol	0.0500	0.0378	0.0329	75.6	65.8	10.0-120			13.9	39
2-Chlorophenol	0.0500	0.0228	0.0225	45.6	45.0	25.0-120			1.32	35
2-Nitrophenol	0.0500	0.0321	0.0309	64.2	61.8	31.0-120			3.81	29
4,6-Dinitro-2-methylphenol	0.0500	0.0413	0.0373	82.6	74.6	38.0-138			10.2	25
4-Chloro-3-methylphenol	0.0500	0.0275	0.0245	55.0	49.0	40.0-120			11.5	21
4-Nitrophenol	0.0500	0.0160	0.0146	32.0	29.2	10.0-120			9.15	33
Benzoic acid	0.100	0.0355	0.0364	35.5	36.4	10.0-120	J	J	2.50	40
Pentachlorophenol	0.0500	0.0327	0.0291	65.4	58.2	23.0-120			11.7	25
(S) Phenol-d5				*19.4*	*21.5*	*10.0-120*				
(S) p-Terphenyl-d14				*75.6*	*67.4*	*10.0-128*				
(S) Nitrobenzene-d5				*46.8*	*45.4*	*10.0-127*				

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4131130-1 10/09/24 17:18 • (LCSD) R4131130-2 10/09/24 17:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
(S) 2-Fluorophenol				*28.0*	*28.9*	*10.0-120*				
(S) 2-Fluorobiphenyl				*64.9*	*63.4*	*10.0-130*				
(S) 2,4,6-Tribromophenol				*79.0*	*72.5*	*10.0-155*				

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
C3	The reported concentration is an estimate. The continuing calibration standard associated with this data responded low. Method sensitivity check is acceptable.
C5	The reported concentration is an estimate. The continuing calibration standard associated with this data responded high. Data is likely to show a high bias concerning the result.
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J4	The associated batch QC was outside the established quality control range for accuracy.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
T8	Sample(s) received past/too close to holding time expiration.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to:
Aaron Rebmann

Email To:
chris.kaiser@stantec.com;cory.anderson2@stan

Project Description:
Qrtly WWTP-Leachate List 1(1,4,7,10)

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project #
500

Lab Project #
WMCENIA-00003

Collected by (print):
M. Kaiser

Site/Facility ID #
IA02

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	8270 100ml Amb NoPres	ALK,Cl,SO4, pH 125mlHDPE-NoPres	BODLL 1L-HDPE-NoPres	CN 250mlHDPEAmb-NaOH	CR6 250mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3,NO2NO3,PT-LL,TKN 250mlHDPE-H2SO4	OGHEX 1L-Clr-WT-HCl	TCLP Mtls 1L-Clr-NoPres	TSS 1L-HDPE NoPres	Remarks	Sample # (lab only)
LEACHATE POND #1		GW		10/2/24	1000	15	X	X	X	X	X	X	X	X	X	X		01-02
LEACHATE POND #2		GW		↓	1015	15	X	X	X	X	X	X	X	X	X	X		02-03 04
LEACHATE POND #3		GW		↓	1045	15	X	X	X	X	X	X	X	X	X	X		03-05 06
LEACHATE POND #4		GW		↓	1100	15	X	X	X	X	X	X	X	X	X	X		06-07 08
																	N	F 10/3/24

Analysis / Container / Preservative

Chain of Custody Page 1 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1784194
F158

Acctnum: **WMCENIA**
Template:**T237544**
Prelogin: **P1102355**
PM: **364 - T. Alan Harvill**
PB: **LW 9/24/24**
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP X Y __N
COC Signed/Accurate: X Y __N
Bottles arrive intact: X Y __N
Correct bottles used: X Y __N
Sufficient volume sent: X Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: X Y __N
RAD Screen <0.5 mR/hr: X Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	10/2/24	1500		4	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: 1.6+.3=1.9 °C Bottles Received: 40	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) Christopher D. Gallin	Date: 10/3/24	Time: 0900	Hold:	Condition: NCF / OK

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: **Aaron Rebmann**

Email To: **chris.kaiser@stantec.com;cory.anderson2@stan**

Project Description: **Qrtly WWTP-Leachate List 1(1,4,7,10)**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **500**

Lab Project # **WMCENIA-00003**

Collected by (print): Mike Hawn

Site/Facility ID # **IA02**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ___

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

V8260LLAP9C 40mlAmb-HCl

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	V8260LLAP9C 40mlAmb-HCl	Remarks	Sample # (lab only)
LEACHATE POND #1		GW		10/2/24	1000	15	X		-01/-02
LEACHATE POND #2		GW			1015	15	X		-03/-04
LEACHATE POND #3		GW			1045	15	X		-05/-06
LEACHATE POND #4		GW			1100	15	X		-07/-08

Chain of Custody Page 2 of 2

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1784694

Table #

Acctnum: **WMCENIA**

Template: **T237544**

Prelogin: **P1102355**

PM: **364 - T. Alan Harvill**

PB: **WW 9/24/24**

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	
Mike Hawn	10/2/24	1520	FedEx		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:	If preservation required by Login: Date/Time
				1.6+.3=1.9	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date:	Time:
			Christopher D. Tollison	10/3/24	0900

Hold: | Condition: NCF / OK

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.: _____

Site Name: CDS

Sample I.D. Leachate Pond # 1

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: [D] D - Direct, I - Indirect, V - Visual

Sampling Equipment: [P] D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other [ ]

Sample Type: [G] Grab / Composite (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
10/02/2024	1000	8.16	5552	15.5			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Light Color: Lt. Yellow Other: _____

Sheen Present [Y] or [N] Foam Present: [Y] or [N] Floating Solids: [Y] or [N]

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: _____ Precipitation: [Y] or [N]

Specific Comments: _____

Date	Name	Signature	Company
10/2/2024	Mike Hess		

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.: _____

Site Name: CDS

Sample I.D. Leachate Pond # 2

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: [D] D - Direct, I - Indirect, V - Visual

Sampling Equipment: [P] D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other [ ]

Sample Type: [G] Grab / Composite (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
10/02/2024	1015	8.02	14040	15.8			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Moderate Color: DK Grey Other: _____

Sheen Present [Y] or [N] Foam Present: [Y] or [N] Floating Solids: [Y] or [N]

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: _____ Precipitation: [Y] or [N]

Specific Comments: _____

Date	Name	Signature	Company
10/2/24	Mike Hunter		Allied

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.: _____

Site Name: CDS

Sample I.D.: Leachate Pond #3

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: [D] D - Direct, I - Indirect, V - Visual

Sampling Equipment: [D] D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other [ ]

Sample Type: [G] (Grab) / Composite (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25°C)	Temp °C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
10/02/2024	1045	8.39	12710	15.5			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Moderate Color: Yellow Other: _____

Sheen Present [Y] or [N] Foam Present: [Y] or [N] Floating Solids: [Y] or [N]

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: _____ Precipitation: [Y] or [N]

Specific Comments: _____

Date	Name	Signature	Company
10/2/2024	Mike Howe		Allen

FIELD INFORMATION FORM

Surface Water, Stormwater and Leachate

WASTE MANAGEMENT

Laboratory Use Only / Lab I.D.: _____

Site Name: CDS

Sample I.D. Leachate Pond #4

Sampling Method & Equipment

Purge and Sample Equipment:

Sampling Method: [D] D - Direct, I - Indirect, V - Visual

Sampling Equipment: [D] D - Dipper, T - Transfer Vessel, S - Sample Bottle, O - Other [ ]

Sample Type: [G] (Grab) / Composite (circle one)

Field Measurements

Sample Date MM/DD/YYYY	Sample Time 24 Hr. Clock	pH (std. Units)	CONDUCTIVITY (umhos/cm @ 25"C)	Temp 'C	TURBIDITY (NTUs)	DO mg/L - ppm	eH/ORP (std. Units)
10/02/2024	1100	8.40	11820	15.5			

Record final stabilized field readings.

Field Observations

Sample Appearance: Odor: Moderate Color: Yellow Other: _____

Sheen Present [Y] or [N] Foam Present: [Y] or [N] Floating Solids: [Y] or [N]

Weather Conditions: (required daily, or as conditions change):

Direction/Speed: _____ Precipitation: [Y] or [N]

Specific Comments: _____

Date	Name	Signature	Company
10/2/24	Mike Howe		

Tracking Numbers	Temperature
417169043976	2.5+.3=2.8
417169044001	2.7+.3=3.0
417169043998	1.6+.3=1.9
417169043987	0.6+0.3=0.9

Name

Date

ANALYTICAL REPORT

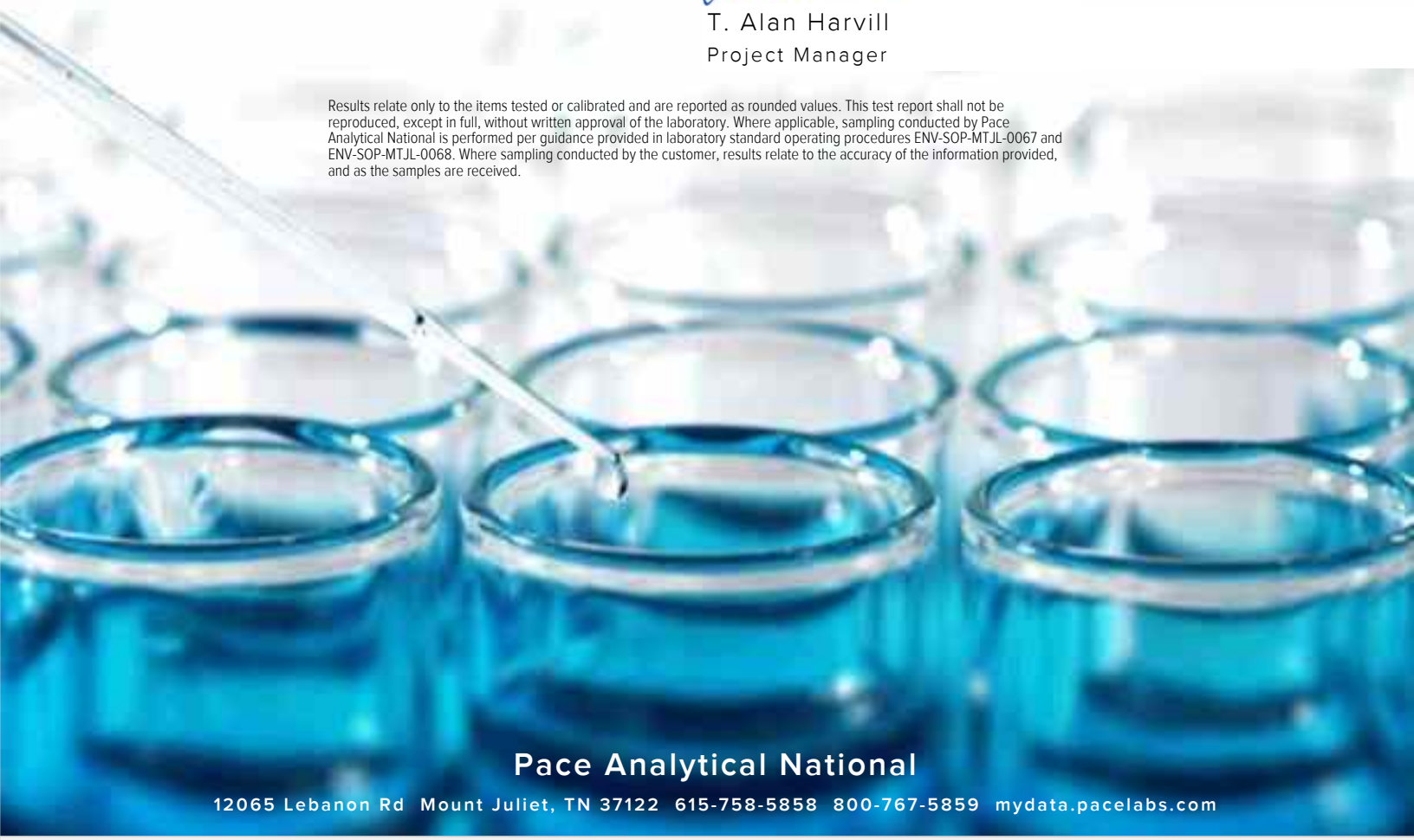
October 18, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1785030
Samples Received:	10/03/2024
Project Number:	500
Description:	Semi-Annual WWTP Leachate List 2
Site:	IA02
Report To:	Aaron Rebmann 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

Leachate Pond #1 L1785030-01 WW

Collected by: Mike Hamer
Collected date/time: 10/02/24 10:00
Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2375732	5	10/04/24 15:14	10/08/24 02:04	LJD	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2375732	5	10/04/24 15:14	10/08/24 02:04	LJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2376820	1	10/07/24 16:17	10/17/24 20:47	AMS	Mt. Juliet, TN

Leachate Pond #2 L1785030-02 WW

Collected by: Mike Hamer
Collected date/time: 10/02/24 10:15
Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2375732	5	10/04/24 15:14	10/05/24 03:34	HCS	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2376929	10	10/04/24 15:14	10/08/24 00:52	LJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2376820	1	10/07/24 16:17	10/17/24 21:29	AMS	Mt. Juliet, TN

Leachate Pond #4 L1785030-03 WW

Collected by: Mike Hamer
Collected date/time: 10/02/24 11:00
Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2375732	5	10/04/24 15:14	10/05/24 03:43	HCS	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2376929	10	10/04/24 15:14	10/08/24 01:02	LJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2376820	1.01	10/07/24 16:17	10/17/24 21:08	AMS	Mt. Juliet, TN

Leachate Pond #3 L1785030-04 WW

Collected by: Mike Hamer
Collected date/time: 10/02/24 10:45
Received date/time: 10/03/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Pesticides (GC) by Method EPA 608.3	WG2375732	5	10/04/24 15:14	10/05/24 03:52	HCS	Mt. Juliet, TN
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2376929	10	10/04/24 15:14	10/08/24 01:53	LJD	Mt. Juliet, TN
Semi Volatile Organic Compounds (GC/MS) by Method 625.1	WG2378053	5	10/08/24 16:08	10/17/24 11:43	LS	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Pesticides (GC) by Method EPA 608.3

Surrogate recovery limits have been exceeded; values are outside lower control limits.

Batch	Analyte	Lab Sample ID
WG2375732	Decachlorobiphenyl	L1785030-01
WG2375732	Tetrachloro-m-xylene	L1785030-01

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Surrogate recovery limits have been exceeded; values are outside lower control limits.

Batch	Analyte	Lab Sample ID
WG2375732	Decachlorobiphenyl	L1785030-01
WG2375732	Tetrachloro-m-xylene	L1785030-01

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Surrogate recovery limits have been exceeded; values are outside lower control limits.

Batch	Analyte	Lab Sample ID
WG2376820	p-Terphenyl-d14	L1785030-01

Pesticides (GC) by Method EPA 608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
4,4-DDD	ND		0.0000850	5	10/08/2024 02:04	WG2375732
4,4-DDE	ND		0.0000820	5	10/08/2024 02:04	WG2375732
4,4-DDT	ND		0.0000885	5	10/08/2024 02:04	WG2375732
Aldrin	ND		0.0000500	5	10/08/2024 02:04	WG2375732
Beta BHC	ND		0.0000920	5	10/08/2024 02:04	WG2375732
Chlordane	ND		0.000500	5	10/08/2024 02:04	WG2375732
Delta BHC	ND		0.0000985	5	10/08/2024 02:04	WG2375732
Dieldrin	ND		0.0000500	5	10/08/2024 02:04	WG2375732
Endosulfan I	ND		0.0000895	5	10/08/2024 02:04	WG2375732
Endosulfan II	ND		0.0000880	5	10/08/2024 02:04	WG2375732
Endosulfan sulfate	ND		0.0000980	5	10/08/2024 02:04	WG2375732
Endrin	ND		0.0000945	5	10/08/2024 02:04	WG2375732
Endrin aldehyde	ND		0.0000710	5	10/08/2024 02:04	WG2375732
Gamma BHC	ND		0.0000880	5	10/08/2024 02:04	WG2375732
Heptachlor	ND		0.0000540	5	10/08/2024 02:04	WG2375732
Heptachlor epoxide	ND		0.0000875	5	10/08/2024 02:04	WG2375732
Toxaphene	ND		0.000840	5	10/08/2024 02:04	WG2375732
(S) Tetrachloro-m-xylene	*3.76*	J2		*10.0-135*	*10/08/2024 02:04*	WG2375732
(S) Decachlorobiphenyl	*4.74*	J2		*10.0-144*	*10/08/2024 02:04*	WG2375732

Sample Narrative:

L1785030-01 WG2375732: Sample produced heavy emulsion during Extraction process, low surr/spike recoveries due to matrix

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.000500	5	10/08/2024 02:04	WG2375732
PCB 1221	ND		0.000500	5	10/08/2024 02:04	WG2375732
PCB 1232	ND		0.000500	5	10/08/2024 02:04	WG2375732
PCB 1242	ND		0.000500	5	10/08/2024 02:04	WG2375732
PCB 1248	ND		0.000500	5	10/08/2024 02:04	WG2375732
PCB 1254	ND		0.000500	5	10/08/2024 02:04	WG2375732
PCB 1260	ND		0.000600	5	10/08/2024 02:04	WG2375732
(S) Tetrachloro-m-xylene	*3.64*	J2		*10.0-135*	*10/08/2024 02:04*	WG2375732
(S) Decachlorobiphenyl	*5.62*	J2		*10.0-144*	*10/08/2024 02:04*	WG2375732

Sample Narrative:

L1785030-01 WG2375732: Sample produced heavy emulsion during Extraction process, low surr/spike recoveries due to matrix

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.0100	1	10/17/2024 20:47	WG2376820
1,2-Dichlorobenzene	ND		0.0100	1	10/17/2024 20:47	WG2376820
1,3-Dichlorobenzene	ND		0.0100	1	10/17/2024 20:47	WG2376820
1,4-Dichlorobenzene	ND		0.0100	1	10/17/2024 20:47	WG2376820
2,4-Dinitrotoluene	ND		0.0100	1	10/17/2024 20:47	WG2376820
2,6-Dinitrotoluene	ND		0.0100	1	10/17/2024 20:47	WG2376820
2-Chloronaphthalene	ND		0.00100	1	10/17/2024 20:47	WG2376820
3,3-Dichlorobenzidine	ND		0.0100	1	10/17/2024 20:47	WG2376820
4-Bromophenyl-phenylether	ND		0.0100	1	10/17/2024 20:47	WG2376820
4-Chlorophenyl-phenylether	ND		0.0100	1	10/17/2024 20:47	WG2376820
Acenaphthene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Acenaphthylene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Anthracene	ND		0.00100	1	10/17/2024 20:47	WG2376820

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Benzo(a)anthracene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Benzo(a)pyrene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Benzo(b)fluoranthene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Benzo(g,h,i)perylene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Benzo(k)fluoranthene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Benzyl alcohol	ND		0.0100	1	10/17/2024 20:47	WG2376820
Benzylbutyl phthalate	ND		0.00300	1	10/17/2024 20:47	WG2376820
Bis(2-Ethylhexyl)phthalate	ND		0.0100	1	10/17/2024 20:47	WG2376820
Bis(2-chlorethoxy)methane	ND		0.0100	1	10/17/2024 20:47	WG2376820
Bis(2-chloroethyl)ether	ND		0.0100	1	10/17/2024 20:47	WG2376820
Chrysene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Di-n-butyl phthalate	ND		0.00300	1	10/17/2024 20:47	WG2376820
Di-n-octyl phthalate	ND		0.00300	1	10/17/2024 20:47	WG2376820
Dibenz(a,h)anthracene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Dibenzofuran	ND		0.0100	1	10/17/2024 20:47	WG2376820
Diethyl phthalate	ND		0.00300	1	10/17/2024 20:47	WG2376820
Dimethyl phthalate	ND		0.00300	1	10/17/2024 20:47	WG2376820
Fluoranthene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Fluorene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Hexachloro-1,3-butadiene	ND		0.0100	1	10/17/2024 20:47	WG2376820
Hexachlorobenzene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Hexachlorocyclopentadiene	ND		0.0100	1	10/17/2024 20:47	WG2376820
Hexachloroethane	ND		0.0100	1	10/17/2024 20:47	WG2376820
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Isophorone	ND		0.0100	1	10/17/2024 20:47	WG2376820
Naphthalene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Nitrobenzene	ND		0.0100	1	10/17/2024 20:47	WG2376820
Phenanthrene	ND		0.00100	1	10/17/2024 20:47	WG2376820
Pyrene	ND		0.00100	1	10/17/2024 20:47	WG2376820
n-Nitrosodi-n-propylamine	ND		0.0100	1	10/17/2024 20:47	WG2376820
n-Nitrosodiphenylamine	ND		0.0100	1	10/17/2024 20:47	WG2376820
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	10/17/2024 20:47	WG2376820
(S) Nitrobenzene-d5	*53.6*			*15.0-314*	*10/17/2024 20:47*	WG2376820
(S) 2-Fluorobiphenyl	*27.2*			*22.0-127*	*10/17/2024 20:47*	WG2376820
(S) p-Terphenyl-d14	*9.36*	J2		*29.0-141*	*10/17/2024 20:47*	WG2376820

Sample Narrative:

L1785030-01 WG2376820: Sample produced heavy emulsion during Extraction process, low surr/spike recoveries due to matrix

Pesticides (GC) by Method EPA 608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
4,4-DDD	ND		0.0000850	5	10/05/2024 03:34	WG2375732
4,4-DDE	ND		0.0000820	5	10/05/2024 03:34	WG2375732
4,4-DDT	ND		0.0000885	5	10/05/2024 03:34	WG2375732
Aldrin	ND		0.0000500	5	10/05/2024 03:34	WG2375732
Beta BHC	ND		0.0000920	5	10/05/2024 03:34	WG2375732
Chlordane	ND		0.000500	5	10/05/2024 03:34	WG2375732
Delta BHC	ND		0.0000985	5	10/05/2024 03:34	WG2375732
Dieldrin	ND		0.0000500	5	10/05/2024 03:34	WG2375732
Endosulfan I	ND		0.0000895	5	10/05/2024 03:34	WG2375732
Endosulfan II	ND		0.0000880	5	10/05/2024 03:34	WG2375732
Endosulfan sulfate	ND		0.0000980	5	10/05/2024 03:34	WG2375732
Endrin	ND		0.0000945	5	10/05/2024 03:34	WG2375732
Endrin aldehyde	ND		0.0000710	5	10/05/2024 03:34	WG2375732
Gamma BHC	ND		0.0000880	5	10/05/2024 03:34	WG2375732
Heptachlor	ND		0.0000540	5	10/05/2024 03:34	WG2375732
Heptachlor epoxide	ND		0.0000875	5	10/05/2024 03:34	WG2375732
Toxaphene	ND		0.000840	5	10/05/2024 03:34	WG2375732
(S) Tetrachloro-m-xylene	*67.2*			*10.0-135*	*10/05/2024 03:34*	WG2375732
(S) Decachlorobiphenyl	*73.4*			*10.0-144*	*10/05/2024 03:34*	WG2375732

Sample Narrative:

L1785030-02 WG2375732: Dilution due to sample volume.

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.00100	10	10/08/2024 00:52	WG2376929
PCB 1221	ND		0.000730	10	10/08/2024 00:52	WG2376929
PCB 1232	ND		0.000500	10	10/08/2024 00:52	WG2376929
PCB 1242	ND		0.000500	10	10/08/2024 00:52	WG2376929
PCB 1248	ND		0.000860	10	10/08/2024 00:52	WG2376929
PCB 1254	ND		0.000500	10	10/08/2024 00:52	WG2376929
PCB 1260	ND		0.00120	10	10/08/2024 00:52	WG2376929
(S) Tetrachloro-m-xylene	*79.0*			*10.0-135*	*10/08/2024 00:52*	WG2376929
(S) Decachlorobiphenyl	*68.2*			*10.0-144*	*10/08/2024 00:52*	WG2376929

Sample Narrative:

L1785030-02 WG2376929: Dilution due to matrix

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.0100	1	10/17/2024 21:29	WG2376820
1,2-Dichlorobenzene	ND		0.0100	1	10/17/2024 21:29	WG2376820
1,3-Dichlorobenzene	ND		0.0100	1	10/17/2024 21:29	WG2376820
1,4-Dichlorobenzene	ND		0.0100	1	10/17/2024 21:29	WG2376820
2,4-Dinitrotoluene	ND		0.0100	1	10/17/2024 21:29	WG2376820
2,6-Dinitrotoluene	ND		0.0100	1	10/17/2024 21:29	WG2376820
2-Chloronaphthalene	ND		0.00100	1	10/17/2024 21:29	WG2376820
3,3-Dichlorobenzidine	ND		0.0100	1	10/17/2024 21:29	WG2376820
4-Bromophenyl-phenylether	ND		0.0100	1	10/17/2024 21:29	WG2376820
4-Chlorophenyl-phenylether	ND		0.0100	1	10/17/2024 21:29	WG2376820
Acenaphthene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Acenaphthylene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Anthracene	ND		0.00100	1	10/17/2024 21:29	WG2376820

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Benzo(a)anthracene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Benzo(a)pyrene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Benzo(b)fluoranthene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Benzo(g,h,i)perylene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Benzo(k)fluoranthene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Benzyl alcohol	ND		0.0100	1	10/17/2024 21:29	WG2376820
Benzylbutyl phthalate	ND		0.00300	1	10/17/2024 21:29	WG2376820
Bis(2-Ethylhexyl)phthalate	ND		0.0100	1	10/17/2024 21:29	WG2376820
Bis(2-chlorethoxy)methane	ND		0.0100	1	10/17/2024 21:29	WG2376820
Bis(2-chloroethyl)ether	ND		0.0100	1	10/17/2024 21:29	WG2376820
Chrysene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Di-n-butyl phthalate	ND		0.00300	1	10/17/2024 21:29	WG2376820
Di-n-octyl phthalate	ND		0.00300	1	10/17/2024 21:29	WG2376820
Dibenz(a,h)anthracene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Dibenzofuran	ND		0.0100	1	10/17/2024 21:29	WG2376820
Diethyl phthalate	0.00797		0.00300	1	10/17/2024 21:29	WG2376820
Dimethyl phthalate	ND		0.00300	1	10/17/2024 21:29	WG2376820
Fluoranthene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Fluorene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Hexachloro-1,3-butadiene	ND		0.0100	1	10/17/2024 21:29	WG2376820
Hexachlorobenzene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Hexachlorocyclopentadiene	ND		0.0100	1	10/17/2024 21:29	WG2376820
Hexachloroethane	ND		0.0100	1	10/17/2024 21:29	WG2376820
Indeno(1,2,3-cd)pyrene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Isophorone	ND		0.0100	1	10/17/2024 21:29	WG2376820
Naphthalene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Nitrobenzene	ND		0.0100	1	10/17/2024 21:29	WG2376820
Phenanthrene	ND		0.00100	1	10/17/2024 21:29	WG2376820
Pyrene	ND		0.00100	1	10/17/2024 21:29	WG2376820
n-Nitrosodi-n-propylamine	ND		0.0100	1	10/17/2024 21:29	WG2376820
n-Nitrosodiphenylamine	ND		0.0100	1	10/17/2024 21:29	WG2376820
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1	10/17/2024 21:29	WG2376820
(S) Nitrobenzene-d5	*56.3*			*15.0-314*	*10/17/2024 21:29*	WG2376820
(S) 2-Fluorobiphenyl	*47.0*			*22.0-127*	*10/17/2024 21:29*	WG2376820
(S) p-Terphenyl-d14	*52.1*			*29.0-141*	*10/17/2024 21:29*	WG2376820

Pesticides (GC) by Method EPA 608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
4,4-DDD	ND		0.0000850	5	10/05/2024 03:43	WG2375732
4,4-DDE	ND		0.0000820	5	10/05/2024 03:43	WG2375732
4,4-DDT	ND		0.0000885	5	10/05/2024 03:43	WG2375732
Aldrin	ND		0.0000500	5	10/05/2024 03:43	WG2375732
Beta BHC	ND		0.0000920	5	10/05/2024 03:43	WG2375732
Chlordane	ND		0.000500	5	10/05/2024 03:43	WG2375732
Delta BHC	ND		0.0000985	5	10/05/2024 03:43	WG2375732
Dieldrin	ND		0.0000500	5	10/05/2024 03:43	WG2375732
Endosulfan I	ND		0.0000895	5	10/05/2024 03:43	WG2375732
Endosulfan II	ND		0.0000880	5	10/05/2024 03:43	WG2375732
Endosulfan sulfate	ND		0.0000980	5	10/05/2024 03:43	WG2375732
Endrin	ND		0.0000945	5	10/05/2024 03:43	WG2375732
Endrin aldehyde	ND		0.0000710	5	10/05/2024 03:43	WG2375732
Gamma BHC	ND		0.0000880	5	10/05/2024 03:43	WG2375732
Heptachlor	ND		0.0000540	5	10/05/2024 03:43	WG2375732
Heptachlor epoxide	ND		0.0000875	5	10/05/2024 03:43	WG2375732
Toxaphene	ND		0.000840	5	10/05/2024 03:43	WG2375732
(S) Tetrachloro-m-xylene	*21.2*			*10.0-135*	*10/05/2024 03:43*	WG2375732
(S) Decachlorobiphenyl	*17.5*			*10.0-144*	*10/05/2024 03:43*	WG2375732

Sample Narrative:

L1785030-03 WG2375732: Dilution due to sample volume.

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.00100	10	10/08/2024 01:02	WG2376929
PCB 1221	ND		0.000730	10	10/08/2024 01:02	WG2376929
PCB 1232	ND		0.000500	10	10/08/2024 01:02	WG2376929
PCB 1242	ND		0.000500	10	10/08/2024 01:02	WG2376929
PCB 1248	ND		0.000860	10	10/08/2024 01:02	WG2376929
PCB 1254	ND		0.000500	10	10/08/2024 01:02	WG2376929
PCB 1260	0.0135		0.00120	10	10/08/2024 01:02	WG2376929
(S) Tetrachloro-m-xylene	*23.8*			*10.0-135*	*10/08/2024 01:02*	WG2376929
(S) Decachlorobiphenyl	*16.0*			*10.0-144*	*10/08/2024 01:02*	WG2376929

Sample Narrative:

L1785030-03 WG2376929: Dilution due to matrix

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
1,2-Dichlorobenzene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
1,3-Dichlorobenzene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
1,4-Dichlorobenzene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
2,4-Dinitrotoluene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
2,6-Dinitrotoluene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
2-Chloronaphthalene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
3,3-Dichlorobenzidine	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
4-Bromophenyl-phenylether	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
4-Chlorophenyl-phenylether	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Acenaphthene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Acenaphthylene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Anthracene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Benzo(a)anthracene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Benzo(a)pyrene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Benzo(b)fluoranthene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Benzo(g,h,i)perylene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Benzo(k)fluoranthene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Benzyl alcohol	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Benzylbutyl phthalate	ND		0.00300	1.01	10/17/2024 21:08	WG2376820
Bis(2-Ethylhexyl)phthalate	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Bis(2-chlorethoxy)methane	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Bis(2-chloroethyl)ether	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Chrysene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Di-n-butyl phthalate	ND		0.00300	1.01	10/17/2024 21:08	WG2376820
Di-n-octyl phthalate	ND		0.00300	1.01	10/17/2024 21:08	WG2376820
Dibenz(a,h)anthracene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Dibenzofuran	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Diethyl phthalate	ND		0.00300	1.01	10/17/2024 21:08	WG2376820
Dimethyl phthalate	ND		0.00300	1.01	10/17/2024 21:08	WG2376820
Fluoranthene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Fluorene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Hexachloro-1,3-butadiene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Hexachlorobenzene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Hexachlorocyclopentadiene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Hexachloroethane	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Indeno(1,2,3-cd)pyrene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Isophorone	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Naphthalene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Nitrobenzene	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
Phenanthrene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
Pyrene	ND		0.00100	1.01	10/17/2024 21:08	WG2376820
n-Nitrosodi-n-propylamine	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
n-Nitrosodiphenylamine	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
2,2-Oxybis(1-Chloropropane)	ND		0.0100	1.01	10/17/2024 21:08	WG2376820
(S) Nitrobenzene-d5	*40.7*			*15.0-314*	*10/17/2024 21:08*	WG2376820
(S) 2-Fluorobiphenyl	*37.2*			*22.0-127*	*10/17/2024 21:08*	WG2376820
(S) p-Terphenyl-d14	*41.2*			*29.0-141*	*10/17/2024 21:08*	WG2376820

Pesticides (GC) by Method EPA 608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
4,4-DDD	ND		0.0000850	5	10/05/2024 03:52	WG2375732
4,4-DDE	ND		0.0000820	5	10/05/2024 03:52	WG2375732
4,4-DDT	ND		0.0000885	5	10/05/2024 03:52	WG2375732
Aldrin	ND		0.0000500	5	10/05/2024 03:52	WG2375732
Beta BHC	ND		0.0000920	5	10/05/2024 03:52	WG2375732
Chlordane	ND		0.000500	5	10/05/2024 03:52	WG2375732
Delta BHC	ND		0.0000985	5	10/05/2024 03:52	WG2375732
Dieldrin	ND		0.0000500	5	10/05/2024 03:52	WG2375732
Endosulfan I	ND		0.0000895	5	10/05/2024 03:52	WG2375732
Endosulfan II	ND		0.0000880	5	10/05/2024 03:52	WG2375732
Endosulfan sulfate	ND		0.0000980	5	10/05/2024 03:52	WG2375732
Endrin	ND		0.0000945	5	10/05/2024 03:52	WG2375732
Endrin aldehyde	ND		0.0000710	5	10/05/2024 03:52	WG2375732
Gamma BHC	ND		0.0000880	5	10/05/2024 03:52	WG2375732
Heptachlor	ND		0.0000540	5	10/05/2024 03:52	WG2375732
Heptachlor epoxide	ND		0.0000875	5	10/05/2024 03:52	WG2375732
Toxaphene	ND		0.000840	5	10/05/2024 03:52	WG2375732
(S) Tetrachloro-m-xylene	*79.0*			*10.0-135*	*10/05/2024 03:52*	WG2375732
(S) Decachlorobiphenyl	*81.2*			*10.0-144*	*10/05/2024 03:52*	WG2375732

Sample Narrative:

L1785030-04 WG2375732: Dilution due to sample volume.

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
PCB 1016	ND		0.00100	10	10/08/2024 01:53	WG2376929
PCB 1221	ND		0.000730	10	10/08/2024 01:53	WG2376929
PCB 1232	ND		0.000500	10	10/08/2024 01:53	WG2376929
PCB 1242	ND		0.000500	10	10/08/2024 01:53	WG2376929
PCB 1248	ND		0.000860	10	10/08/2024 01:53	WG2376929
PCB 1254	ND		0.000500	10	10/08/2024 01:53	WG2376929
PCB 1260	ND		0.00120	10	10/08/2024 01:53	WG2376929
(S) Tetrachloro-m-xylene	*91.2*			*10.0-135*	*10/08/2024 01:53*	WG2376929
(S) Decachlorobiphenyl	*78.8*			*10.0-144*	*10/08/2024 01:53*	WG2376929

Sample Narrative:

L1785030-04 WG2376929: Dilution due to matrix

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
1,2,4-Trichlorobenzene	ND		0.0100	5	10/17/2024 11:43	WG2378053
1,2-Dichlorobenzene	ND		0.0100	5	10/17/2024 11:43	WG2378053
1,3-Dichlorobenzene	ND		0.0100	5	10/17/2024 11:43	WG2378053
1,4-Dichlorobenzene	ND		0.0100	5	10/17/2024 11:43	WG2378053
2,4-Dinitrotoluene	ND		0.0100	5	10/17/2024 11:43	WG2378053
2,6-Dinitrotoluene	ND		0.0100	5	10/17/2024 11:43	WG2378053
2-Chloronaphthalene	ND		0.00100	5	10/17/2024 11:43	WG2378053
3,3-Dichlorobenzidine	ND		0.0100	5	10/17/2024 11:43	WG2378053
4-Bromophenyl-phenylether	ND		0.0100	5	10/17/2024 11:43	WG2378053
4-Chlorophenyl-phenylether	ND		0.0100	5	10/17/2024 11:43	WG2378053
Acenaphthene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Acenaphthylene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Anthracene	ND		0.00100	5	10/17/2024 11:43	WG2378053

Semi Volatile Organic Compounds (GC/MS) by Method 625.1

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Benzo(a)anthracene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Benzo(a)pyrene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Benzo(b)fluoranthene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Benzo(g,h,i)perylene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Benzo(k)fluoranthene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Benzyl alcohol	ND		0.0100	5	10/17/2024 11:43	WG2378053
Benzylbutyl phthalate	ND		0.00383	5	10/17/2024 11:43	WG2378053
Bis(2-Ethylhexyl)phthalate	ND		0.0100	5	10/17/2024 11:43	WG2378053
Bis(2-chlorethoxy)methane	ND		0.0100	5	10/17/2024 11:43	WG2378053
Bis(2-chloroethyl)ether	ND		0.0100	5	10/17/2024 11:43	WG2378053
Chrysene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Di-n-butyl phthalate	ND		0.00300	5	10/17/2024 11:43	WG2378053
Di-n-octyl phthalate	ND		0.00466	5	10/17/2024 11:43	WG2378053
Dibenz(a,h)anthracene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Dibenzofuran	ND		0.0100	5	10/17/2024 11:43	WG2378053
Diethyl phthalate	ND		0.00300	5	10/17/2024 11:43	WG2378053
Dimethyl phthalate	ND		0.00300	5	10/17/2024 11:43	WG2378053
Fluoranthene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Fluorene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Hexachloro-1,3-butadiene	ND		0.0100	5	10/17/2024 11:43	WG2378053
Hexachlorobenzene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Hexachlorocyclopentadiene	ND		0.0100	5	10/17/2024 11:43	WG2378053
Hexachloroethane	ND		0.0100	5	10/17/2024 11:43	WG2378053
Indeno(1,2,3-cd)pyrene	ND		0.00140	5	10/17/2024 11:43	WG2378053
Isophorone	ND		0.0100	5	10/17/2024 11:43	WG2378053
Naphthalene	ND		0.00186	5	10/17/2024 11:43	WG2378053
Nitrobenzene	ND		0.0100	5	10/17/2024 11:43	WG2378053
Phenanthrene	ND		0.00100	5	10/17/2024 11:43	WG2378053
Pyrene	ND		0.00100	5	10/17/2024 11:43	WG2378053
n-Nitrosodi-n-propylamine	ND		0.0100	5	10/17/2024 11:43	WG2378053
n-Nitrosodiphenylamine	ND		0.0119	5	10/17/2024 11:43	WG2378053
2,2-Oxybis(1-Chloropropane)	ND		0.0100	5	10/17/2024 11:43	WG2378053
(S) Nitrobenzene-d5	*86.4*			*15.0-314*	*10/17/2024 11:43*	WG2378053
(S) 2-Fluorobiphenyl	*59.3*			*22.0-127*	*10/17/2024 11:43*	WG2378053
(S) p-Terphenyl-d14	*35.8*			*29.0-141*	*10/17/2024 11:43*	WG2378053

Sample Narrative:

L1785030-04 WG2378053: Dilution due to matrix.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4129027-1 10/05/24 00:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
4,4-DDD	ND		0.0000170	0.0000500
4,4-DDE	ND		0.0000164	0.0000500
4,4-DDT	ND		0.0000177	0.0000500
Aldrin	ND		0.00000813	0.0000500
Beta BHC	ND		0.0000184	0.0000500
Chlordane	ND		0.0000977	0.000500
Delta BHC	ND		0.0000197	0.0000500
Dieldrin	ND		0.00000751	0.0000500
Endosulfan I	ND		0.0000179	0.0000500
Endosulfan II	ND		0.0000176	0.0000500
Endosulfan sulfate	ND		0.0000196	0.0000500
Endrin	ND		0.0000189	0.0000500
Endrin aldehyde	ND		0.0000142	0.0000500
Gamma BHC	ND		0.0000176	0.0000500
Heptachlor	ND		0.0000108	0.0000500
Heptachlor epoxide	ND		0.0000175	0.0000500
Toxaphene	ND		0.000168	0.000500
(S) Tetrachloro-m-xylene	*85.4*			*10.0-135*
(S) Decachlorobiphenyl	*91.5*			*10.0-144*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4129027-2 10/05/24 00:38 • (LCSD) R4129027-3 10/05/24 00:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
4,4-DDD	0.00100	0.000986	0.00115	98.6	115	31.0-141			15.4	39
4,4-DDE	0.00100	0.000874	0.000957	87.4	95.7	30.0-145			9.07	35
4,4-DDT	0.00100	0.000852	0.000909	85.2	90.9	25.0-160			6.47	42
Aldrin	0.00100	0.000908	0.000964	90.8	96.4	42.0-140			5.98	35
Beta BHC	0.00100	0.000833	0.000859	83.3	85.9	17.0-147			3.07	44
Delta BHC	0.00100	0.000893	0.000946	89.3	94.6	19.0-140			5.76	52
Dieldrin	0.00100	0.000912	0.000975	91.2	97.5	36.0-146			6.68	49
Endosulfan I	0.00100	0.000888	0.000933	88.8	93.3	45.0-153			4.94	28
Endosulfan II	0.00100	0.000944	0.00103	94.4	103	1.00-202			8.71	53
Endosulfan sulfate	0.00100	0.000890	0.000980	89.0	98.0	26.0-144			9.63	38
Endrin	0.00100	0.000951	0.00103	95.1	103	30.0-147			7.98	48
Endrin aldehyde	0.00100	0.000793	0.000872	79.3	87.2	56.0-128			9.49	20
Gamma BHC	0.00100	0.000894	0.000936	89.4	93.6	32.0-140			4.59	39
Heptachlor	0.00100	0.000912	0.000966	91.2	96.6	34.0-140			5.75	43

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4129027-2 10/05/24 00:38 • (LCSD) R4129027-3 10/05/24 00:47

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Heptachlor epoxide	0.00100	0.000897	0.000954	89.7	95.4	37.0-142			6.16	26
(S) Tetrachloro-m-xylene				*85.8*	*84.0*	*10.0-135*				
(S) Decachlorobiphenyl				*86.2*	*75.5*	*10.0-144*				

Method Blank (MB)

(MB) R4129027-1 10/05/24 00:29

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
PCB 1016	ND		0.000100	0.000500
PCB 1221	ND		0.0000730	0.000500
PCB 1232	ND		0.0000420	0.000500
PCB 1242	ND		0.0000470	0.000500
PCB 1248	ND		0.0000860	0.000500
PCB 1254	ND		0.0000470	0.000500
PCB 1260	ND		0.000120	0.000500
(S) Tetrachloro-m-xylene	*82.3*			*10.0-135*
(S) Decachlorobiphenyl	*85.4*			*10.0-144*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4129027-4 10/05/24 00:55 • (LCSD) R4129027-5 10/05/24 01:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
PCB 1016	0.00250	0.00206	0.00216	82.4	86.4	50.0-140			4.74	36
PCB 1260	0.00250	0.00230	0.00243	92.0	97.2	8.00-140			5.50	38
(S) Tetrachloro-m-xylene				*86.1*	*89.0*	*10.0-135*				
(S) Decachlorobiphenyl				*85.5*	*92.8*	*10.0-144*				

Method Blank (MB)

(MB) R4129766-1 10/07/24 18:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
PCB 1016	ND		0.000200	0.00100
PCB 1221	ND		0.000146	0.00100
PCB 1232	ND		0.0000840	0.00100
PCB 1242	ND		0.0000940	0.00100
PCB 1248	ND		0.000172	0.00100
PCB 1254	ND		0.0000940	0.00100
PCB 1260	ND		0.000240	0.00100
(S) Tetrachloro-m-xylene	*93.0*			*10.0-135*
(S) Decachlorobiphenyl	*107*			*10.0-144*

Sample Narrative:

BLANK: Dilution due to sulfur cleanup.

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R4129766-2 10/07/24 20:44 • (LCSD) R4129766-3 10/07/24 20:55

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
PCB 1016	0.00250	0.00269	0.00295	108	118	50.0-140			9.22	36
PCB 1260	0.00250	0.00272	0.00286	109	114	8.00-140			5.02	38
(S) Tetrachloro-m-xylene				*91.7*	*98.4*	*10.0-135*				
(S) Decachlorobiphenyl				*88.7*	*95.6*	*10.0-144*				

Sample Narrative:

LCS: Dilution due to sulfur cleanup.

LCSD: Dilution due to sulfur cleanup.

Method Blank (MB)

(MB) R4134232-2 10/09/24 13:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,2,4-Trichlorobenzene	ND		0.0000698	0.0100
1,2-Dichlorobenzene	ND		0.0000713	0.0100
1,3-Dichlorobenzene	ND		0.000132	0.0100
1,4-Dichlorobenzene	ND		0.0000942	0.0100
2,4-Dinitrotoluene	ND		0.0000983	0.0100
2,6-Dinitrotoluene	ND		0.000250	0.0100
2-Chloronaphthalene	ND		0.0000648	0.00100
3,3-Dichlorobenzidine	ND		0.000212	0.0100
4-Bromophenyl-phenylether	ND		0.0000877	0.0100
4-Chlorophenyl-phenylether	ND		0.0000926	0.0100
Acenaphthene	ND		0.0000886	0.00100
Acenaphthylene	ND		0.0000921	0.00100
Anthracene	ND		0.0000804	0.00100
Benzo(a)anthracene	ND		0.000199	0.00100
Benzo(a)pyrene	ND		0.0000381	0.00100
Benzo(b)fluoranthene	ND		0.000130	0.00100
Benzo(g,h,i)perylene	ND		0.000121	0.00100
Benzo(k)fluoranthene	ND		0.000120	0.00100
Benzyl alcohol	ND		0.000563	0.0100
Benzylbutyl phthalate	ND		0.000765	0.00300
Bis(2-Ethylhexyl)phthalate	ND		0.000895	0.00300
Bis(2-chlorethoxy)methane	ND		0.000116	0.0100
Bis(2-chloroethyl)ether	ND		0.000137	0.0100
Chrysene	ND		0.000130	0.00100
Di-n-butyl phthalate	ND		0.000453	0.00300
Di-n-octyl phthalate	ND		0.000932	0.00300
Dibenz(a,h)anthracene	ND		0.0000644	0.00100
Dibenzofuran	ND		0.0000967	0.0100
Diethyl phthalate	ND		0.000287	0.00300
Dimethyl phthalate	ND		0.000260	0.00300
Fluoranthene	ND		0.000102	0.00100
Fluorene	ND		0.0000844	0.00100
Hexachloro-1,3-butadiene	ND		0.0000968	0.0100
Hexachlorobenzene	ND		0.0000755	0.00100
Hexachlorocyclopentadiene	ND		0.0000598	0.0100
Hexachloroethane	ND		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	ND		0.000279	0.00100
Isophorone	ND		0.000143	0.0100
Naphthalene	ND	J	0.000372	0.00100
Nitrobenzene	ND		0.000297	0.0100

Method Blank (MB)

(MB) R4134232-2 10/09/24 13:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phenanthrene	ND		0.000112	0.00100
Pyrene	ND		0.000107	0.00100
n-Nitrosodi-n-propylamine	ND		0.000261	0.0100
n-Nitrosodiphenylamine	ND		0.00237	0.0100
2,2-Oxybis(1-Chloropropane)	ND		0.000210	0.0100
(S) Nitrobenzene-d5	*92.6*			*15.0-314*
(S) 2-Fluorobiphenyl	*87.9*			*22.0-127*
(S) p-Terphenyl-d14	*95.0*			*29.0-141*

Laboratory Control Sample (LCS)

(LCS) R4134232-1 10/09/24 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trichlorobenzene	0.0500	0.0270	54.0	44.0-142	
1,2-Dichlorobenzene	0.0500	0.0289	57.8	27.0-120	
1,3-Dichlorobenzene	0.0500	0.0280	56.0	26.0-120	
1,4-Dichlorobenzene	0.0500	0.0280	56.0	26.0-120	
2,4-Dinitrotoluene	0.0500	0.0385	77.0	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0364	72.8	50.0-158	
2-Chloronaphthalene	0.0500	0.0330	66.0	60.0-120	
3,3-Dichlorobenzidine	0.100	0.0775	77.5	1.00-262	
4-Bromophenyl-phenylether	0.0500	0.0358	71.6	53.0-127	
4-Chlorophenyl-phenylether	0.0500	0.0362	72.4	25.0-158	
Acenaphthene	0.0500	0.0328	65.6	47.0-145	
Acenaphthylene	0.0500	0.0326	65.2	33.0-145	
Anthracene	0.0500	0.0330	66.0	27.0-133	
Benzo(a)anthracene	0.0500	0.0377	75.4	33.0-143	
Benzo(a)pyrene	0.0500	0.0361	72.2	17.0-163	
Benzo(b)fluoranthene	0.0500	0.0368	73.6	24.0-159	
Benzo(g,h,i)perylene	0.0500	0.0373	74.6	1.00-219	
Benzo(k)fluoranthene	0.0500	0.0371	74.2	11.0-162	
Benzyl alcohol	0.0500	0.0334	66.8	20.0-120	
Benzylbutyl phthalate	0.0500	0.0359	71.8	1.00-152	
Bis(2-Ethylhexyl)phthalate	0.0500	0.0366	73.2	8.00-158	
Bis(2-chlorethoxy)methane	0.0500	0.0355	71.0	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0484	96.8	33.0-185	
Chrysene	0.0500	0.0377	75.4	17.0-168	
Di-n-butyl phthalate	0.0500	0.0333	66.6	1.00-120	

Laboratory Control Sample (LCS)

(LCS) R4134232-1 10/09/24 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Di-n-octyl phthalate	0.0500	0.0385	77.0	4.00-146	
Dibenz(a,h)anthracene	0.0500	0.0403	80.6	1.00-227	
Dibenzofuran	0.0500	0.0350	70.0	42.0-120	
Diethyl phthalate	0.0500	0.0343	68.6	1.00-120	
Dimethyl phthalate	0.0500	0.0350	70.0	1.00-120	
Fluoranthene	0.0500	0.0357	71.4	26.0-137	
Fluorene	0.0500	0.0333	66.6	59.0-121	
Hexachloro-1,3-butadiene	0.0500	0.0269	53.8	24.0-120	
Hexachlorobenzene	0.0500	0.0343	68.6	1.00-152	
Hexachlorocyclopentadiene	0.0500	0.0120	24.0	10.0-120	
Hexachloroethane	0.0500	0.0259	51.8	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0359	71.8	1.00-171	
Isophorone	0.0500	0.0331	66.2	21.0-196	
Naphthalene	0.0500	0.0281	56.2	21.0-133	
Nitrobenzene	0.0500	0.0356	71.2	35.0-180	
Phenanthrene	0.0500	0.0333	66.6	54.0-120	
Pyrene	0.0500	0.0346	69.2	52.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0450	90.0	1.00-230	
n-Nitrosodiphenylamine	0.0500	0.0345	69.0	44.0-120	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0382	76.4	36.0-166	
(S) Nitrobenzene-d5			*68.3*	*15.0-314*	
(S) 2-Fluorobiphenyl			*68.8*	*22.0-127*	
(S) p-Terphenyl-d14			*69.2*	*29.0-141*	

L1784602-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784602-01 10/09/24 17:46 • (MS) R4134232-3 10/09/24 18:07 • (MSD) R4134232-4 10/09/24 18:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,2,4-Trichlorobenzene	0.0490	ND	0.0301	0.0263	61.4	55.7	1	44.0-142			13.5	50
1,2-Dichlorobenzene	0.0490	ND	0.0340	0.0300	69.4	63.6	1	14.0-125			12.5	24
1,3-Dichlorobenzene	0.0490	ND	0.0332	0.0297	67.8	62.9	1	12.0-123			11.1	22
1,4-Dichlorobenzene	0.0490	ND	0.0332	0.0291	67.8	61.7	1	12.0-125			13.2	23
2,4-Dinitrotoluene	0.0490	ND	0.0438	0.0411	89.4	87.1	1	39.0-139			6.36	42
2,6-Dinitrotoluene	0.0490	ND	0.0432	0.0383	88.2	81.1	1	50.0-158			12.0	48
2-Chloronaphthalene	0.0490	ND	0.0366	0.0331	74.7	70.1	1	60.0-120			10.0	24
3,3-Dichlorobenzidine	0.0980	ND	0.0587	0.0408	59.9	43.2	1	1.00-262			36.0	108
4-Bromophenyl-phenylether	0.0490	ND	0.0374	0.0340	76.3	72.0	1	53.0-127			9.52	43
4-Chlorophenyl-phenylether	0.0490	ND	0.0382	0.0352	78.0	74.6	1	25.0-158			8.17	61

L1784602-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784602-01 10/09/24 17:46 • (MS) R4134232-3 10/09/24 18:07 • (MSD) R4134232-4 10/09/24 18:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0490	ND	0.0355	0.0318	72.4	67.4	1	47.0-145			11.0	48
Acenaphthylene	0.0490	ND	0.0362	0.0324	73.9	68.6	1	33.0-145			11.1	74
Anthracene	0.0490	ND	0.0354	0.0326	72.2	69.1	1	27.0-133			8.24	66
Benzo(a)anthracene	0.0490	ND	0.0373	0.0344	76.1	72.9	1	33.0-143			8.09	53
Benzo(a)pyrene	0.0490	ND	0.0367	0.0344	74.9	72.9	1	17.0-163			6.47	72
Benzo(b)fluoranthene	0.0490	ND	0.0365	0.0329	74.5	69.7	1	24.0-159			10.4	71
Benzo(g,h,i)perylene	0.0490	ND	0.0359	0.0354	73.3	75.0	1	1.00-219			1.40	97
Benzo(k)fluoranthene	0.0490	ND	0.0373	0.0332	76.1	70.3	1	11.0-162			11.6	63
Benzyl alcohol	0.0490	ND	0.0323	0.0310	65.9	65.7	1	17.0-120			4.11	40
Benzylbutyl phthalate	0.0490	ND	0.0409	0.0383	83.5	81.1	1	1.00-152			6.57	60
Bis(2-Ethylhexyl)phthalate	0.0490	ND	0.0366	0.0345	74.7	73.1	1	8.00-158			5.91	82
Bis(2-chlorethoxy)methane	0.0490	ND	0.0388	0.0349	79.2	73.9	1	33.0-184			10.6	54
Bis(2-chloroethyl)ether	0.0490	ND	0.0519	0.0477	106	101	1	12.0-158			8.43	108
Chrysene	0.0490	ND	0.0369	0.0346	75.3	73.3	1	17.0-168			6.43	87
Di-n-butyl phthalate	0.0490	ND	0.0356	0.0332	72.7	70.3	1	1.00-120			6.98	47
Di-n-octyl phthalate	0.0490	ND	0.0408	0.0382	83.3	80.9	1	4.00-146			6.58	69
Dibenz(a,h)anthracene	0.0490	ND	0.0385	0.0376	78.6	79.7	1	1.00-227			2.37	126
Dibenzofuran	0.0490	ND	0.0383	0.0351	78.2	74.4	1	17.0-150			8.72	27
Diethyl phthalate	0.0490	ND	0.0397	0.0362	81.0	76.7	1	1.00-120			9.22	100
Dimethyl phthalate	0.0490	ND	0.0399	0.0364	81.4	77.1	1	1.00-120			9.17	183
Fluoranthene	0.0490	ND	0.0370	0.0349	75.5	73.9	1	26.0-137			5.84	66
Fluorene	0.0490	ND	0.0369	0.0330	75.3	69.9	1	59.0-121			11.2	38
Hexachloro-1,3-butadiene	0.0490	ND	0.0295	0.0267	60.2	56.6	1	24.0-120			9.96	62
Hexachlorobenzene	0.0490	ND	0.0339	0.0319	69.2	67.6	1	1.00-152			6.08	55
Hexachlorocyclopentadiene	0.0490	ND	0.0134	0.0152	27.3	32.2	1	10.0-146			12.6	34
Hexachloroethane	0.0490	ND	0.0304	0.0273	62.0	57.8	1	40.0-120			10.7	52
Indeno(1,2,3-cd)pyrene	0.0490	ND	0.0343	0.0343	70.0	72.7	1	1.00-171			0.000	99
Isophorone	0.0490	ND	0.0372	0.0332	75.9	70.3	1	21.0-196			11.4	93
Naphthalene	0.0490	ND	0.0318	0.0283	64.9	60.0	1	21.0-133			11.6	65
Nitrobenzene	0.0490	ND	0.0397	0.0353	81.0	74.8	1	35.0-180			11.7	62
Phenanthrene	0.0490	ND	0.0364	0.0338	74.3	71.6	1	54.0-120			7.41	39
Pyrene	0.0490	ND	0.0361	0.0334	73.7	70.8	1	52.0-120			7.77	49
n-Nitrosodi-n-propylamine	0.0490	ND	0.0468	0.0448	95.5	94.9	1	1.00-230			4.37	87
n-Nitrosodiphenylamine	0.0490	ND	0.0397	0.0359	81.0	76.1	1	16.0-160			10.1	28
2,2-Oxybis(1-Chloropropane)	0.0490	ND	0.0405	0.0366	82.7	77.5	1	36.0-166			10.1	76
(S) Nitrobenzene-d5					*81.0*	*75.8*		*15.0-314*				
(S) 2-Fluorobiphenyl					*76.7*	*72.2*		*22.0-127*				
(S) p-Terphenyl-d14					*74.1*	*70.4*		*29.0-141*				

Method Blank (MB)

(MB) R4130934-2 10/09/24 02:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
1,2,4-Trichlorobenzene	ND		0.0000698	0.0100
1,2-Dichlorobenzene	ND		0.0000713	0.0100
1,3-Dichlorobenzene	ND		0.000132	0.0100
1,4-Dichlorobenzene	ND		0.0000942	0.0100
2,4-Dinitrotoluene	ND		0.0000983	0.0100
2,6-Dinitrotoluene	ND		0.000250	0.0100
2-Chloronaphthalene	ND		0.0000648	0.00100
3,3-Dichlorobenzidine	ND		0.000212	0.0100
4-Bromophenyl-phenylether	ND		0.0000877	0.0100
4-Chlorophenyl-phenylether	ND		0.0000926	0.0100
Acenaphthene	ND		0.0000886	0.00100
Acenaphthylene	ND		0.0000921	0.00100
Anthracene	ND		0.0000804	0.00100
Benzo(a)anthracene	ND		0.000199	0.00100
Benzo(a)pyrene	ND		0.0000381	0.00100
Benzo(b)fluoranthene	ND		0.000130	0.00100
Benzo(g,h,i)perylene	ND		0.000121	0.00100
Benzo(k)fluoranthene	ND		0.000120	0.00100
Benzyl alcohol	ND		0.000563	0.0100
Benzylbutyl phthalate	ND		0.000765	0.00300
Bis(2-Ethylhexyl)phthalate	ND		0.000895	0.00300
Bis(2-chlorethoxy)methane	ND		0.000116	0.0100
Bis(2-chloroethyl)ether	ND		0.000137	0.0100
Chrysene	ND		0.000130	0.00100
Di-n-butyl phthalate	ND		0.000453	0.00300
Di-n-octyl phthalate	ND		0.000932	0.00300
Dibenz(a,h)anthracene	ND		0.0000644	0.00100
Dibenzofuran	ND		0.0000967	0.0100
Diethyl phthalate	ND		0.000287	0.00300
Dimethyl phthalate	ND		0.000260	0.00300
Fluoranthene	ND		0.000102	0.00100
Fluorene	ND		0.0000844	0.00100
Hexachloro-1,3-butadiene	ND		0.0000968	0.0100
Hexachlorobenzene	ND		0.0000755	0.00100
Hexachlorocyclopentadiene	ND		0.0000598	0.0100
Hexachloroethane	ND		0.000127	0.0100
Indeno(1,2,3-cd)pyrene	ND		0.000279	0.00100
Isophorone	ND		0.000143	0.0100
Naphthalene	ND		0.000372	0.00100
Nitrobenzene	ND		0.000297	0.0100

Method Blank (MB)

(MB) R4130934-2 10/09/24 02:20

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Phenanthrene	ND		0.000112	0.00100
Pyrene	ND		0.000107	0.00100
n-Nitrosodi-n-propylamine	ND		0.000261	0.0100
n-Nitrosodiphenylamine	ND		0.00237	0.0100
2,2-Oxybis(1-Chloropropane)	ND		0.000210	0.0100
(S) Nitrobenzene-d5	*65.7*			*15.0-314*
(S) 2-Fluorobiphenyl	*65.6*			*22.0-127*
(S) p-Terphenyl-d14	*86.1*			*29.0-141*

Laboratory Control Sample (LCS)

(LCS) R4130934-1 10/09/24 01:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,4-Trichlorobenzene	0.0500	0.0359	71.8	44.0-142	
1,2-Dichlorobenzene	0.0500	0.0416	83.2	27.0-120	
1,3-Dichlorobenzene	0.0500	0.0400	80.0	26.0-120	
1,4-Dichlorobenzene	0.0500	0.0403	80.6	26.0-120	
2,4-Dinitrotoluene	0.0500	0.0627	125	39.0-139	
2,6-Dinitrotoluene	0.0500	0.0572	114	50.0-158	
2-Chloronaphthalene	0.0500	0.0427	85.4	60.0-120	
3,3-Dichlorobenzidine	0.100	0.111	111	1.00-262	
4-Bromophenyl-phenylether	0.0500	0.0505	101	53.0-127	
4-Chlorophenyl-phenylether	0.0500	0.0491	98.2	25.0-158	
Acenaphthene	0.0500	0.0466	93.2	47.0-145	
Acenaphthylene	0.0500	0.0462	92.4	33.0-145	
Anthracene	0.0500	0.0495	99.0	27.0-133	
Benzo(a)anthracene	0.0500	0.0540	108	33.0-143	
Benzo(a)pyrene	0.0500	0.0533	107	17.0-163	
Benzo(b)fluoranthene	0.0500	0.0532	106	24.0-159	
Benzo(g,h,i)perylene	0.0500	0.0464	92.8	1.00-219	
Benzo(k)fluoranthene	0.0500	0.0520	104	11.0-162	
Benzyl alcohol	0.0500	0.0346	69.2	20.0-120	
Benzylbutyl phthalate	0.0500	0.0619	124	1.00-152	
Bis(2-Ethylhexyl)phthalate	0.0500	0.0583	117	8.00-158	
Bis(2-chlorethoxy)methane	0.0500	0.0423	84.6	1.00-219	
Bis(2-chloroethyl)ether	0.0500	0.0503	101	33.0-185	
Chrysene	0.0500	0.0508	102	17.0-168	
Di-n-butyl phthalate	0.0500	0.0584	117	1.00-120	

Laboratory Control Sample (LCS)

(LCS) R4130934-1 10/09/24 01:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Di-n-octyl phthalate	0.0500	0.0603	121	4.00-146	
Dibenz(a,h)anthracene	0.0500	0.0527	105	1.00-227	
Dibenzofuran	0.0500	0.0475	95.0	42.0-120	
Diethyl phthalate	0.0500	0.0566	113	1.00-120	
Dimethyl phthalate	0.0500	0.0532	106	1.00-120	
Fluoranthene	0.0500	0.0537	107	26.0-137	
Fluorene	0.0500	0.0497	99.4	59.0-121	
Hexachloro-1,3-butadiene	0.0500	0.0326	65.2	24.0-120	
Hexachlorobenzene	0.0500	0.0491	98.2	1.00-152	
Hexachlorocyclopentadiene	0.0500	0.0232	46.4	10.0-120	
Hexachloroethane	0.0500	0.0383	76.6	40.0-120	
Indeno(1,2,3-cd)pyrene	0.0500	0.0490	98.0	1.00-171	
Isophorone	0.0500	0.0442	88.4	21.0-196	
Naphthalene	0.0500	0.0386	77.2	21.0-133	
Nitrobenzene	0.0500	0.0400	80.0	35.0-180	
Phenanthrene	0.0500	0.0488	97.6	54.0-120	
Pyrene	0.0500	0.0523	105	52.0-120	
n-Nitrosodi-n-propylamine	0.0500	0.0539	108	1.00-230	
n-Nitrosodiphenylamine	0.0500	0.0493	98.6	44.0-120	
2,2-Oxybis(1-Chloropropane)	0.0500	0.0455	91.0	36.0-166	
(S) Nitrobenzene-d5			*69.3*	*15.0-314*	
(S) 2-Fluorobiphenyl			*85.8*	*22.0-127*	
(S) p-Terphenyl-d14			*102*	*29.0-141*	

L1784716-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784716-01 10/09/24 03:24 • (MS) R4130934-3 10/09/24 03:45 • (MSD) R4130934-4 10/09/24 04:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
1,2,4-Trichlorobenzene	0.0500	ND	0.0310	0.0259	62.0	51.8	1	44.0-142			17.9	50
1,2-Dichlorobenzene	0.0500	ND	0.0355	0.0289	71.0	57.8	1	14.0-125			20.5	24
1,3-Dichlorobenzene	0.0500	ND	0.0343	0.0278	68.6	55.6	1	12.0-123			20.9	22
1,4-Dichlorobenzene	0.0500	ND	0.0347	0.0285	69.4	57.0	1	12.0-125			19.6	23
2,4-Dinitrotoluene	0.0500	ND	0.0526	0.0487	105	97.4	1	39.0-139			7.70	42
2,6-Dinitrotoluene	0.0500	ND	0.0476	0.0444	95.2	88.8	1	50.0-158			6.96	48
2-Chloronaphthalene	0.0500	ND	0.0365	0.0311	73.0	62.2	1	60.0-120			16.0	24
3,3-Dichlorobenzidine	0.100	ND	ND	ND	2.86	4.06	1	1.00-262			34.7	108
4-Bromophenyl-phenylether	0.0500	ND	0.0427	0.0397	85.4	79.4	1	53.0-127			7.28	43
4-Chlorophenyl-phenylether	0.0500	ND	0.0411	0.0373	82.2	74.6	1	25.0-158			9.69	61

L1784716-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1784716-01 10/09/24 03:24 • (MS) R4130934-3 10/09/24 03:45 • (MSD) R4130934-4 10/09/24 04:06

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Acenaphthene	0.0500	ND	0.0398	0.0346	79.6	69.2	1	47.0-145			14.0	48
Acenaphthylene	0.0500	ND	0.0401	0.0343	80.2	68.6	1	33.0-145			15.6	74
Anthracene	0.0500	ND	0.0404	0.0369	80.8	73.8	1	27.0-133			9.06	66
Benzo(a)anthracene	0.0500	ND	0.0432	0.0388	86.4	77.6	1	33.0-143			10.7	53
Benzo(a)pyrene	0.0500	ND	0.0429	0.0383	85.8	76.6	1	17.0-163			11.3	72
Benzo(b)fluoranthene	0.0500	ND	0.0443	0.0385	88.6	77.0	1	24.0-159			14.0	71
Benzo(g,h,i)perylene	0.0500	ND	0.0386	0.0343	77.2	68.6	1	1.00-219			11.8	97
Benzo(k)fluoranthene	0.0500	ND	0.0429	0.0385	85.8	77.0	1	11.0-162			10.8	63
Benzyl alcohol	0.0500	ND	0.0279	0.0236	55.8	47.2	1	17.0-120			16.7	40
Benzylbutyl phthalate	0.0500	ND	0.0500	0.0466	100	93.2	1	1.00-152			7.04	60
Bis(2-Ethylhexyl)phthalate	0.0500	ND	0.0450	0.0409	90.0	81.8	1	8.00-158			9.55	82
Bis(2-chlorethoxy)methane	0.0500	ND	0.0364	0.0303	72.8	60.6	1	33.0-184			18.3	54
Bis(2-chloroethyl)ether	0.0500	ND	0.0417	0.0338	83.4	67.6	1	12.0-158			20.9	108
Chrysene	0.0500	ND	0.0426	0.0380	85.2	76.0	1	17.0-168			11.4	87
Di-n-butyl phthalate	0.0500	ND	0.0475	0.0439	95.0	87.8	1	1.00-120			7.88	47
Di-n-octyl phthalate	0.0500	ND	0.0470	0.0421	94.0	84.2	1	4.00-146			11.0	69
Dibenz(a,h)anthracene	0.0500	ND	0.0428	0.0382	85.6	76.4	1	1.00-227			11.4	126
Dibenzofuran	0.0500	ND	0.0409	0.0362	81.8	72.4	1	17.0-150			12.2	27
Diethyl phthalate	0.0500	ND	0.0466	0.0432	93.2	86.4	1	1.00-120			7.57	100
Dimethyl phthalate	0.0500	ND	0.0445	0.0415	89.0	83.0	1	1.00-120			6.98	183
Fluoranthene	0.0500	ND	0.0453	0.0409	90.6	81.8	1	26.0-137			10.2	66
Fluorene	0.0500	ND	0.0425	0.0378	85.0	75.6	1	59.0-121			11.7	38
Hexachloro-1,3-butadiene	0.0500	ND	0.0306	0.0246	61.2	49.2	1	24.0-120			21.7	62
Hexachlorobenzene	0.0500	ND	0.0423	0.0386	84.6	77.2	1	1.00-152			9.15	55
Hexachlorocyclopentadiene	0.0500	ND	0.0232	0.0183	46.4	36.6	1	10.0-146			23.6	34
Hexachloroethane	0.0500	ND	0.0343	0.0277	68.6	55.4	1	40.0-120			21.3	52
Indeno(1,2,3-cd)pyrene	0.0500	ND	0.0406	0.0354	81.2	70.8	1	1.00-171			13.7	99
Isophorone	0.0500	ND	0.0371	0.0310	74.2	62.0	1	21.0-196			17.9	93
Naphthalene	0.0500	ND	0.0333	0.0276	66.6	55.2	1	21.0-133			18.7	65
Nitrobenzene	0.0500	ND	0.0388	0.0320	77.6	64.0	1	35.0-180			19.2	62
Phenanthrene	0.0500	ND	0.0418	0.0385	83.6	77.0	1	54.0-120			8.22	39
Pyrene	0.0500	ND	0.0428	0.0400	85.6	80.0	1	52.0-120			6.76	49
n-Nitrosodi-n-propylamine	0.0500	ND	0.0443	0.0364	88.6	72.8	1	1.00-230			19.6	87
n-Nitrosodiphenylamine	0.0500	ND	0.0443	0.0409	88.6	81.8	1	16.0-160			7.98	28
2,2-Oxybis(1-Chloropropane)	0.0500	ND	0.0382	0.0307	76.4	61.4	1	36.0-166			21.8	76
(S) Nitrobenzene-d5					*58.7*	*49.4*		*15.0-314*				
(S) 2-Fluorobiphenyl					*71.3*	*61.8*		*22.0-127*				
(S) p-Terphenyl-d14					*80.9*	*75.9*		*29.0-141*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to:
Aaron Rebmann

Email To:
chris.kaiser@stantec.com;cory.anderson2@stan

Project Description:
Semi-Annual WWTP Leachate List 2

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project #
500

Lab Project #
WMCENIA-00009

Collected by (print):
Mike Hanor

Site/Facility ID #
IA02

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	608.3 100ml Amb-NoPres	625.1BN 100ml Amb-NaTio	Remarks	Sample # (lab only)
Leachate Pond #1		WW		10/2/24	1000	4	X	X		-01
Leachate Pond #2		WW			1015	4	X	X		-02
Leachate Pond #4		WW			1100	4	X	X		-03
Leachate Pond #3		WW		↓	1045	4	X	X		-04

Analysis / Container / Preservative

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1785030
D192

Acctnum: **WMCENIA**
Template: **T237539**
Prelogin: **P1102353**
PM: 364 - T. Alan Harvill
PB:
Shipped Via: **FedEx Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4404 0485 5850

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: ✓Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	10/2/24	1500	FedEx
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)
			CRoch

Trip Blank Received: Yes (No) HCL / MeoH TBR

Temp: °C Bottles Received:
MSA 9.1-10.3=1.4 16

Date: 10/3/24 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / (OK)

ANALYTICAL REPORT

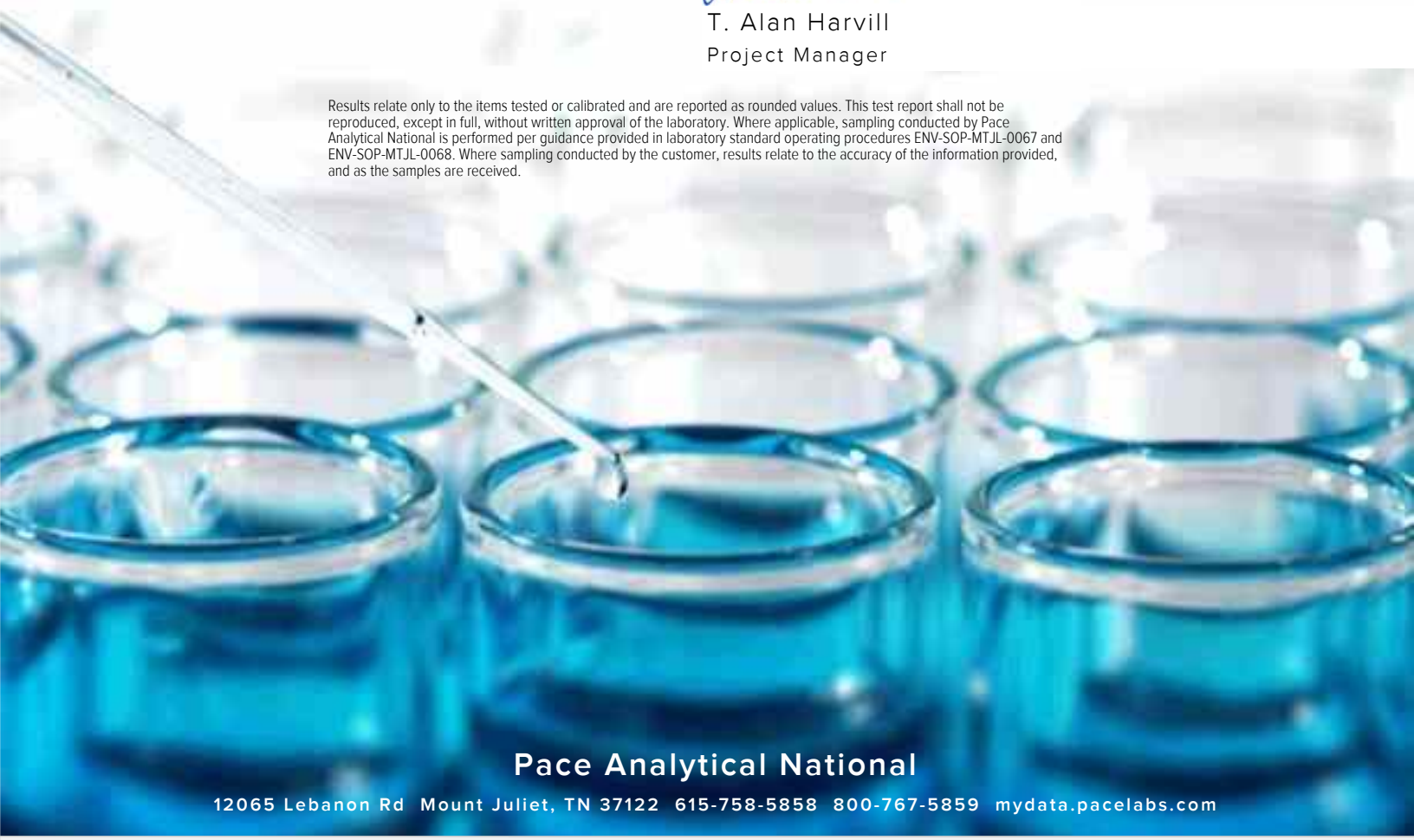
December 16, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1798775
Samples Received:	11/12/2024
Project Number:	500
Description:	Semi-Annual WWTP Leachate List 2
Site:	IA02
Report To:	Aaron Rebmann 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

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SAMPLE SUMMARY

Leachate Pond #4 L1798775-01 WW

Collected by: Kenneth Smith
Collected date/time: 11/11/24 09:30
Received date/time: 11/12/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Polychlorinated Biphenyls (GC) by Method EPA-608.3	WG2400578	1	11/13/24 20:21	11/14/24 18:15	LJD	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Polychlorinated Biphenyls (GC) by Method EPA-608.3

RPD between the primary and confirmatory analysis exceeded 40%

Batch	Lab Sample ID	Analytes
WG2400578	(MS) R4146828-6	PCB 1016

Surrogate recovery limits have been exceeded; values are outside lower control limits.

Batch	Analyte	Lab Sample ID
WG2400578	Decachlorobiphenyl	(MS) R4146828-6, (MSD) R4146828-7, L1798775-01

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2400578	(MSD) R4146828-7, L1798775-01	PCB 1016

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG2400578	(MSD) R4146828-7, L1798775-01	PCB 1016 and PCB 1260

Polychlorinated Biphenyls (GC) by Method EPA-608.3

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
PCB 1016	ND	J3 J6	0.000500	1	11/14/2024 18:15	WG2400578
PCB 1221	ND		0.000500	1	11/14/2024 18:15	WG2400578
PCB 1232	ND		0.000500	1	11/14/2024 18:15	WG2400578
PCB 1242	ND		0.000500	1	11/14/2024 18:15	WG2400578
PCB 1248	ND		0.000500	1	11/14/2024 18:15	WG2400578
PCB 1254	ND		0.000500	1	11/14/2024 18:15	WG2400578
PCB 1260	ND	J3	0.000500	1	11/14/2024 18:15	WG2400578
(S) Tetrachloro-m-xylene	*10.6*			*10.0-135*	*11/14/2024 18:15*	WG2400578
(S) Decachlorobiphenyl	*2.00*	J2		*10.0-144*	*11/14/2024 18:15*	WG2400578

Sample Narrative:

L1798775-01 WG2400578: Duplicate Analysis performed due to surrogate failure. Results confirm; reporting in hold data.

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4146828-1 11/14/24 14:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
PCB 1016	ND		0.000100	0.000500
PCB 1221	ND		0.0000730	0.000500
PCB 1232	ND		0.0000420	0.000500
PCB 1242	ND		0.0000470	0.000500
PCB 1248	ND		0.0000860	0.000500
PCB 1254	ND		0.0000470	0.000500
PCB 1260	ND		0.000120	0.000500
(S) Tetrachloro-m-xylene	*87.2*			*10.0-135*
(S) Decachlorobiphenyl	*39.7*			*10.0-144*

Laboratory Control Sample (LCS)

(LCS) R4146828-5 11/14/24 14:35

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
PCB 1016	0.00250	0.00204	81.6	50.0-140	
PCB 1260	0.00250	0.00208	83.2	8.00-140	
(S) Tetrachloro-m-xylene			*75.5*	*10.0-135*	
(S) Decachlorobiphenyl			*52.1*	*10.0-144*	

L1798775-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1798775-01 11/14/24 18:15 • (MS) R4146828-6 11/14/24 18:25 • (MSD) R4146828-7 11/14/24 18:36

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
PCB 1016	0.00250	ND	0.00285	0.00111	114	44.4	1	50.0-140	P	J3 J6	87.9	36
PCB 1260	0.00250	ND	ND	ND	17.9	10.0	1	8.00-140		J3	56.5	38
(S) Tetrachloro-m-xylene					*22.1*	*12.6*		*10.0-135*				
(S) Decachlorobiphenyl					*6.03*	*3.97*		*10.0-144*	J2	J2		

Sample Narrative:

OS: Duplicate Analysis performed due to surrogate failure. Results confirm; reporting in hold data.

GLOSSARY OF TERMS

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Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J2	Surrogate recovery limits have been exceeded; values are outside lower control limits.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P	RPD between the primary and confirmatory analysis exceeded 40%.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
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Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: **Aaron Rebmann**

Email To: **chris.kaiser@stantec.com;cory.anderson2@stan**

Project Description: **Semi-Annual WWTP Leachate List 2**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **500**

Lab Project # **WMCENIA-00009**

Collected by (print): Kenneth Smith

Site/Facility ID # **IA02**

P.O. # **13447373**

Collected by (signature):

Quote #

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Analysis / Container / Preservative

608.3PCBONLY 100ml Amb-NoPres

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	608.3PCBONLY 100ml Amb-NoPres	Remarks	Sample # (lab only)
Leachate Pond #4	G	WW		11/11/24	930	2	X		701
LEACHATE POND #4 MS	G	WW		11/11/24	930	2	X		
LEACHATE POND #4 MSD	G	WW		11/11/24	930	2	X		

Chain of Custody Page ___ of ___

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 179877

B240

Acctnum: **WMCENIA**
Template: **T237539**
Prelogin: **P1113391**
PM: **364 - T. Alan Harvill**
PB: BF 11/6/24
Shipped Via: **FedEX Priority**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 4257 0927 4010

Sample Receipt Checklist
COC Seal Present/Intact: __NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
	11/11/24	1200		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: MS 4C 2.1 TU=2.1 Bottles Received: 6
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature) alexa Nitchen	Date: 11/12/24 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

Appendix B Landfill Gas Monitoring and Management Report

Stantec

2024 METHANE MANAGEMENT SYSTEM ANNUAL REPORT

Central Disposal Landfill

January 31, 2025

Prepared for:
Central Disposal Systems, Inc.
21265-430th Street
Lake Mills, Iowa 50450

Prepared by:
Stantec Consulting Services Inc.
One Carlson Parkway, Suite 100
Plymouth, MN 55447

Project Number:
227702549

Table of Contents

TABLES

FIGURES

1 Introduction

This 2024 Annual Report for the Central Disposal Systems, Inc. (CDS) Landfill was prepared by Stantec Consulting Services, Inc. (Stantec) to document the activities related to the Methane Management System in fulfillment of the Permit No. 95-SDP-1-72 and Iowa Department of Natural Resources (IDNR) Chapter 113.9.

1.1 Active Gas Management System Description

In June of 2003, an active landfill gas extraction system was completed, and in March 2006, a landfill gas-to-energy plant began operation. The active gas collection system includes vertical extraction wells, header piping and a utility flare. Additional vertical wells and associated piping were installed during summer 2004, 2005, 2006, 2007 and fall of 2008 and connected into the system. Significant site improvements continued to be made to the gas extraction and collection system during 2009, 2010, and 2011, including additional vertical extraction wells and associated piping. An additional twelve dual extraction wells and associated piping were installed in 2013. A construction documentation report entitled “Construction Observation Report, 2013 Landfill Gas System Expansion” dated December 2013, by Barker Lemar was submitted to the IDNR.

Operational improvements were made to the gas system in 2016 that included installation of new active gas extraction system piping and a new horizontal collector. Construction work was completed by American Environmental Group, Inc. In 2017, CDS again made improvements to the gas system including abandonment of some existing gas system piping, installation of new gas collection piping, and new horizontal collectors. The work completed in 2017 was temporary dependent on fill operations and there were no changes made to the gas collection system in 2018-2020.

Improvements to the gas management system were implemented in late 2021 and completed in 2022. Twenty-seven (27) vertical gas extraction wells, 12 horizontal stone drain collectors, landfill gas laterals, airline piping, and force main piping were installed. Pumps were installed as part of the improvements to convert to a dual-extraction system to assist with leachate management. Also, thirty-nine (39) vertical gas extraction wells were abandoned along with some miscellaneous piping, horizontals, header risers, and valves. Tetra Tech provided the construction quality assurance and submitted documentation of these gas system improvements to the IDNR (Doc ID# 105005).

In 2024, significant changes and improvements were again made to the gas management system. A combination of thirty-seven (37) new and redrilled vertical gas extraction wells and their associated lateral and header piping was installed. Tetra Tech provided the construction quality assurance and is currently in the process of putting together the documentation of these gas system improvements. It is anticipated that the documentation will be submitted to the IDNR under separate cover, once completed. The documentation report will provide updated record drawings to represent the current active gas system at the site.

Looking ahead into 2025, CDS plans to undergo closure construction. Additional modifications to the gas system may be evaluated in 2025 to optimize system performance related to emissions monitoring.

1.2 Monitoring System Description

1.2.1 MONITORING SYSTEM HISTORY

The methane management system, in accordance with Chapter 113.9 and as submitted in the CDS Implementation Plan dated January 30, 2008, consisted of 10 gas probes located around the site at 600-foot intervals on the west, north, and east sides of the active site. In accordance with the current site permit and as documented in the installation letter report by Stantec dated November 4, 2009, two additional probes were installed in August 2009 on the south side of the landfill property. GMW-10, on the east side of the facility, which had been inadvertently removed during site operations, was also relocated at this time. In December 2010, the methane monitoring system was again modified. Existing gas probes GMW -1 through GMW-9 were abandoned and five new gas probes, GMW -13 through GMW –17, were installed on December 7 and 8, 2010.

In correspondence to the IDNR dated December 21, 2015, CDS proposed installation of an additional landfill gas monitoring probe to the east of the unlined waste disposal area. The proposal was presented in response to IDNR comments regarding the 2014 AWQR and the October 8, 2015 meeting between the Landfill and IDNR representatives. The purpose of the additional monitoring point is to aid in evaluating the potential migration of landfill gas immediately to the east of the unlined landfilled area. GMW-18 was installed on August 23, 2016. GMW-18 is not a landfill gas monitoring compliance point as it is not situated at the property boundary. The monitoring point was installed to provide an early indication of potential groundwater detections that may occur from landfill gas migration. Documentation of installation and an updated Landfill Gas Monitoring Plan was submitted to IDNR in September 2016 (IDNR Document 87289). The facility Permit incorporates approval of the Landfill Gas Monitoring Plan (IDNR Document 87445 - approved on October 20, 2016).

1.2.2 CURRENT MONITORING SYSTEM

The current monitoring system is depicted on **Figure 1** and includes GMW-18, the five gas probes installed in 2010, and existing probes GMW-10R, 11, and 12 for a total of nine probes. Also monitored are the on-site structures, which include the office and the shop areas.

1.3 Monitoring Methods/Equipment

The objective of the methane gas monitoring system is to guide site management in the appropriate protocols for methane gas management for the Central Disposal Landfill and to assure compliance with the IDNR Solid Waste Management and Disposal Regulations related to explosive gas control and monitoring for sanitary landfill operations (113.9).

Methane concentrations at the monitoring probes and onsite structures were measured during each of the four quarters in 2024 by WM personnel. A Landtech Gem5000 landfill gas meter was used to perform the monitoring. The meter is calibrated regularly, per WM policy, with calibration gases at various concentrations of Methane and Carbon Dioxide. Methane concentrations in the scale house and shop are also measured continually with building monitors. Building monitors are checked monthly with a “bump test” to ensure they are working properly.

The regulatory requirements for gas probe monitoring are listed below:

- The concentration of methane gas generated by the facility does not exceed 25 percent of the lower explosive limit for methane in facility structures (i.e., less than 1.25% methane).
- The concentration of methane gas does not exceed the lower explosive limit at the facility property boundary (i.e., less than 5% methane).

2 Monitoring Results

WM performed the landfill gas monitoring in 2024 as discussed above.

Methane concentrations recorded during the 2024 monitoring events for the current monitoring system (GMW-10R, and GMW-11 through 18) are tabulated along with historical information on **Table 1**. No methane was detected at GMW-10R, and GMW-11 through 18.

1% methane was detected in the greenhouse in May, below the compliance threshold and subsequent readings were non-detect. No methane was detected in the other on-site landfill structures by WM personnel or by the in-place building monitors. Building monitor operation was confirmed monthly in accordance with site procedures. WM recorded the monitoring events performed by their representative on a quarterly basis which is documented in **Table 1**.

3 Summary and Recommendations

Based on a review of the current and historical methane data, neither methane nor landfill gas is migrating to the on-site structures nor off the site property in quantities that exceed regulatory levels. It is, therefore, recommended that:

The quarterly monitoring events continue as stipulated by IAC, Chapter 113.9

TABLES

Table 1 - Summary
Quarterly Methane Monitoring Results
Central Disposal Landfill
Lake Mills, IA

Monitoring Point	Date	Methane Reading (% CH4)
GMW-10R	24-Sep-09	0.0
GMW-10R	12-Nov-09	0.8
GMW-10R	26-Mar-10	0.4
GMW-10R	18-Jun-10	0.1
GMW-10R	03-Sep-10	0.0
GMW-10R	29-Nov-10	0.0
GMW-10R	24-Mar-11	0.0
GMW-10R	24-Jun-11	0.0
GMW-10R	08-Sep-11	0.0
GMW-10R	24-Oct-11	0.0
GMW-10R	23-Dec-11	0.0
GMW-10R	14-Feb-12	0.0
GMW-10R	14-Feb-12	0.0
GMW-10R	12-Jun-12	0.0
GMW-10R	28-Sep-12	0.0
GMW-10R	14-Dec-12	0.0
GMW-10R	20-Mar-13	0.0
GMW-10R	27-Jun-13	0.0
GMW-10R	30-Sep-13	0.0
GMW-10R	10-Dec-13	0.0
GMW-10R	20-Mar-14	0.0
GMW-10R	09-Jun-14	0.0
GMW-10R	26-Sep-14	0.0
GMW-10R	26-Sep-14	0.0
GMW-10R	12-Dec-14	0.0
GMW-10R	11-Mar-15	0.0
GMW-10R	12-Jun-15	0.0
GMW-10R	18-Sep-15	0.0
GMW-10R	11-Dec-15	0.0
GMW-10R	25-Mar-16	0.0
GMW-10R	20-Jun-16	0.0
GMW-10R	13-Sep-16	0.0
GMW-10R	15-Nov-16	0.0
GMW-10R	20-Mar-17	0.0
GMW-10R	29-Jun-17	0.0
GMW-10R	28-Aug-17	0.0
GMW-10R	21-Dec-17	0.0
GMW-10R	30-Mar-18	0.0
GMW-10R	28-Jun-18	0.0
GMW-10R	21-Sep-18	0.0
GMW-10R	26-Dec-18	0.0
GMW-10R	18-Mar-19	0.0
GMW-10R	18-Jun-19	0.0
GMW-10R	19-Sep-19	0.0
GMW-10R	11-Mar-20	0.0
GMW-10R	18-Jun-20	0.0
GMW-10R	17-Sep-20	0.0
GMW-10R	19-Mar-21	0.0
GMW-10R	23-Jun-21	0.0
GMW-10R	10-Aug-21	0.0
GMW-10R	08-Nov-21	0.0
GMW-10R	16-Mar-22	0.0
GMW-10R	24-May-22	0.0
GMW-10R	22-Aug-22	0.0
GMW-10R	28-Nov-22	0.0
GMW-10R	23-Mar-23	0.1
GMW-10R	12-Jun-23	0.0
GMW-10R	12-Sep-23	0.0
GMW-10R	17-Nov-23	0.0
GMW-10R	26-Feb-24	0.0
GMW-10R	22-May-24	0.0
GMW-10R	16-Aug-24	0.0
GMW-10R	02-Dec-24	0.0

Monitoring Point	Date	Methane Reading (% CH4)
GMW-11	24-Sep-09	0.0
GMW-11	12-Nov-09	0.0
GMW-11	26-Mar-10	0.0
GMW-11	18-Jun-10	0.0
GMW-11	03-Sep-10	0.0
GMW-11	29-Nov-10	0.0
GMW-11	24-Mar-11	0.0
GMW-11	24-Jun-11	0.0
GMW-11	08-Sep-11	0.0
GMW-11	24-Oct-11	0.0
GMW-11	23-Dec-11	0.0
GMW-11	14-Feb-12	0.0
GMW-11	12-Jun-12	0.0
GMW-11	28-Sep-12	0.0
GMW-11	14-Dec-12	0.0
GMW-11	20-Mar-13	0.0
GMW-11	27-Jun-13	0.0
GMW-11	30-Sep-13	0.0
GMW-11	10-Dec-13	0.0
GMW-11	20-Mar-14	0.0
GMW-11	09-Jun-14	0.0
GMW-11	26-Sep-14	0.0
GMW-11	12-Dec-14	0.0
GMW-11	11-Mar-15	0.0
GMW-11	12-Jun-15	0.0
GMW-11	18-Sep-15	0.0
GMW-11	11-Dec-15	0.0
GMW-11	25-Mar-16	0.0
GMW-11	20-Jun-16	0.0
GMW-11	13-Sep-16	0.0
GMW-11	15-Nov-16	0.0
GMW-11	20-Mar-17	0.0
GMW-11	29-Jun-17	0.0
GMW-11	28-Aug-17	0.0
GMW-11	21-Dec-17	0.0
GMW-11	30-Mar-18	0.0
GMW-11	28-Jun-18	0.0
GMW-11	21-Sep-18	0.0
GMW-11	26-Dec-18	0.0
GMW-11	18-Mar-19	0.0
GMW-11	18-Jun-19	0.0
GMW-11	19-Sep-19	0.0
GMW-11	11-Mar-20	0.1
GMW-11	18-Jun-20	0.2
GMW-11	17-Sep-20	0.0
GMW-11	19-Mar-21	0.0
GMW-11	23-Jun-21	0.0
GMW-11	10-Aug-21	0.0
GMW-11	10-Aug-21	0.0
GMW-11	08-Nov-21	0.0
GMW-11	16-Mar-22	0.0
GMW-11	24-May-22	0.0
GMW-11	22-Aug-22	0.0
GMW-11	28-Nov-22	0.0
GMW-11	23-Mar-23	0.0
GMW-11	12-Jun-23	0.0
GMW-11	12-Sep-23	0.0
GMW-11	17-Nov-23	0.0
GMW-11	26-Feb-24	0.0
GMW-11	22-May-24	0.0
GMW-11	16-Aug-24	0.0
GMW-11	02-Dec-24	0.0

Table 1 - Summary
Quarterly Methane Monitoring Results
Central Disposal Landfill
Lake Mills, IA

Monitoring Point	Date	Methane Reading (% CH4)
GMW-12	24-Sep-09	0.0
GMW-12	12-Nov-09	0.0
GMW-12	26-Mar-10	0.0
GMW-12	18-Jun-10	0.0
GMW-12	03-Sep-10	0.0
GMW-12	29-Nov-10	0.0
GMW-12	24-Mar-11	0.0
GMW-12	24-Jun-11	0.0
GMW-12	08-Sep-11	0.0
GMW-12	24-Oct-11	0.0
GMW-12	23-Dec-11	0.0
GMW-12	14-Feb-12	0.0
GMW-12	12-Jun-12	0.0
GMW-12	28-Sep-12	0.0
GMW-12	14-Dec-12	0.0
GMW-12	20-Mar-13	0.0
GMW-12	27-Jun-13	0.0
GMW-12	30-Sep-13	0.0
GMW-12	10-Dec-13	0.0
GMW-12	20-Mar-14	0.0
GMW-12	09-Jun-14	0.0
GMW-12	26-Sep-14	0.0
GMW-12	12-Dec-14	0.0
GMW-12	11-Mar-15	0.0
GMW-12	12-Jun-15	0.0
GMW-12	18-Sep-15	0.0
GMW-12	11-Dec-15	0.0
GMW-12	25-Mar-16	0.0
GMW-12	20-Jun-16	0.0
GMW-12	13-Sep-16	0.0
GMW-12	15-Nov-16	0.0
GMW-12	20-Mar-17	0.0
GMW-12	29-Jun-17	0.0
GMW-12	28-Aug-17	0.0
GMW-12	21-Dec-17	0.0
GMW-12	30-Mar-18	0.0
GMW-12	28-Jun-18	0.0
GMW-12	21-Sep-18	0.0
GMW-12	26-Dec-18	0.0
GMW-12	18-Mar-19	0.0
GMW-12	18-Jun-19	0.0
GMW-12	19-Sep-19	0.0
GMW-12	11-Mar-20	0.1
GMW-12	18-Jun-20	0.1
GMW-12	17-Sep-20	0.0
GMW-12	19-Mar-21	0.0
GMW-12	23-Jun-21	0.0
GMW-12	10-Aug-21	0.0
GMW-12	08-Nov-21	0.0
GMW-12	16-Mar-22	0.0
GMW-12	24-May-22	0.0
GMW-12	22-Aug-22	0.0
GMW-12	28-Nov-22	0.0
GMW-12	23-Mar-23	0.0
GMW-12	12-Jun-23	0.1
GMW-12	12-Sep-23	0.0
GMW-12	17-Nov-23	0.0
GMW-12	26-Feb-24	0.0
GMW-12	22-May-24	0.0
GMW-12	16-Aug-24	0.0
GMW-12	02-Dec-24	0.0

Monitoring Point	Date	Methane Reading (% CH4)
GMW-13	24-Mar-11	0.0
GMW-13	24-Jun-11	0.0
GMW-13	08-Sep-11	0.0
GMW-13	24-Oct-11	0.0
GMW-13	23-Dec-11	0.0
GMW-13	14-Feb-12	0.0
GMW-13	04-May-12	0.0
GMW-13	12-Jun-12	0.0
GMW-13	28-Sep-12	0.0
GMW-13	14-Dec-12	0.0
GMW-13	20-Mar-13	0.0
GMW-13	27-Jun-13	0.0
GMW-13	30-Sep-13	0.0
GMW-13	10-Dec-13	0.0
GMW-13	20-Mar-14	0.0
GMW-13	09-Jun-14	0.0
GMW-13	26-Sep-14	0.0
GMW-13	12-Dec-14	0.0
GMW-13	11-Mar-15	0.0
GMW-13	12-Jun-15	0.0
GMW-13	18-Sep-15	0.0
GMW-13	11-Dec-15	0.0
GMW-13	25-Mar-16	0.0
GMW-13	20-Jun-16	0.0
GMW-13	13-Sep-16	0.0
GMW-13	15-Nov-16	0.0
GMW-13	20-Mar-17	0.0
GMW-13	29-Jun-17	0.0
GMW-13	28-Aug-17	0.0
GMW-13	21-Dec-17	0.0
GMW-13	30-Mar-18	0.0
GMW-13	28-Jun-18	0.0
GMW-13	21-Sep-18	0.0
GMW-13	26-Dec-18	0.0
GMW-13	18-Mar-19	0.0
GMW-13	18-Jun-19	0.0
GMW-13	19-Sep-19	0.0
GMW-13	11-Mar-20	0.0
GMW-13	18-Jun-20	0.1
GMW-13	17-Sep-20	0.0
GMW-13	19-Mar-21	0.0
GMW-13	23-Jun-21	0.0
GMW-13	10-Aug-21	0.0
GMW-13	10-Aug-21	0.0
GMW-13	08-Nov-21	0.0
GMW-13	16-Mar-22	0.0
GMW-13	24-May-22	0.0
GMW-13	22-Aug-22	0.0
GMW-13	28-Nov-22	0.0
GMW-13	23-Mar-23	0.0
GMW-13	12-Jun-23	0.1
GMW-13	12-Sep-23	0.0
GMW-13	17-Nov-23	0.0
GMW-13	26-Feb-24	0.0
GMW-13	22-May-24	0.0
GMW-13	19-Aug-24	0.0
GMW-13	02-Dec-24	0.0

Table 1 - Summary
Quarterly Methane Monitoring Results
Central Disposal Landfill
Lake Mills, IA

Monitoring Point	Date	Methane Reading (% CH4)
GMW-14	24-Mar-11	0.0
GMW-14	24-Jun-11	0.0
GMW-14	08-Sep-11	0.0
GMW-14	24-Oct-11	0.0
GMW-14	23-Dec-11	0.0
GMW-14	14-Feb-12	0.0
GMW-14	12-Jun-12	0.0
GMW-14	28-Sep-12	0.0
GMW-14	14-Dec-12	0.0
GMW-14	20-Mar-13	0.0
GMW-14	27-Jun-13	0.0
GMW-14	30-Sep-13	0.0
GMW-14	10-Dec-13	0.0
GMW-14	20-Mar-14	0.0
GMW-14	09-Jun-14	0.0
GMW-14	09-Jun-14	0.0
GMW-14	26-Sep-14	0.0
GMW-14	12-Dec-14	0.0
GMW-14	11-Mar-15	0.0
GMW-14	12-Jun-15	0.0
GMW-14	18-Sep-15	0.0
GMW-14	11-Dec-15	0.0
GMW-14	25-Mar-16	0.0
GMW-14	20-Jun-16	0.0
GMW-14	13-Sep-16	0.0
GMW-14	15-Nov-16	0.0
GMW-14	20-Mar-17	0.0
GMW-14	29-Jun-17	0.0
GMW-14	28-Aug-17	0.0
GMW-14	21-Dec-17	0.0
GMW-14	30-Mar-18	0.0
GMW-14	28-Jun-18	0.0
GMW-14	21-Sep-18	0.0
GMW-14	26-Dec-18	0.0
GMW-14	18-Mar-19	0.0
GMW-14	18-Jun-19	0.0
GMW-14	19-Sep-19	0.0
GMW-14	11-Mar-20	0.1
GMW-14	18-Jun-20	0.2
GMW-14	17-Sep-20	0.0
GMW-14	19-Mar-21	0.0
GMW-14	23-Jun-21	0.0
GMW-14	10-Aug-21	0.0
GMW-14	08-Nov-21	0.0
GMW-14	16-Mar-22	0.0
GMW-14	24-May-22	0.0
GMW-14	22-Aug-22	0.0
GMW-14	28-Nov-22	0.0
GMW-14	23-Mar-23	0.0
GMW-14	12-Jun-23	0.0
GMW-14	12-Sep-23	0.0
GMW-14	17-Nov-23	0.0
GMW-14	26-Feb-24	0.0
GMW-14	22-May-24	0.0
GMW-14	16-Aug-24	0.0
GMW-14	02-Dec-24	0.0

Monitoring Point	Date	Methane Reading (% CH4)
GMW-15	24-Mar-11	0.0
GMW-15	24-Jun-11	0.0
GMW-15	08-Sep-11	0.0
GMW-15	24-Oct-11	0.0
GMW-15	23-Dec-11	0.0
GMW-15	14-Feb-12	0.0
GMW-15	14-Feb-12	0.0
GMW-15	04-May-12	0.0
GMW-15	12-Jun-12	0.0
GMW-15	28-Sep-12	0.0
GMW-15	14-Dec-12	0.0
GMW-15	20-Mar-13	0.0
GMW-15	27-Jun-13	0.0
GMW-15	30-Sep-13	0.0
GMW-15	10-Dec-13	0.0
GMW-15	20-Mar-14	0.0
GMW-15	09-Jun-14	0.0
GMW-15	26-Sep-14	0.0
GMW-15	12-Dec-14	0.0
GMW-15	11-Mar-15	0.0
GMW-15	12-Jun-15	0.0
GMW-15	18-Sep-15	0.0
GMW-15	11-Dec-15	0.0
GMW-15	25-Mar-16	0.0
GMW-15	20-Jun-16	0.0
GMW-15	13-Sep-16	0.0
GMW-15	15-Nov-16	0.0
GMW-15	20-Mar-17	0.0
GMW-15	29-Jun-17	0.0
GMW-15	28-Aug-17	0.0
GMW-15	21-Dec-17	0.0
GMW-15	30-Mar-18	0.0
GMW-15	28-Jun-18	0.0
GMW-15	21-Sep-18	0.0
GMW-15	26-Dec-18	0.0
GMW-15	18-Mar-19	0.0
GMW-15	18-Jun-19	0.0
GMW-15	19-Sep-19	0.0
GMW-15	11-Mar-20	0.2
GMW-15	18-Jun-20	0.4
GMW-15	17-Sep-20	0.0
GMW-15	19-Mar-21	0.0
GMW-15	23-Jun-21	0.0
GMW-15	10-Aug-21	0.0
GMW-15	08-Nov-21	0.0
GMW-15	16-Mar-22	0.0
GMW-15	24-May-22	0.0
GMW-15	22-Aug-22	0.0
GMW-15	28-Nov-22	0.0
GMW-15	23-Mar-23	0.0
GMW-15	12-Jun-23	0.0
GMW-15	12-Sep-23	0.0
GMW-15	17-Nov-23	0.0
GMW-15	26-Feb-24	0.0
GMW-15	22-May-24	0.0
GMW-15	16-Aug-24	0.0
GMW-15	02-Dec-24	0.0

Table 1 - Summary
Quarterly Methane Monitoring Results
Central Disposal Landfill
Lake Mills, IA

Monitoring Point	Date	Methane Reading (% CH4)
GMW-16	24-Mar-11	0.0
GMW-16	24-Jun-11	0.0
GMW-16	08-Sep-11	0.0
GMW-16	24-Oct-11	0.0
GMW-16	23-Dec-11	0.0
GMW-16	12-Feb-12	0.0
GMW-16	04-May-12	0.0
GMW-16	12-Jun-12	0.0
GMW-16	28-Sep-12	0.0
GMW-16	14-Dec-12	0.0
GMW-16	20-Mar-13	0.0
GMW-16	27-Jun-13	0.0
GMW-16	30-Sep-13	0.0
GMW-16	10-Dec-13	0.0
GMW-16	20-Mar-14	0.0
GMW-16	09-Jun-14	0.0
GMW-16	26-Sep-14	0.0
GMW-16	12-Dec-14	0.0
GMW-16	11-Mar-15	0.0
GMW-16	12-Jun-15	0.0
GMW-16	18-Sep-15	0.0
GMW-16	11-Dec-15	0.0
GMW-16	25-Mar-16	0.0
GMW-16	20-Jun-16	0.0
GMW-16	13-Sep-16	0.0
GMW-16	15-Nov-16	0.0
GMW-16	20-Mar-17	0.0
GMW-16	29-Jun-17	0.0
GMW-16	28-Aug-17	0.0
GMW-16	21-Dec-17	0.0
GMW-16	30-Mar-18	0.0
GMW-16	28-Jun-18	0.0
GMW-16	21-Sep-18	0.0
GMW-16	26-Dec-18	0.0
GMW-16	18-Mar-19	0.0
GMW-16	18-Jun-19	0.0
GMW-16	19-Sep-19	0.0
GMW-16	11-Mar-20	0.0
GMW-16	18-Jun-20	0.2
GMW-16	17-Sep-20	0.0
GMW-16	19-Mar-21	0.0
GMW-16	23-Jun-21	0.0
GMW-16	10-Aug-21	0.0
GMW-16	08-Nov-21	0.0
GMW-16	16-Mar-22	0.0
GMW-16	24-May-22	0.0
GMW-16	22-Aug-22	0.0
GMW-16	28-Nov-22	0.0
GMW-16	23-Mar-23	0.0
GMW-16	12-Jun-23	0.0
GMW-16	12-Sep-23	0.0
GMW-16	17-Nov-23	0.0
GMW-16	26-Feb-24	0.0
GMW-16	22-May-24	0.0
GMW-16	19-Aug-24	0.0
GMW-16	02-Dec-24	0.0

Monitoring Point	Date	Methane Reading (% CH4)
GMW-17	24-Mar-11	0.0
GMW-17	24-Jun-11	0.0
GMW-17	08-Sep-11	0.0
GMW-17	24-Oct-11	0.0
GMW-17	23-Dec-11	0.0
GMW-17	14-Feb-12	0.0
GMW-17	12-Jun-12	0.0
GMW-17	28-Sep-12	0.0
GMW-17	14-Dec-12	0.0
GMW-17	20-Mar-13	0.0
GMW-17	27-Jun-13	0.0
GMW-17	30-Sep-13	0.0
GMW-17	10-Dec-13	0.0
GMW-17	20-Mar-14	0.0
GMW-17	09-Jun-14	0.0
GMW-17	26-Sep-14	0.0
GMW-17	12-Dec-14	0.0
GMW-17	11-Mar-15	0.0
GMW-17	12-Jun-15	0.0
GMW-17	18-Sep-15	0.0
GMW-17	11-Dec-15	0.0
GMW-17	25-Mar-16	0.0
GMW-17	20-Jun-16	0.0
GMW-17	13-Sep-16	0.0
GMW-17	15-Nov-16	0.0
GMW-17	20-Mar-17	0.0
GMW-17	29-Jun-17	0.0
GMW-17	28-Aug-17	0.0
GMW-17	21-Dec-17	0.0
GMW-17	30-Mar-18	0.0
GMW-17	28-Jun-18	0.0
GMW-17	21-Sep-18	0.0
GMW-17	26-Dec-18	0.0
GMW-17	18-Mar-19	0.0
GMW-17	18-Jun-19	0.0
GMW-17	19-Sep-19	0.0
GMW-17	11-Mar-20	0.0
GMW-17	18-Jun-20	0.1
GMW-17	17-Sep-20	0.0
GMW-17	19-Mar-21	0.0
GMW-17	23-Jun-21	0.0
GMW-17	10-Aug-21	0.0
GMW-17	08-Nov-21	0.0
GMW-17	16-Mar-22	0.0
GMW-17	24-May-22	0.0
GMW-17	22-Aug-22	0.0
GMW-17	28-Nov-22	0.0
GMW-17	23-Mar-23	0.0
GMW-17	12-Jun-23	0.1
GMW-17	12-Sep-23	0.0
GMW-17	17-Nov-23	0.0
GMW-17	26-Feb-24	0.0
GMW-17	22-May-24	0.0
GMW-17	19-Aug-24	0.0
GMW-17	02-Dec-24	0.0

Table 1 - Summary
Quarterly Methane Monitoring Results
Central Disposal Landfill
Lake Mills, IA

Monitoring Point	Date	Methane Reading (% CH4)
GMW-18	13-Sep-16	0.0
GMW-18	15-Nov-16	0.0
GMW-18	20-Mar-17	0.0
GMW-18	29-Jun-17	0.0
GMW-18	28-Aug-17	0.0
GMW-18	21-Dec-17	0.0
GMW-18	30-Mar-18	0.0
GMW-18	28-Jun-18	0.0
GMW-18	21-Sep-18	0.0
GMW-18	26-Dec-18	0.0
GMW-18	18-Mar-19	0.0
GMW-18	18-Jun-19	0.0
GMW-18	19-Sep-19	0.0
GMW-18	18-Jun-20	0.0
GMW-18	17-Sep-20	0.0
GMW-18	19-Mar-21	0.0
GMW-18	23-Jun-21	0.0
GMW-18	10-Aug-21	0.0
GMW-18	08-Nov-21	0.0
GMW-18	16-Mar-22	0.0
GMW-18	24-May-22	0.0
GMW-18	22-Aug-22	0.0
GMW-18	28-Nov-22	0.0
GMW-18	23-Mar-23	0.0
GMW-18	12-Jun-23	0.0
GMW-18	12-Sep-23	0.0
GMW-18	17-Nov-23	0.0
GMW-18	26-Feb-24	0.0
GMW-18	22-May-24	0.0
GMW-18	16-Aug-24	0.0
GMW-18	02-Dec-24	0.0

Monitoring Point	Date	Methane Reading (% CH4)
Scale House	25-Mar-22	0.0
Scale House	24-May-22	0.0
Scale House	22-Aug-22	0.0
Scale House	28-Nov-22	0.0
Scale House	24-Mar-23	0.0
Scale House	12-Jun-23	0.0
Scale House	12-Sep-23	0.0
Scale House	17-Nov-23	0.0
Scale House	26-Feb-24	0.0
Scale House	23-May-24	0.0
Scale House	16-Aug-24	0.0
Scale House	02-Dec-24	0.0

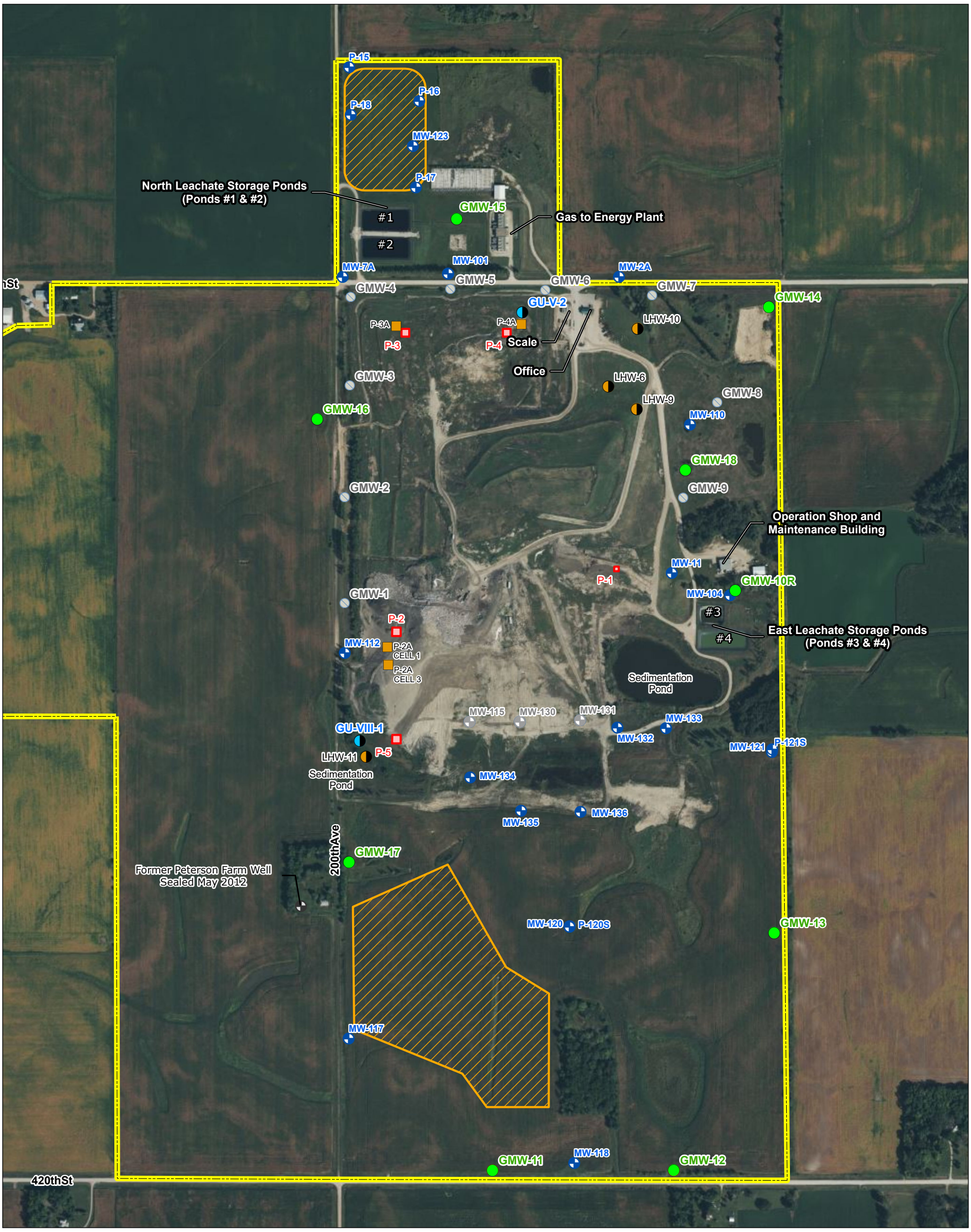
Monitoring Point	Date	Methane Reading (% CH4)
Shop	25-Mar-22	0.0
Shop	24-May-22	0.0
Shop	22-Aug-22	0.0
Shop	28-Nov-22	0.0
Shop	24-Mar-23	0.0
Shop	12-Jun-23	0.0
Shop	17-Nov-23	0.0
Shop	26-Feb-24	0.0
Shop	23-May-24	0.0
Shop	23-Aug-24	0.0
Shop	02-Dec-24	0.0

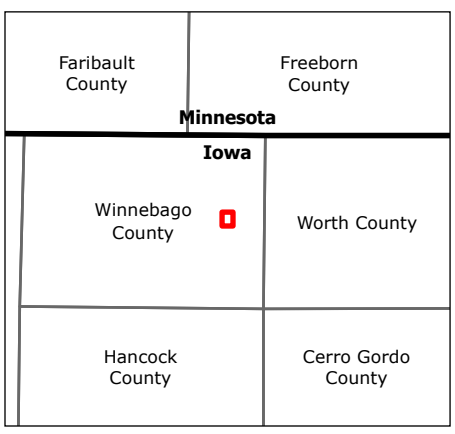
Monitoring Point	Date	Methane Reading (% CH4)
Greenhouse	24-Mar-23	0.0
Greenhouse	12-Jun-23	0.0
Greenhouse	12-Sep-23	0.0
Greenhouse	17-Nov-23	0.0
Greenhouse	26-Feb-24	0.0
Greenhouse	08-May-24	0.0
Greenhouse	23-May-24	1.0
Greenhouse	16-Aug-24	0.0
Greenhouse	02-Dec-24	0.0

Monitoring Point	Date	Methane Reading (% CH4)
WMRE	24-Mar-23	0.0
WMRE	12-Jun-23	0.0
WMRE	12-Sep-23	0.0
WMRE	17-Nov-23	0.0
WMRE	26-Feb-24	0.0
WMRE	23-May-24	0.0
WMRE	19-Aug-24	0.0
WMRE	02-Dec-24	0.0

Note: As of 4Q 2009 WM performs the gas monitoring.

FIGURES





Legend

- Property Line
- Monitorable Well
- Sealed Monitorable Well
- Sealed Private Well
- Leachate Head Well
- Alternate Leachate Head Well
- Sealed Gas Monitoring Probe
- Groundwater Underdrain
- Subsurface Gas Monitoring Probe
- Leachate Sump
- Former Spray Irrigation Site (Permit Terminated 2017)

0 300 600 Feet

(At original document size of 11x17)
1:7,200

N

Stantec

Project Location
T99N, R23W, S21
Lake Mills, Winnebago Co., IA

Prepared by JCS on 2025-01-13

Client/Project
227702549
Waste Management Inc.
WM Central Disposal Landfill
2024 Annual Report

Figure No.
1

Title
Landfill Monitoring Network

Notes
1. Coordinate System: NAD 1983 StatePlane Iowa North FIPS 1401 Feet
2. Data Sources: Bing Maps
3. Background: Bing Aerial Imagery

Appendix C Annual Detection Monitoring Analytical Report (Pace National)

ANALYTICAL REPORT

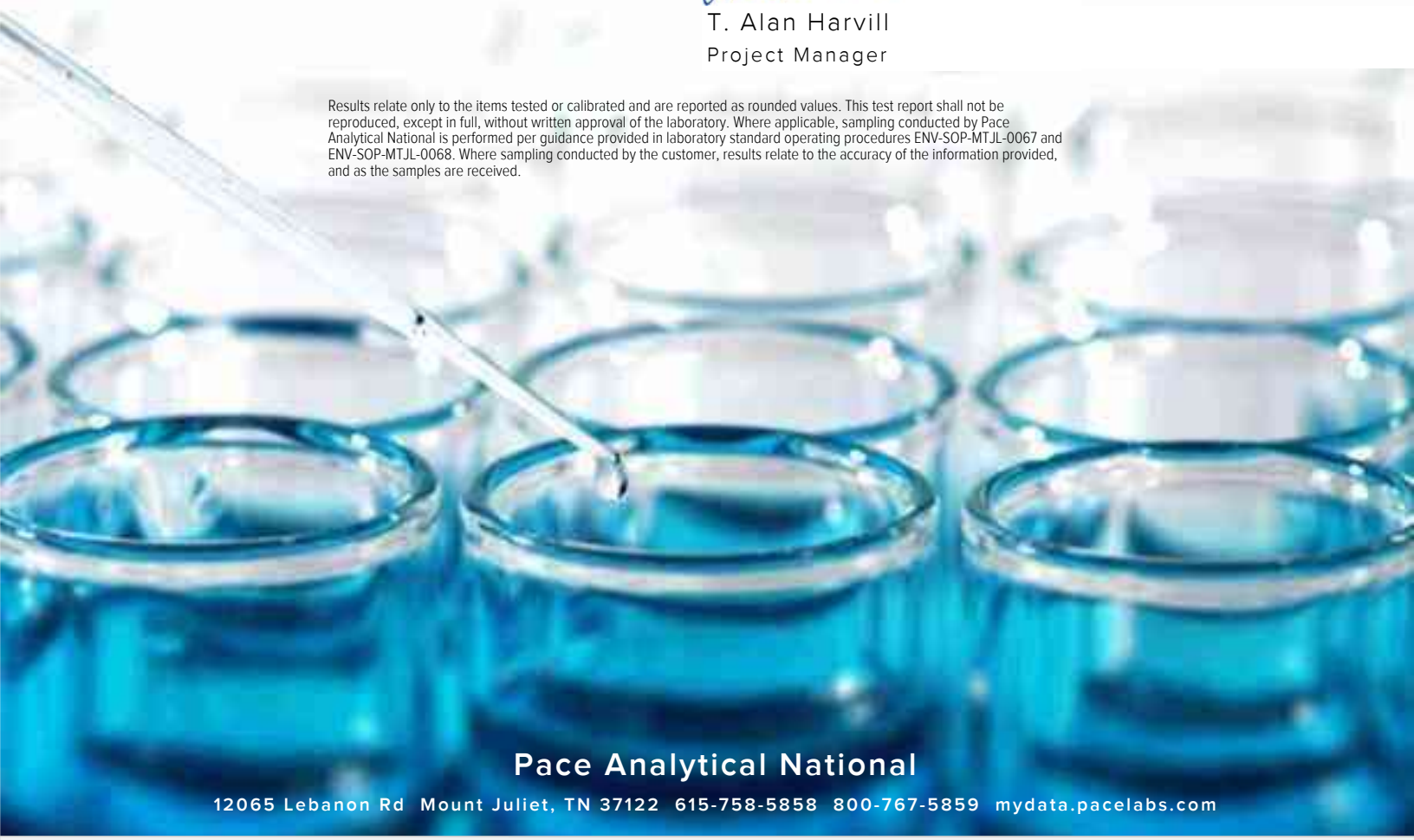
August 01, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1758890
Samples Received:	07/20/2024
Project Number:	100
Description:	Annual GW selected parameters(3Q21,4Q22,3Q24)
Site:	IA02
Report To:	Aaron Rebmann 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

GU-V-2 L1758890-01 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 13:30 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 10:44	07/21/24 10:44	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:17	07/27/24 13:17	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 02:21	07/26/24 02:21	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	5	07/26/24 03:12	07/26/24 03:12	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331930	1	07/30/24 10:04	07/31/24 00:55	DJS	Mt. Juliet, TN

MW-110 L1758890-02 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 11:45 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 10:49	07/21/24 10:49	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:21	07/27/24 13:21	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 03:29	07/26/24 03:29	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331930	1	07/30/24 10:04	07/31/24 01:04	DJS	Mt. Juliet, TN

MW-117 L1758890-03 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 09:30 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 10:54	07/21/24 10:54	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:29	07/27/24 13:29	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 04:03	07/26/24 04:03	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331930	1	07/30/24 10:04	07/31/24 01:07	DJS	Mt. Juliet, TN

MW-118 L1758890-04 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 09:00 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 10:59	07/21/24 10:59	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:32	07/27/24 13:32	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 04:37	07/26/24 04:37	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331930	1	07/30/24 10:04	07/31/24 01:09	DJS	Mt. Juliet, TN

MW-2A L1758890-05 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 10:45 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 09:23	07/21/24 09:23	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:35	07/27/24 13:35	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 06:01	07/26/24 06:01	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	5	07/26/24 06:18	07/26/24 06:18	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331930	1	07/30/24 10:04	07/31/24 01:12	DJS	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

MW-132 L1758890-06 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 12:30 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 11:29	07/21/24 11:29	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:36	07/27/24 13:36	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 06:35	07/26/24 06:35	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	10	07/26/24 07:26	07/26/24 07:26	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331930	1	07/30/24 10:04	07/31/24 01:15	DJS	Mt. Juliet, TN

MW-133 L1758890-07 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 12:00 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 11:40	07/21/24 11:40	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:38	07/27/24 13:38	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 07:43	07/26/24 07:43	DLH	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	10	07/26/24 08:00	07/26/24 08:00	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331554	1	07/30/24 09:19	07/30/24 16:36	DJS	Mt. Juliet, TN

MW-7A L1758890-08 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 10:00 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328385	1	07/23/24 11:49	07/23/24 16:03	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 11:44	07/21/24 11:44	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:39	07/27/24 13:39	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 08:17	07/26/24 08:17	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331554	1	07/30/24 09:19	07/31/24 11:52	DJS	Mt. Juliet, TN

MW-123 L1758890-09 GW

Collected by: Mike Hamer | Collected date/time: 07/19/24 11:15 | Received date/time: 07/20/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2327188	1	07/21/24 10:32	07/21/24 14:52	BJM	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2328630	1	07/23/24 16:10	07/24/24 12:19	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2327080	1	07/21/24 11:50	07/21/24 11:50	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2331080	1	07/27/24 13:41	07/27/24 13:41	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2328746	1	07/26/24 08:34	07/26/24 08:34	DLH	Mt. Juliet, TN
Metals (ICP) by Method 6010C	WG2331554	1	07/30/24 09:19	07/30/24 16:39	DJS	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Gravimetric Analysis by Method 2540 D-2011

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2328385	(DUP) R4098076-4	Suspended Solids

Wet Chemistry by Method 9056A

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2328746	(DUP) R4099788-6, L1758890-04	Chloride

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2328746	(MS) R4099788-7, L1758890-04	Sulfate

Metals (ICP) by Method 6010C

The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).

Batch	Lab Sample ID	Analytes
WG2331554	(MS) R4100723-4	Sodium
WG2331554	(MSD) R4100723-5	Sodium

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2331554	(MS) R4100723-4, (MSD) R4100723-5	Calcium, Iron, Potassium and Sodium

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	6.94	su
Specific Conductance (on site)	1809	umhos/cm
Temperature (on-site)	25.1	Deg. C
Turbidity (on-site)	3	NTU
Dissolved Oxygen (on-site)	1.3	mg/l
eH/ORP (On Site)	143	mV

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1240		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	ND		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	470		20.0	1	07/21/2024 10:44	WG2327080

Sample Narrative:

L1758890-01 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	ND		0.100	1	07/27/2024 13:17	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	33.1		1.00	1	07/26/2024 02:21	WG2328746
Sulfate	521		5.00	5	07/26/2024 03:12	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	254		1.00	1	07/31/2024 00:55	WG2331930
Iron	0.129		0.100	1	07/31/2024 00:55	WG2331930
Potassium	15.5		1.00	1	07/31/2024 00:55	WG2331930
Magnesium	72.4		1.00	1	07/31/2024 00:55	WG2331930
Sodium	45.1		1.00	1	07/31/2024 00:55	WG2331930

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	7.32	su
Specific Conductance (on site)	1020	umhos/cm
Temperature (on-site)	9.7	Deg. C
Turbidity (on-site)	1	NTU
Dissolved Oxygen (on-site)	0.6	mg/l
eH/ORP (On Site)	-44	mV
Depth To Water (onsite)	57.39	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	617		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	4.50		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	422		20.0	1	07/21/2024 10:49	WG2327080

Sample Narrative:

L1758890-02 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.925		0.100	1	07/27/2024 13:21	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	2.29		1.00	1	07/26/2024 03:29	WG2328746
Sulfate	128		5.00	1	07/26/2024 03:29	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	115		1.00	1	07/31/2024 01:04	WG2331930
Iron	0.106		0.100	1	07/31/2024 01:04	WG2331930
Potassium	8.05		1.00	1	07/31/2024 01:04	WG2331930
Magnesium	29.5		1.00	1	07/31/2024 01:04	WG2331930
Sodium	56.2		1.00	1	07/31/2024 01:04	WG2331930

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	6.8	su
Specific Conductance (on site)	1261	umhos/cm
Temperature (on-site)	10.5	Deg. C
Turbidity (on-site)	39.5	NTU
Dissolved Oxygen (on-site)	3	mg/l
eH/ORP (On Site)	75	mV
Depth To Water (onsite)	53.3	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	577		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	6.80		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	477		20.0	1	07/21/2024 10:54	WG2327080

Sample Narrative:

L1758890-03 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.271		0.100	1	07/27/2024 13:29	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	12.4		1.00	1	07/26/2024 04:03	WG2328746
Sulfate	69.9		5.00	1	07/26/2024 04:03	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	107		1.00	1	07/31/2024 01:07	WG2331930
Iron	ND		0.100	1	07/31/2024 01:07	WG2331930
Potassium	8.21		1.00	1	07/31/2024 01:07	WG2331930
Magnesium	26.6		1.00	1	07/31/2024 01:07	WG2331930
Sodium	73.4		1.00	1	07/31/2024 01:07	WG2331930

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	7.04	su
Specific Conductance (on site)	1105	umhos/cm
Temperature (on-site)	10	Deg. C
Turbidity (on-site)	2	NTU
Dissolved Oxygen (on-site)	0.7	mg/l
eH/ORP (On Site)	-10	mV
Depth To Water (onsite)	58.77	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	676		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	ND		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	451		20.0	1	07/21/2024 10:59	WG2327080

Sample Narrative:

L1758890-04 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	ND		0.100	1	07/27/2024 13:32	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	ND	P1	1.00	1	07/26/2024 04:37	WG2328746
Sulfate	184	V	5.00	1	07/26/2024 04:37	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	109		1.00	1	07/31/2024 01:09	WG2331930
Iron	ND		0.100	1	07/31/2024 01:09	WG2331930
Potassium	8.21		1.00	1	07/31/2024 01:09	WG2331930
Magnesium	41.6		1.00	1	07/31/2024 01:09	WG2331930
Sodium	58.8		1.00	1	07/31/2024 01:09	WG2331930

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	7.04	su
Specific Conductance (on site)	1488	umhos/cm
Temperature (on-site)	11	Deg. C
Turbidity (on-site)	2.1	NTU
Dissolved Oxygen (on-site)	0.4	mg/l
eH/ORP (On Site)	85	mV
Depth To Water (onsite)	38.3	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	936		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	ND		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	530		20.0	1	07/21/2024 09:23	WG2327080

Sample Narrative:

L1758890-05 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.593		0.100	1	07/27/2024 13:35	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	1.24		1.00	1	07/26/2024 06:01	WG2328746
Sulfate	314		5.00	5	07/26/2024 06:18	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	190		1.00	1	07/31/2024 01:12	WG2331930
Iron	ND		0.100	1	07/31/2024 01:12	WG2331930
Potassium	8.66		1.00	1	07/31/2024 01:12	WG2331930
Magnesium	45.4		1.00	1	07/31/2024 01:12	WG2331930
Sodium	74.9		1.00	1	07/31/2024 01:12	WG2331930

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	6.88	su
Specific Conductance (on site)	2215	umhos/cm
Temperature (on-site)	11.2	Deg. C
Turbidity (on-site)	26	NTU
Dissolved Oxygen (on-site)	0.7	mg/l
eH/ORP (On Site)	42	mV
Depth To Water (onsite)	27.26	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1670		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	17.0		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	496		20.0	1	07/21/2024 11:29	WG2327080

Sample Narrative:

L1758890-06 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.216		0.100	1	07/27/2024 13:36	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	3.91		1.00	1	07/26/2024 06:35	WG2328746
Sulfate	870		5.00	10	07/26/2024 07:26	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	343		1.00	1	07/31/2024 01:15	WG2331930
Iron	6.43		0.100	1	07/31/2024 01:15	WG2331930
Potassium	11.5		1.00	1	07/31/2024 01:15	WG2331930
Magnesium	88.7		1.00	1	07/31/2024 01:15	WG2331930
Sodium	61.3		1.00	1	07/31/2024 01:15	WG2331930

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	7.02	su
Specific Conductance (on site)	1945	umhos/cm
Temperature (on-site)	10.5	Deg. C
Turbidity (on-site)	15.9	NTU
Dissolved Oxygen (on-site)	1.5	mg/l
eH/ORP (On Site)	-42	mV
Depth To Water (onsite)	17.47	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1250		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	15.0		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	512		20.0	1	07/21/2024 11:40	WG2327080

Sample Narrative:

L1758890-07 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.412		0.100	1	07/27/2024 13:38	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	10.4		1.00	1	07/26/2024 07:43	WG2328746
Sulfate	555		5.00	10	07/26/2024 08:00	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	279		1.00	1	07/30/2024 16:36	WG2331554
Iron	5.90		0.100	1	07/30/2024 16:36	WG2331554
Potassium	9.01		1.00	1	07/30/2024 16:36	WG2331554
Magnesium	74.4		1.00	1	07/30/2024 16:36	WG2331554
Sodium	23.8		1.00	1	07/30/2024 16:36	WG2331554

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	7.27	su
Specific Conductance (on site)	1046	umhos/cm
Temperature (on-site)	10.7	Deg. C
Turbidity (on-site)	40	NTU
Dissolved Oxygen (on-site)	1.5	mg/l
eH/ORP (On Site)	155	mV
Depth To Water (onsite)	63.75	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	537		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	34.6		4.00	1	07/23/2024 16:03	WG2328385

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	466		20.0	1	07/21/2024 11:44	WG2327080

Sample Narrative:

L1758890-08 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.211		0.100	1	07/27/2024 13:39	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	ND		1.00	1	07/26/2024 08:17	WG2328746
Sulfate	59.6		5.00	1	07/26/2024 08:17	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	119		1.00	1	07/31/2024 11:52	WG2331554
Iron	3.34		0.100	1	07/31/2024 11:52	WG2331554
Potassium	7.26		1.00	1	07/31/2024 11:52	WG2331554
Magnesium	30.0		1.00	1	07/31/2024 11:52	WG2331554
Sodium	40.8		1.00	1	07/31/2024 11:52	WG2331554

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
pH (On Site)	7.25	su
Specific Conductance (on site)	1007	umhos/cm
Temperature (on-site)	9.7	Deg. C
Turbidity (on-site)	0.8	NTU
Dissolved Oxygen (on-site)	0.5	mg/l
eH/ORP (On Site)	-25	mV
Depth To Water (onsite)	64.22	ft

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	603		10.0	1	07/21/2024 14:52	WG2327188

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	4.00		4.00	1	07/24/2024 12:19	WG2328630

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	436		20.0	1	07/21/2024 11:50	WG2327080

Sample Narrative:

L1758890-09 WG2327080: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.464		0.100	1	07/27/2024 13:41	WG2331080

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	3.40		1.00	1	07/26/2024 08:34	WG2328746
Sulfate	126		5.00	1	07/26/2024 08:34	WG2328746

Metals (ICP) by Method 6010C

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Calcium	139		1.00	1	07/30/2024 16:39	WG2331554
Iron	1.70		0.100	1	07/30/2024 16:39	WG2331554
Potassium	6.80		1.00	1	07/30/2024 16:39	WG2331554
Magnesium	36.3		1.00	1	07/30/2024 16:39	WG2331554
Sodium	27.4		1.00	1	07/30/2024 16:39	WG2331554

Method Blank (MB)

(MB) R4097309-1 07/21/24 14:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	ND		2.82	10.0

L1757425-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1757425-01 07/21/24 14:52 • (DUP) R4097309-3 07/21/24 14:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	306	307	1	0.326		10

L1758711-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1758711-01 07/21/24 14:52 • (DUP) R4097309-4 07/21/24 14:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	400	405	1	1.24		10

Laboratory Control Sample (LCS)

(LCS) R4097309-2 07/21/24 14:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8790	99.9	85.0-115	

Method Blank (MB)

(MB) R4098076-1 07/23/24 16:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1758739-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1758739-02 07/23/24 16:03 • (DUP) R4098076-4 07/23/24 16:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	10.4	11.6	1	10.9	P1	10

Laboratory Control Sample (LCS)

(LCS) R4098076-2 07/23/24 16:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	692	89.5	85.0-115	

Method Blank (MB)

(MB) R4098352-1 07/24/24 12:19

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1758411-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1758411-01 07/24/24 12:19 • (DUP) R4098352-3 07/24/24 12:19

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	140	152	1	8.00		10

Laboratory Control Sample (LCS)

(LCS) R4098352-2 07/24/24 12:19

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	724	93.7	85.0-115	

Method Blank (MB)

(MB) R4096497-2 07/21/24 09:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1758890-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1758890-05 07/21/24 09:23 • (DUP) R4096497-3 07/21/24 09:28

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	530	534	1	0.817		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1758890-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1758890-06 07/21/24 11:29 • (DUP) R4096497-4 07/21/24 11:35

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	496	490	1	1.29		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4096497-1 07/21/24 09:08

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	101	101	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4099281-1 07/27/24 13:08

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

L1758890-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1758890-02 07/27/24 13:21 • (DUP) R4099281-5 07/27/24 13:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.925	0.950	1	2.67		10

L1758890-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1758890-04 07/27/24 13:32 • (DUP) R4099281-7 07/27/24 13:33

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4099281-2 07/27/24 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.32	97.6	90.0-110	

L1758890-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1758890-01 07/27/24 13:17 • (MS) R4099281-3 07/27/24 13:18 • (MSD) R4099281-4 07/27/24 13:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	ND	5.03	4.91	101	98.3	1	90.0-110			2.35	10

L1758890-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1758890-03 07/27/24 13:29 • (MS) R4099281-6 07/27/24 13:30

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	0.271	5.34	101	1	90.0-110	

Method Blank (MB)

(MB) R4099788-1 07/25/24 19:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	ND		0.0519	1.00
Sulfate	ND		0.0774	5.00

L1758861-20 Original Sample (OS) • Duplicate (DUP)

(OS) L1758861-20 07/26/24 00:08 • (DUP) R4099788-3 07/26/24 00:57

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	ND	1	0.000		15
Sulfate	ND	ND	1	0.000		15

L1758890-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1758890-04 07/26/24 04:37 • (DUP) R4099788-6 07/26/24 04:54

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	ND	1.14	1	15.5	P1	15
Sulfate	184	184	1	0.0570		15

Laboratory Control Sample (LCS)

(LCS) R4099788-2 07/25/24 19:39

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.9	99.6	80.0-120	
Sulfate	40.0	39.0	97.5	80.0-120	

L1758861-20 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1758861-20 07/26/24 00:08 • (MS) R4099788-4 07/26/24 01:14 • (MSD) R4099788-5 07/26/24 01:31

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	ND	39.9	39.2	99.9	98.0	1	80.0-120			1.85	15
Sulfate	40.0	ND	39.4	38.7	98.4	96.8	1	80.0-120			1.70	15

L1758890-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1758890-04 07/26/24 04:37 • (MS) R4099788-7 07/26/24 05:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	ND	40.6	99.1	1	80.0-120	
Sulfate	40.0	184	185	2.13	1	80.0-120	V

Method Blank (MB)

(MB) R4100723-1 07/30/24 13:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium	0.0743		0.0463	1.00
Iron	ND		0.0141	0.100
Potassium	ND		0.102	1.00
Magnesium	0.0171		0.0111	1.00
Sodium	ND		0.0985	1.00

Laboratory Control Sample (LCS)

(LCS) R4100723-2 07/30/24 13:49

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10.0	9.98	99.8	80.0-120	
Iron	10.0	10.0	100	80.0-120	
Potassium	10.0	9.54	95.4	80.0-120	
Magnesium	10.0	9.60	96.0	80.0-120	
Sodium	10.0	9.71	97.1	80.0-120	

L1758006-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1758006-02 07/30/24 13:51 • (MS) R4100723-4 07/30/24 13:55 • (MSD) R4100723-5 07/30/24 13:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	137	160	161	235	237	1	75.0-125	V	V	0.155	20
Iron	10.0	64.9	81.2	81.7	162	168	1	75.0-125	V	V	0.633	20
Potassium	10.0	58.6	75.1	75.6	165	170	1	75.0-125	V	V	0.652	20
Magnesium	10.0	13.5	23.5	23.3	100	97.8	1	75.0-125			0.941	20
Sodium	10.0	5510	6030	6030	5200	5140	1	75.0-125	E V	E V	0.108	20

Method Blank (MB)

(MB) R4100560-1 07/30/24 23:54

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Calcium	ND		0.0463	1.00
Iron	ND		0.0141	0.100
Potassium	ND		0.102	1.00
Magnesium	ND		0.0111	1.00
Sodium	ND		0.0985	1.00

Laboratory Control Sample (LCS)

(LCS) R4100560-2 07/30/24 23:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Calcium	10.0	9.42	94.2	80.0-120	
Iron	10.0	10.4	104	80.0-120	
Potassium	10.0	9.91	99.1	80.0-120	
Magnesium	10.0	9.90	99.0	80.0-120	
Sodium	10.0	10.5	105	80.0-120	

L1758502-15 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1758502-15 07/31/24 00:00 • (MS) R4100560-4 07/31/24 00:05 • (MSD) R4100560-5 07/31/24 00:08

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Calcium	10.0	28.6	38.1	38.1	95.6	95.3	1	75.0-125			0.104	20
Iron	10.0	6.84	16.9	16.9	101	100	1	75.0-125			0.275	20
Potassium	10.0	3.47	13.3	13.3	98.5	98.3	1	75.0-125			0.141	20
Magnesium	10.0	10.9	20.6	20.5	96.7	95.9	1	75.0-125			0.368	20
Sodium	10.0	12.5	21.6	21.7	90.6	91.8	1	75.0-125			0.573	20

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: **Aaron Rebmann**

Email To: **chris.kaiser@stantec.com;cory.anderson2@stan**

Project Description: **Annual GW selected parameters(3Q21,4Q22,3Q24)**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **100**

Lab Project # **WMCENIA-00002**

Collected by (print): Mike Hamer

Site/Facility ID # **IA02**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Cl,SO4 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	TDS,ALK 1L-HDPE NoPres	TSS 1L-HDPE NoPres					Remarks	Sample # (lab only)
							22	22									
GU-V-2	Grab	GW		7/19/24	1330	5	X	X	X	X	X						-01
~~MW-11~~		~~GW~~				~~5~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~						
MW-110	Grab	GW		7/19/24	1145	5	X	X	X	X	X						-02
MW-117		GW			0930	5	X	X	X	X	X						-03
MW-118		GW			0900	5	X	X	X	X	X						-04
MW-2A		GW			1045	5	X	X	X	X	X						-05
MW-132		GW			1230	5	X	X	X	X	X						-06
MW-133		GW			1200	5	X	X	X	X	X						-07
MW-7A		GW			1000	5	X	X	X	X	X						-08
MW-123		GW			1115	5	X	X	X	X	X						-09

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # L1358600

Table G134

Acctnum: **WMCENIA**
Template: **T165242**
Prelogin: **P1089977**
PM: **364 - T. Alan Harvill**
PB:

Shipped Via: **FedEX Priority**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

PH-10BDH5021
TRC-4072A202F

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking #

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: ✓Y __N
Preservation Correct/Checked: __Y __N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
	7/19/24	1600	FedEx
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)

Trip Blank Received: Yes / (No)
HCL / MeoH
TBR

Temp: °C Bottles Received: 45

Date: 07/20/2024 Time: 0900

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.:

Sample Point: GW-V-2 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24					

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: Y or N

Purging Device: A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Sampling Device: A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Device: Y or N; 0.45 µ or ____ µ (circle or fill in)

Filter Type: A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)

Depth to Water (DTW) (from TOC) (ft)

Groundwater Elevation (site datum, from TOC) (ft/msl)

Total Well Depth (from TOC) (ft)

Stick Up (from ground elevation) (ft)

Casing ID (in)

Casing Material

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
	1st	1st	1st					
	2nd	2nd	2nd					
	3rd	3rd	3rd					
	4th	4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units
07/19/24	6.94	1809	25.1	3	1.3	143	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance:

Odor: None

Color: None

Other:

Weather Conditions (required daily, or as conditions change):

Direction/Speed:

Outlook:

Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

Sampled @ 1330 hrs

5/25/2024

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	M. [illegible]		Allen

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.:

Sample Point: MW116 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24	1130	:			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other:

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

Sample Tube Type: A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC) ____ (ft/msl)

Depth to Water (DTW) (from TOC) 57.39 (ft)

Groundwater Elevation (site datum, from TOC) ____ (ft/msl)

Total Well Depth (from TOC) ____ (ft)

Stick Up (from ground elevation) ____ (ft)

Casing ID ____ (in)

Casing Material ____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit LPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1135	0.3	1st 7.35	1st 10207	9.7		0.8		
1140		2nd 7.30	2nd 10115	9.6		0.7		
1145		3rd 7.32	3rd 10210	9.7	1.0	0.6	-44	57.4
		4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: None Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

CDS580

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Hu		Allcon

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.:

Sample Point: MW117 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24	0915				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: Y or (N)

Purging Device: C

Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other:

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

Sample Tube Type: A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 53.30 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit LPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
0920	0.3	1st 6.70	1st 1255	10.4		2.7		
0925		2nd 6.75	2nd 1260	10.5		2.8		
0930		3rd 6.80	3rd 1261	10.5	39.5	3.0	75	53.3
		4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: None Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

L175870

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Allen		Allen

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WM WASTE MANAGEMENT

Site Name: CDS

Site No.:

Sample Point: MW118 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24	08:45				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Filter Device: Y or (N) 0.45 µ or _____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A- Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: A-In-line Disposable, B-Pressure, C-Vacuum, X-Other _____

X-Other: _____

Sample Tube Type: A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: _____

WELL DATA

Well Elevation (at TOC) _____ (ft/msl)

Depth to Water (DTW) (from TOC) 58.77 (ft)

Groundwater Elevation (site datum, from TOC) _____ (ft/msl)

Total Well Depth (from TOC) _____ (ft)

Stick Up (from ground elevation) _____ (ft)

Casing ID _____ (in)

Casing Material _____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit LPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
08:50	0.3 1st	7.10 1st	10.99 1st	10.0		0.9		
08:55	2nd	7.02 2nd	11.02 2nd	10.0		0.8		
09:00	3rd	7.04 3rd	11.05 3rd	10.0	7.0	0.7	-1.9	5.88
	4th	4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: Units

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: _____ Odor: None Color: None Other: _____

Weather Conditions (required daily, or as conditions change): Direction/Speed: _____ Outlook: _____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

4735888

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Hen		Allen

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: | | | | | Sample Point: MW2A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: _____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24	1030				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Filter Device: Y or (N) 0.45 µ or _____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A- Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: _____ A-In-line Disposable, B-Pressure, C-Vacuum, X-Other _____

X-Other: _____

Sample Tube Type: _____ A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: _____

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	38.30	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: LPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1035	03	1st 7.08	1st 1482	10.8		0.5		
1040		2nd 7.06	2nd 1480	10.9		0.4		
1045		3rd 7.04	3rd 1488	11.0	2.1	0.4	85	38.9
		4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: _____ Units

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: _____ Odor: None Color: None Other: _____

Weather Conditions (required daily, or as conditions change): Direction/Speed: _____ Outlook: _____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

Heavy truck traffic / dusty

CDS 38.90

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Hess		Allen

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.:

Sample Point: MW132 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID:

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07 19 24	12:15	:			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y circled) or N

Filter Device: Y or (N circled) 0.45 µ or ___ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other:

Filter Type: ___ A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: ___ A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ___ (ft/msl)

Depth to Water (DTW) (from TOC): 27.26 (ft)

Groundwater Elevation (site datum, from TOC): ___ (ft/msl)

Total Well Depth (from TOC): ___ (ft)

Stick Up (from ground elevation): ___ (ft)

Casing ID: ___ (in)

Casing Material:

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit LPM		pH (std)		Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:20	0.3	1st	6.78	1st	2203	11.5		0.9		
12:25		2nd	6.83	2nd	2227	11.3		0.7		
12:30		3rd	6.88	3rd	2215	11.2	2.6	0.7	42	27.5
:		4th		4th						
:										
:										
:										
:										
:										
:										
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ___ Units

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ___ Odor: None Color: Non Other: ___

Weather Conditions (required daily, or as conditions change): Direction/Speed: ___ Outlook: ___ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

L1758890

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Hane	[signature]	Alliance

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: ____ Sample Point: MW133 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24	11:45	:			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment . . . Dedicated: (Y) or N

Purging Device: C — Sampling Device: C

A-Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other: ____

Filter Device: Y or (N) — 0.45 µ or ____ µ (circle or fill in)

Filter Type: ____ A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: ____ A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 17.47 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id. etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm@25°C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
11:50	0.5 1st	6.96 1st	2000 1st	10.4		0.9		
11:55	2nd	7.00 2nd	1983 2nd	10.6		1.3		
12:00	3rd	7.02 3rd	1945 3rd	10.5	1.59	1.5	-42	17.9
	4th	4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site.* ***If more fields above are needed, use separate sheet or form.***

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: Non Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required): ____

GW Sample

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Hamm		Alton

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client. PINK - Field Copy

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: | | | | | Sample Point: MW7A (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: _____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24	0945	:			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Purging Device: C — Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other: _____

Filter Device: Y or (N) — 0.45 µ or _____ µ (circle or fill in)

Filter Type: _____ (A-In-line Disposable; B-Pressure; C-Vacuum; X-Other _____)

Sample Tube Type: _____ (A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: _____)

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	63.75 (ft)	(ft/msl)

Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID	Casing Material
(ft)	(ft)	(in)	

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit: LPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
0950	0.3	1st 7.20	1st 1011	1015		1.3		
0955		2nd 7.22	2nd 1025	1016		1.4		
1000		3rd 7.27	3rd 1046	1017	40.1	1.5	155	68.0
		4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: _____ Units _____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: _____ Odor: None Color: None Other: _____

Weather Conditions (required daily, or as conditions change): Direction/Speed: _____ Outlook: _____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

Very heavy truck traffic / Dusty

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Hess		

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: ____ Sample Point: MW123 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: ____

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
07/19/24	1500	:			

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Purging Device: C — Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other: ____

Filter Device: Y or (N) — 0.45 µ or ____ µ (circle or fill in)

Filter Type: ____ A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

Sample Tube Type: ____ A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 64.27 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): ____ (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit		pH (std)		Conductance (SC/EC) (µmhos/cm @ 25 °C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1105	0.3 LPM	1st	7.20	1st	10006		9.6		0.4		
1110		2nd	7.22	2nd	10007		9.7		0.5		
1115		3rd	7.25	3rd	10007		9.7	0.8	0.5	-25	6.43
:		4th		4th							
:											
:											
:											
:											
:											
:											
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: None Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required): ____

CT 5820

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
7/19/24	Mike Hunt		Allied

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

Tracking Numbers		Temperature
7315 3193 6441		EDA 94.4 - 10.3 = 4.7
7155 0314 1394		EDA 91.7 - 10.3 = 2.0

Ashley Baxter
Name

07/20/2024
Date

LB 888

Appendix D Otter Creek Statistical Report

Results of the Ground Water Statistics

for Central Disposal Systems Landfill

Annual Monitoring Event in 2024

Prepared for:
Central Disposal Systems Landfill, a
Waste Management Company
Lake Mills, Iowa

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August 2024

INTRODUCTION

This report contains the results of the statistical analyses used to evaluate the ground water data obtained during the annual monitoring event in 2024 at Central Disposal Systems Landfill in Lake Mills, Iowa. The ground water at Central Disposal Systems Landfill is monitored by background wells MW-110, MW-123, and MW-2A, downgradient wells MW-11, MW-117, MW-118, MW-132, MW-133, and MW-7A, and groundwater underdrain GU-V-2. Groundwater sample points MW-110, MW-123, MW-2A, MW-117, MW-118, MW-132, MW-133, MW-7A, and groundwater underdrain GU-V-2 were sampled on July 19, 2024 and analyzed for the optimized detection monitoring parameters and the supplemental monitoring parameters.

The statistical plan is designed to detect a release from the facility at the earliest indication so that it is protective of human health and the environment. The intrawell methodology is described and then applied to the Central Disposal Systems Landfill data. The statistical plan conforms with IAC 567, Chapter 113.10 and the USEPA guidance document ("*Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities, Unified Guidance"*, March 2009).

Ground Water Monitoring Program

The groundwater monitoring network for Central Disposal Systems Landfill includes upgradient wells MW-110, MW123, and MW-2A and downgradient wells MW-11, MW-117, MW-118, MW-132, MW-133, MW-7A, and GU-V-2. Each of the groundwater monitoring wells is to be sampled and analyzed for the optimized detection monitoring parameters which include alkalinity, chloride, ammonia, and sodium. Supplemental parameters monitored annually include calcium, iron, magnesium, potassium, sulfate, total dissolved solids (TDS), and total suspended solids (TSS). Additionally, trace metals and VOCs (IDNR Appendix I parameters) will be monitored once every three years. The ground water data obtained during the July 2024 monitoring event are summarized in Attachment A.

STATISTICAL METHODOLOGIES FOR DETECTION MONITORING

IAC 567, Chapter 113.10(4) provides several options for statistically evaluating the ground water data at those wells that monitor the open cells or contiguous MSWLF units. The preferred methods for comparing ground water data are using either prediction limits or using control charts. The intrawell control chart method was applied to the Central Disposal Systems Landfill data using the DUMPStat® statistical program. DUMPStat® is a program for the statistical analysis of groundwater monitoring data using methods described in "Statistical Methods for Groundwater Monitoring" by Dr. Robert D. Gibbons. The DUMPStat program is completely consistent with all USEPA regulations and guidance and the ASTM D6312-98 guidance.

Intrawell statistics

Intrawell statistics are appropriate for facilities where the upgradient wells do not accurately characterize the natural ground water conditions downgradient from the facility. This may be due to different hydrogeological conditions where the wells are screened, having too few upgradient wells to account for

the spatial variability, or the site exhibiting no definable hydraulic gradient. Intrawell statistics compare new measurements to the historical data at each ground water monitoring well independently. It is recommended that at least eight background samples be obtained prior to performing the statistics.

The most useful technique for intrawell comparisons is the combined Shewhart-CUSUM control chart. This control chart procedure is useful because it will detect releases both in terms of the constituent concentration and cumulative increases. This method is also extremely sensitive to sudden and gradual releases. A requirement for constructing these control charts is that the parameter is detected at a frequency greater than or equal to 25%, otherwise the data variance is not properly defined.

The combined Shewhart-CUSUM control chart assumes that the data are independent and normally distributed with a fixed mean and a constant variance. Independent data is much more critical than the normality assumption. To achieve independence, it is recommended that data are collected no more frequently than quarterly to account for seasonal variation. The combined Shewhart-CUSUM control chart is extremely robust to deviations from normality. Because the control charts do not use a specific multiplier based on a normal distribution, it is more conservative to assume normality.

It is recommended that at least eight rounds of data be available to provide a reliable estimate of the mean and standard deviation of the parameter concentration, although the control charts will be generated with as few as four data points. Having only four data points may produce greater uncertainty in the mean and standard deviation of the background data, leading to higher control limits, thus having a potentially high false negative rate.

Many groundwater monitoring parameters are not detected at a frequency great enough to generate the combined Shewhart-CUSUM control charts. For constituents that are detected less than 25% of the time at a particular well, the data should be plotted as a time series until a sufficient number of data points are available to provide a 99% confidence nonparametric prediction limit. Thirteen independent measurements (with 1 resample) are necessary to achieve a 99% confidence (1% false positive rate) nonparametric prediction limit. Eight independent measurements (for pass 1 of 2 resamples) are necessary to achieve a 99% confidence nonparametric prediction limit. The nonparametric prediction limit is the largest determination out of the data set collected for that well and parameter. If the detection frequency is 0% after thirteen samples have been collected, the practical quantitation limit (PQL) becomes the nonparametric prediction limit.

In developing the statistical background, the historical data must be thoroughly screened for anomalous data due to sampling error, analytical error, or simply by chance alone. An erroneous data point, if not removed prior to the mean and variance computations, would yield a larger control limit thus increasing the false negative rate. The DUMPStat® program screens for outliers using the Dixon test. If the Dixon test indicates an outlier, the value is compared to three times the median value for intrawell analyses. If the value fails both criteria of the two-stage screening, the value is considered a statistical outlier and will not be used in the mean and variance determinations. Anomalous data will still be plotted on the graphs (with a unique symbol) but will not be included in the calculations.

The verification resample plan is an integral function of the statistical plan to reduce the probability that anomalous data obtained after the background has been established, is indicative of a landfill release.

The background data for each well and constituent is tested for existing trends using Sen's nonparametric estimate of trend. If contamination exists prior to completing the background, the control limits could be potentially high and this control chart method would not be able to detect an increasing trend unless the increase is severe.

Results of the Intrawell Statistics

Optimized Detection Monitoring Parameters

The optimized detection monitoring parameters (alkalinity, chloride, ammonia, and sodium) data from annual wells MW-11, MW-110, MW117, MW-118, MW-123, MW-132, MW-133, MW-2A, MW-7A, and GU-V-2 were evaluated using the combined Shewhart-CUSUM control chart method following the July 2024 monitoring event. The previous background included data obtained through May 2019 for all wells. In the previous background range, there was insufficient data to determine control limits for some parameters and others are determined using fewer than the recommended minimum of eight data points.

As ground water monitoring at a municipal solid waste facility proceeds, it is recommended to update background data sets periodically with valid detection monitoring results that are representative of background groundwater quality not affected by leakage from a monitored unit. Failure to update background will exclude factors such as natural temporal variation, changes in field or laboratory methodologies, and changes in the water table due to meteorological conditions or other influences. Since there have been no exceedances attributed to the landfill and several cases of insufficient data, the background was updated to include data obtained through 2023 for all wells.

A summary of the intrawell statistics is included in Attachment B, Table 1 "Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts." The control charts or time series graphs follow the summary table. For the parameters compared using the combined Shewhart-CUSUM control chart, there were no control limit exceedances detected. No increasing trends were detected in the background data.

A control chart factor was selected to provide a balance of the site-wide false positive and false negative rates. A statistical power curve indicates the expected false assessments for the site as a whole. Given an accepted resample verification plan of "pass one of one" resamples, the number of statistical comparisons, and the number of background data points, the optimal factor h = SCL = 6 for $N < 12$ and h = SCL = 6 for $N \geq 12$. Using this factor for intrawell analysis, the site-wide false positive rate is 3% and the test becomes sensitive to 4 standard deviation units over background.

Results of the Supplemental Monitoring Parameters

The supplemental monitoring parameters (calcium, iron, magnesium, potassium, sulfate, TDS, and TSS) at sample points GU-V-2, MW-11, MW-110, MW-117, MW-118, MW-123, MW-132, MW-133, MW-2A, and MW-7A were plotted as time series in Attachment C.

Attachment A

Ground Water Data

Table 1

Analytical Data Summary for 4/25/2024

Constituents	Units	MW-134	MW-135	MW-136
1,1,1,2-tetrachloroethane	ug/L	<1	<1	<1
1,1,1-trichloroethane	ug/L	<1	<1	<1
1,1,2,2-tetrachloroethane	ug/L	<.3	<.3	<.3
1,1,2-trichloroethane	ug/L	<1	<1	<1
1,1-dichloroethane	ug/L	<1	<1	<1
1,1-dichloroethene	ug/L	<1	<1	<1
1,2,3-trichloropropane	ug/L	<.0058	<.0058	<.0058
1,2-dibromo-3-chloropropane	ug/L	<.2	<.2	<.2
1,2-dibromoethane	ug/L	<.05	<.05	<.05
1,2-dichlorobenzene	ug/L	<1	<1	<1
1,2-dichloroethane	ug/L	<1	<1	<1
1,2-dichloropropane	ug/L	<1	<1	<1
1,4-dichlorobenzene	ug/L	<1	<1	<1
2-butanone (mek)	ug/L	<10	<10	<10
2-hexanone	ug/L	<5	<5	<5
4-methyl-2-pentanone (mibk)	ug/L	<5	<5	<5
Acetone	ug/L	<25	<25	<25
Acrylonitrile	ug/L	<.32	<.32	<.32
Alkalinity, total (as caco3)	mg/L	522	426	502
Ammonia as n	mg/L	.877	.165	.520
Antimony, total	ug/L	<2	<2	<2
Arsenic, total	ug/L	28.50	5.33	7.06
Barium, total	ug/L	23.7	99.6	125.0
Benzene	ug/L	<1	<1	<1
Beryllium, total	ug/L	<2	<2	<2
Bromochloromethane	ug/L	<1	<1	<1
Bromodichloromethane	ug/L	<1	<1	<1
Bromoform	ug/L	<1	<1	<1
Bromomethane	ug/L	<2.5	<2.5	<2.5
Cadmium, total	ug/L	<1	<1	<1
Calcium, total	mg/L	202	107	123
Carbon disulfide	ug/L	<1	<1	<1
Carbon tetrachloride	ug/L	<1	<1	<1
Chloride	mg/L	7.18	46.70	12.40
Chlorobenzene	ug/L	<1	<1	<1
Chloroethane	ug/L	<2.5	<2.5	<2.5
Chloroform	ug/L	<1	<1	<1
Chloromethane	ug/L	<1.25	<1.25	<1.25
Chromium, total	ug/L	<2	<2	<2
Cis-1,2-dichloroethene	ug/L	<1	<1	<1
Cis-1,3-dichloropropene	ug/L	<1	<1	<1
Cobalt, total	ug/L	<2	<2	<2
Copper, total	ug/L	<5	<5	<5
Dibromochloromethane	ug/L	<1	<1	<1
Dibromomethane	ug/L	<1	<1	<1
Ethylbenzene	ug/L	<1	<1	<1
Iodomethane	ug/L	<10	<10	<10
Iron, total	ug/L	3900	1070	416
Lead, total	ug/L	<2	<2	<2
Magnesium, total	mg/L	55.8	34.7	37.4
Methylene chloride	ug/L	<2.5	<2.5	<2.5
Nickel, total	ug/L	<2.00	2.40	2.06
pH	SU	7.23	7.34	7.40
Potassium, total	mg/L	10.50	9.19	8.21
Selenium, total	ug/L	<2	<2	<2
Silver, total	ug/L	<2	<2	<2
Sodium, total	mg/L	146.0	83.6	76.6
Specific conductance, field	UMHOS/CM	1874	1184	1088
Styrene	ug/L	<1	<1	<1
Sulfate	mg/L	675	157	160
Tetrachloroethene	ug/L	<1	<1	<1
Thallium, total	ug/L	<2	<2	<2
Toluene	ug/L	<1	<1	<1
Total dissolved solids	mg/L	1120	644	660
Total suspended solids	mg/L	46.0	98.8	42.4
Trans-1,2-dichloroethene	ug/L	<1	<1	<1
Trans-1,3-dichloropropene	ug/L	<1	<1	<1
Trans-1,4-dichloro-2-butene	ug/L	<1	<1	<1
Trichloroethene	ug/L	<1	<1	<1
Trichlorofluoromethane	ug/L	<2.5	<2.5	<2.5
Turbidity (field)	NTU	65	35	45
Vanadium, total	ug/L	<5	<5	<5
Vinyl acetate	ug/L	<5	<5	<5
Vinyl chloride	ug/L	<1	<1	<1
Water temperature (field)	DEGREES C	12.5	12.9	10.5
Xylenes, total	ug/L	<1.5	<1.5	<1.5
Zinc, total	ug/L	<25	<25	<25

* - The displayed value is the arithmetic mean of multiple database matches.

Table 2

Analytical Data Summary for 7/19/2024

Constituents	Units	GU-V-2	MW-110	MW-117	MW-118	MW-123	MW-132	MW-133	MW-2A	MW-7A
Alkalinity, total (as caco3)	mg/L	470	422	477	451	436	496	512	530	466
Ammonia as n	mg/L	<.100	.925	.271	<.100	.464	.216	.412	.593	.211
Calcium, total	mg/L	254	115	107	109	139	343	279	190	119
Chloride	mg/L	33.10	2.29	12.40	<1.00	3.40	3.91	10.40	1.24	<1.00
Dissolved Oxygen (on-site)	mg/L	1.3	.6	3.0	.7	.5	.7	1.5	.4	1.5
eH/ORP (On Site)	mV	143	-44	75	-10	-25	42	-42	85	155
Iron, total	ug/L	129	106	<100	<100	1700	6430	5900	<100	3340
Magnesium, total	mg/L	72.4	29.5	26.6	41.6	36.3	88.7	74.4	45.4	30.0
pH	SU	6.94	7.32	6.80	7.04	7.25	6.88	7.02	7.04	7.27
Potassium, total	mg/L	15.50	8.05	8.21	8.21	6.80	11.50	9.01	8.66	7.26
Sodium, total	mg/L	45.1	56.2	73.4	58.8	27.4	61.3	23.8	74.9	40.8
Specific conductance, field	UMHOS/CM	1809	1020	1261	1105	1007	2215	1945	1488	1046
Sulfate	mg/L	521.0	128.0	69.9	184.0	126.0	870.0	555.0	314.0	59.6
Total dissolved solids	mg/L	1240	617	577	676	603	1670	1250	936	537
Total suspended solids	mg/L	<4.0	4.5	6.8	<4.0	4.0	17.0	15.0	<4.0	34.6
Turbidity (field)	NTU	3.0	1.0	39.5	2.0	.8	26.0	15.9	2.1	40.0
Water temperature (field)	DEGREES C	25.1	9.7	10.5	10.0	9.7	11.2	10.5	11.0	10.7

* - The displayed value is the arithmetic mean of multiple database matches.

Attachment B

Summary Tables and Graphs for the Intrawell Comparisons
Detection Monitoring Parameters

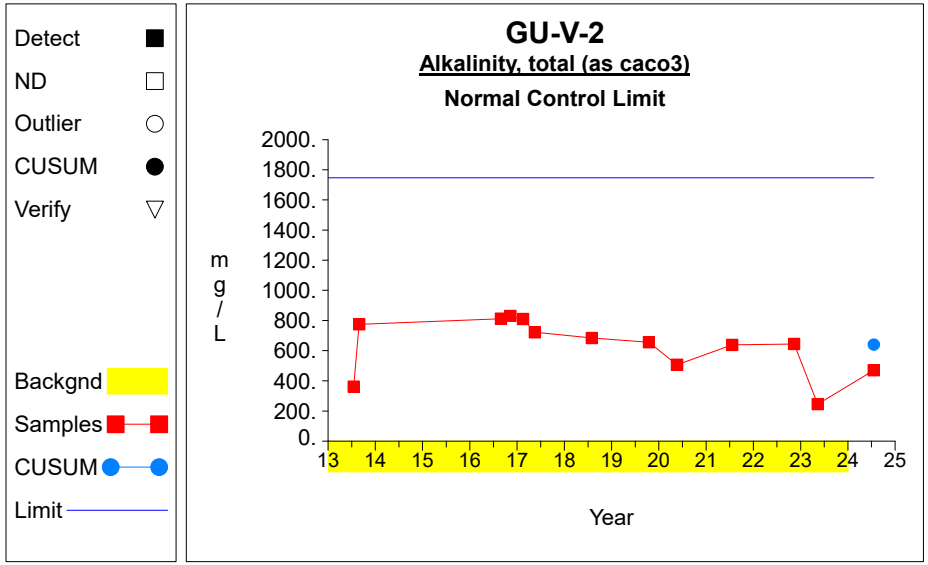
Table 1

Summary Statistics and Intermediate Computations for Combined Shewhart-CUSUM Control Charts

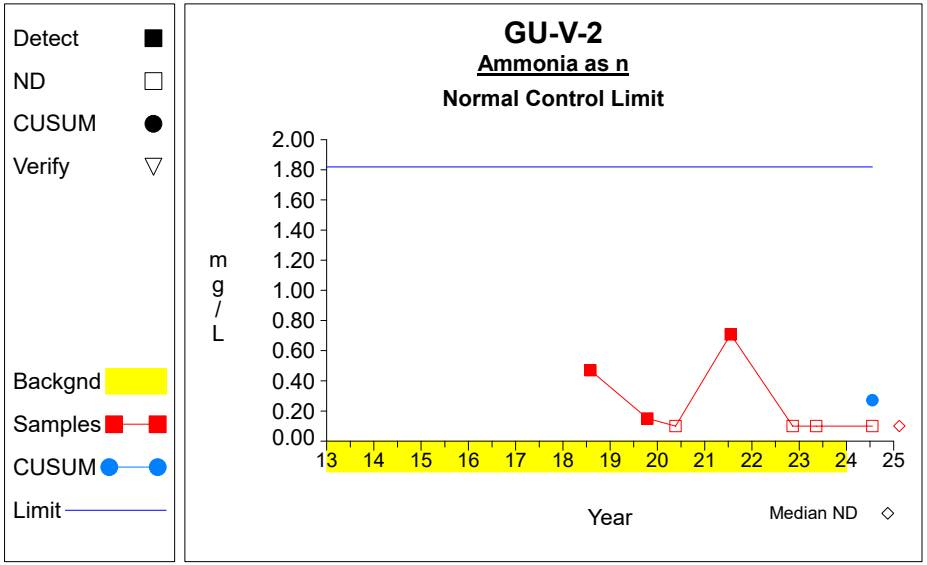
Constituent	Units	Well	N(back)	N(mon)	N(tot)	Mean	SD	R(i-1)	R(i)	S(i-1)	S(i)	Limit	Type	Conf
Alkalinity, total (as caco3)	mg/L	GU-V-2	12	1	13	640.3333	184.3777	245.0000	470.0000		640.3333	1746.5998	normal	
Ammonia as n	mg/L	GU-V-2	6	1	7	0.2713	0.2580	0.1000	0.1000		0.2713	1.8196	normal	
Chloride	mg/L	GU-V-2	12	1	13	49.6333	24.0629	17.8000	33.1000		49.6333	194.0109	normal	
Sodium, total	mg/L	GU-V-2	12	1	13	43.0000	2.8470	44.9000	45.1000		43.0000	60.0820	normal	
Alkalinity, total (as caco3)	mg/L	MW-110	20	1	22	389.7500	44.7953	431.0000	422.0000		389.7500	658.5218	normal	
Ammonia as n	mg/L	MW-110	25	1	37	0.3297	1.2501	0.0200	0.9250		0.3297	7.8302	normal	
Chloride	mg/L	MW-110	30	1	41	3.9810	1.5811	1.5400	2.2900		3.9810	13.4678	normal	
Sodium, total	mg/L	MW-110	14	1	15	61.6000	10.9263	74.3000	56.2000		61.6000	127.1575	normal	
Alkalinity, total (as caco3)	mg/L	MW-117	29	1	30	483.4483	28.7509	490.0000	477.0000		483.4483	655.9536	normal	
Ammonia as n	mg/L	MW-117	26	1	28	0.7301	0.2792	0.6780	0.2710		0.7301	2.4051	normal	
Chloride	mg/L	MW-117	29	1	31	5.1283	2.7368	5.1300	12.4000		10.3474	21.5489	normal	
Sodium, total	mg/L	MW-117	11	1	12	71.6636	3.1872	73.1000	73.4000		71.6636	90.7871	normal	
Alkalinity, total (as caco3)	mg/L	MW-118	29	1	30	447.5172	29.7281	436.0000	451.0000		447.5172	625.8857	normal	
Ammonia as n	mg/L	MW-118	26	1	28	0.5905	0.1743	0.5520	0.1000		0.5905	1.6365	normal	
Chloride	mg/L	MW-118	29	1	31	1.3628	1.0376	1.0000	1.0000		1.3628	7.5881	normal	
Sodium, total	mg/L	MW-118	11	1	12	57.8727	1.9298	61.2000	58.8000		57.8727	69.4516	normal	
Alkalinity, total (as caco3)	mg/L	MW-123	39	1	40	421.3333	37.7996	404.0000	436.0000		421.3333	648.1307	normal	
Ammonia as n	mg/L	MW-123	35	1	37	0.4944	0.1015	0.5640	0.4640		0.4944	1.1036	normal	
Chloride	mg/L	MW-123	38	1	40	2.3068	0.5985	3.1000	3.4000		2.9511	5.8979	normal	
Sodium, total	mg/L	MW-123	11	1	12	27.3727	0.8707	27.7000	27.4000		27.3727	32.5971	normal	
Alkalinity, total (as caco3)	mg/L	MW-132	14	1	15	492.4286	36.5760	432.0000	496.0000		492.4286	711.8844	normal	
Ammonia as n	mg/L	MW-132	8	1	9	0.4645	0.0926	0.5980	0.2160		0.4645	1.0204	normal	
Chloride	mg/L	MW-132	13	1	14	7.9108	2.0426	5.1800	3.9100		7.9108	20.1661	normal	
Sodium, total	mg/L	MW-132	14	1	15	62.5429	10.6864	58.8000	61.3000		62.5429	126.6614	normal	
Alkalinity, total (as caco3)	mg/L	MW-133	15	1	16	513.2667	52.2145	416.0000	512.0000		513.2667	826.5536	normal	
Ammonia as n	mg/L	MW-133	8	1	9	0.4673	0.1346	0.3750	0.4120		0.4673	1.2751	normal	
Chloride	mg/L	MW-133	14	1	15	10.7971	3.4445	9.0600	10.4000		10.7971	31.4641	normal	
Sodium, total	mg/L	MW-133	15	1	16	29.2200	8.1004	21.4000	23.8000		29.2200	77.8222	normal	
Alkalinity, total (as caco3)	mg/L	MW-2A	13	1	15	504.7692	16.7539	503.0000	530.0000		517.4346	605.2925	normal	
Ammonia as n	mg/L	MW-2A	10	1	11	0.3189	0.2158	0.2460	0.5930		0.3772	1.6135	normal	
Chloride	mg/L	MW-2A	15	1	16	1.8480	1.0063	1.1400	1.2400		1.8480	7.8855	normal	
Sodium, total	mg/L	MW-2A	15	1	16	75.1733	2.7902	79.3000	74.9000		75.1733	91.9142	normal	
Alkalinity, total (as caco3)	mg/L	MW-7A	21	1	22	322.0619	112.4219	429.0000	466.0000		381.6836	996.5932	normal	
Ammonia as n	mg/L	MW-7A	24	1	30	0.2879	0.2016	0.1850	0.2110		0.2879	1.4975	normal	
Chloride	mg/L	MW-7A	31	1	37	6.1184	10.6350	1.0000	1.0000		6.1184	69.9287	normal	
Sodium, total	mg/L	MW-7A	22	1	23	40.7591	4.8562	43.3000	40.8000		40.7591	69.8962	normal	

N(back) and N(mon) = Non-outlier measurements in the background and monitoring periods.
N(tot) = All independent measurements for that constituent and well.
For transformed data, mean and SD in transformed units and control limit in original units.
Conf = confidence level for passing initial test or one verification resample (nonparametric test only).
* - Insufficient Data.
** - Detection Frequency < 25%.
*** - Zero Variance.

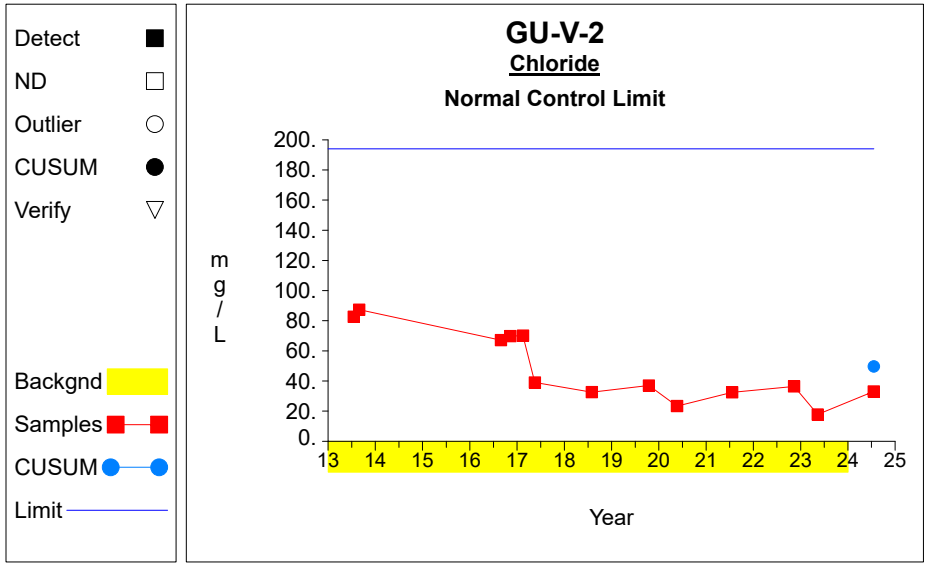
Intra-Well Control Charts / Prediction Limits



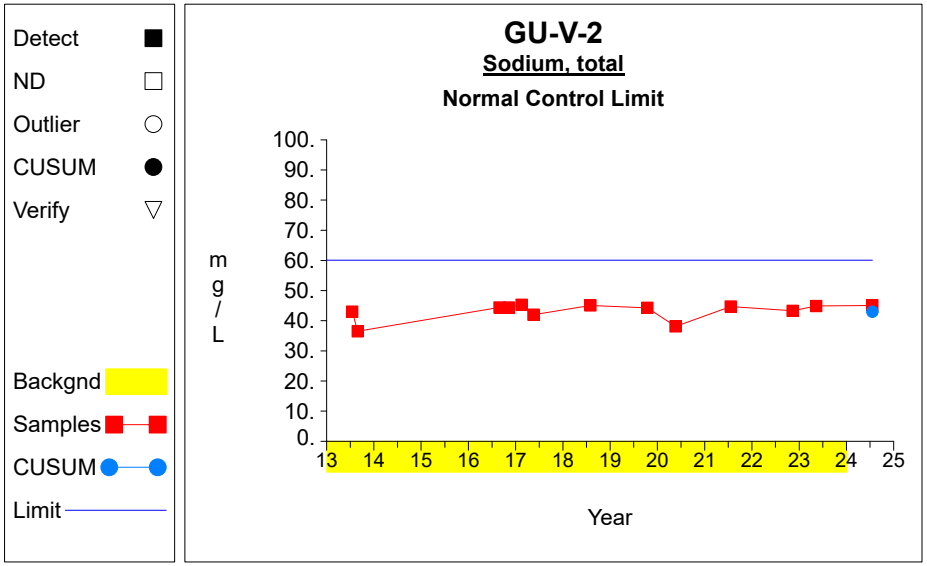
Graph 1



Graph 2



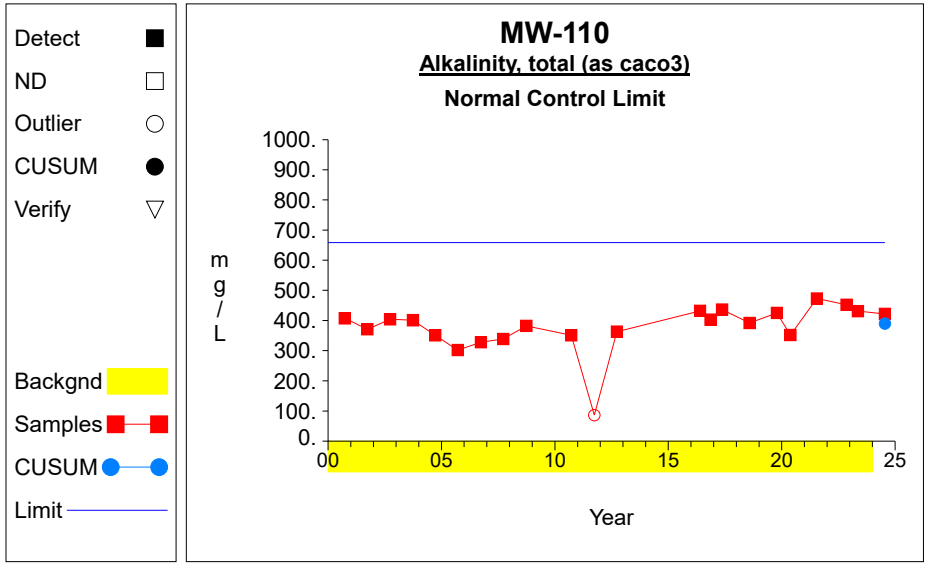
Graph 3



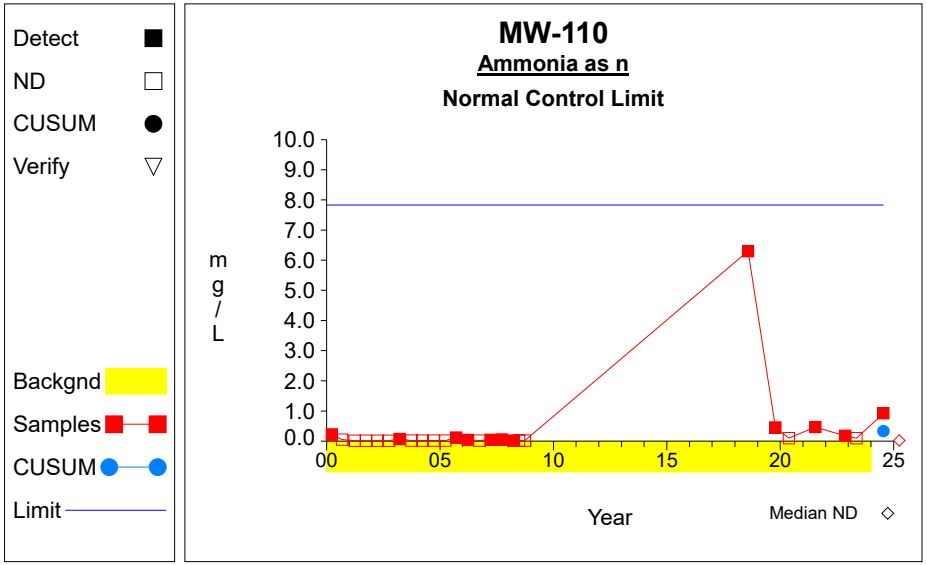
Graph 4

Prepared by: Otter Creek Environmental

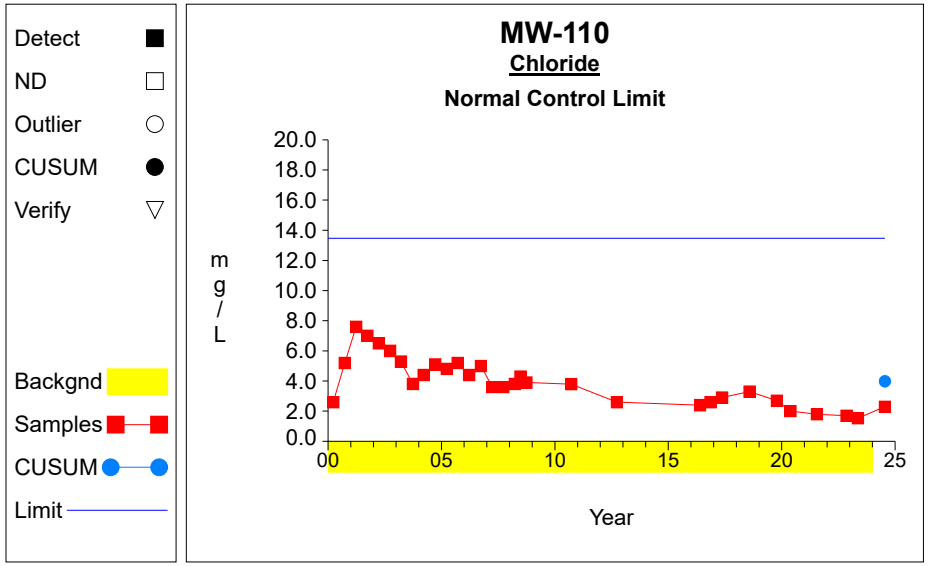
Intra-Well Control Charts / Prediction Limits



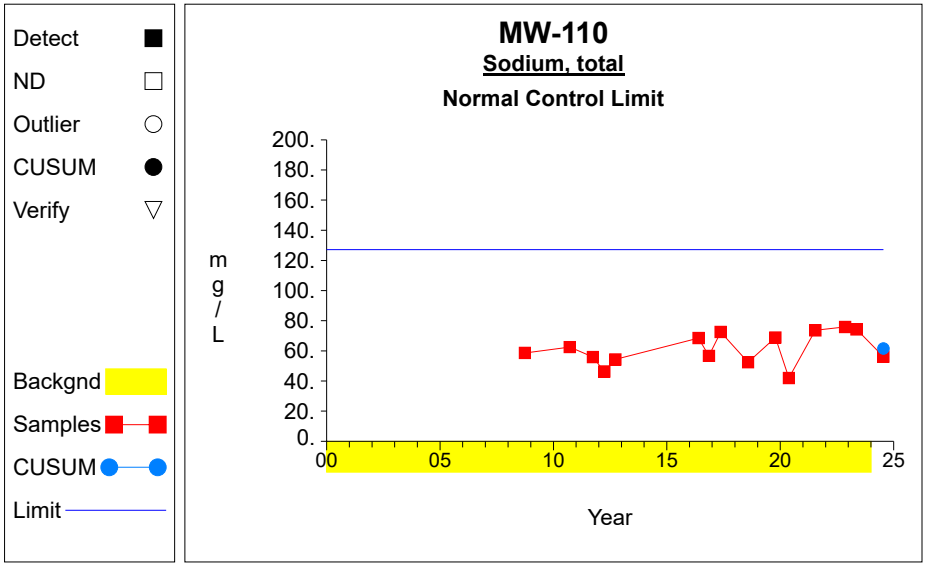
Graph 5



Graph 6



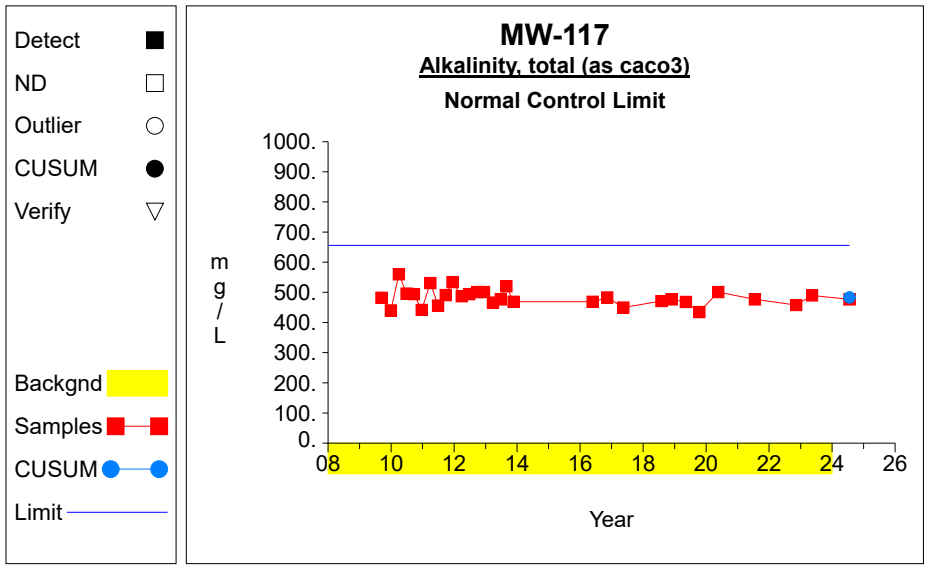
Graph 7



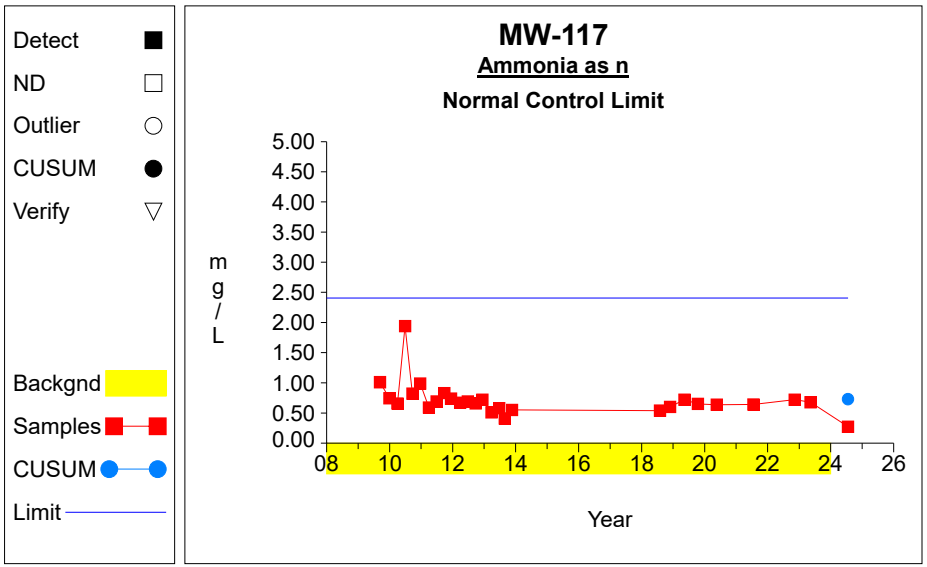
Graph 8

Prepared by: Otter Creek Environmental

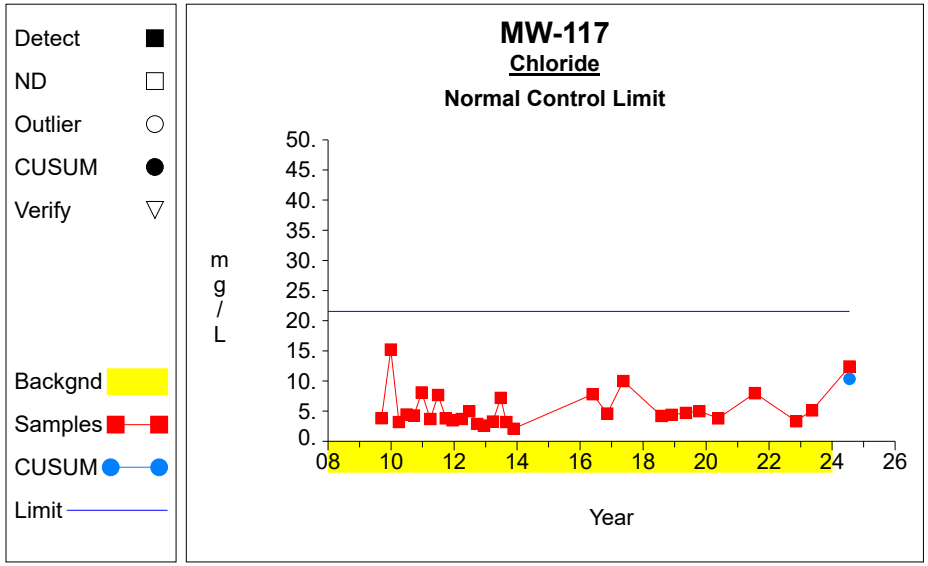
Intra-Well Control Charts / Prediction Limits



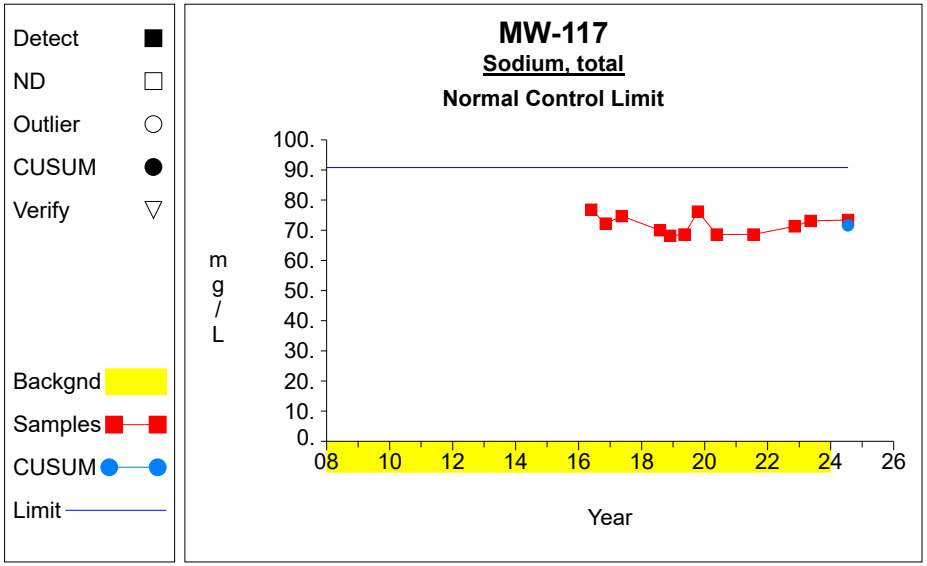
Graph 9



Graph 10



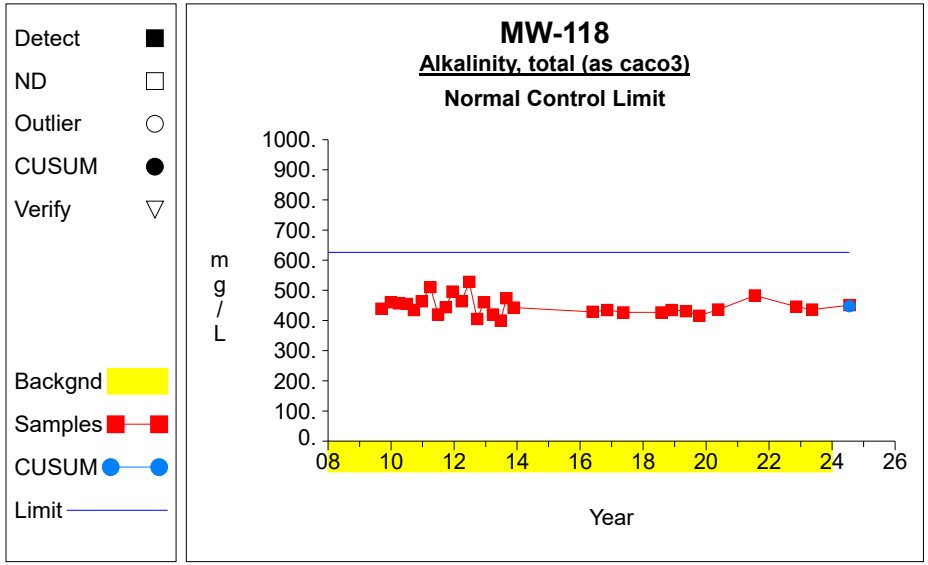
Graph 11



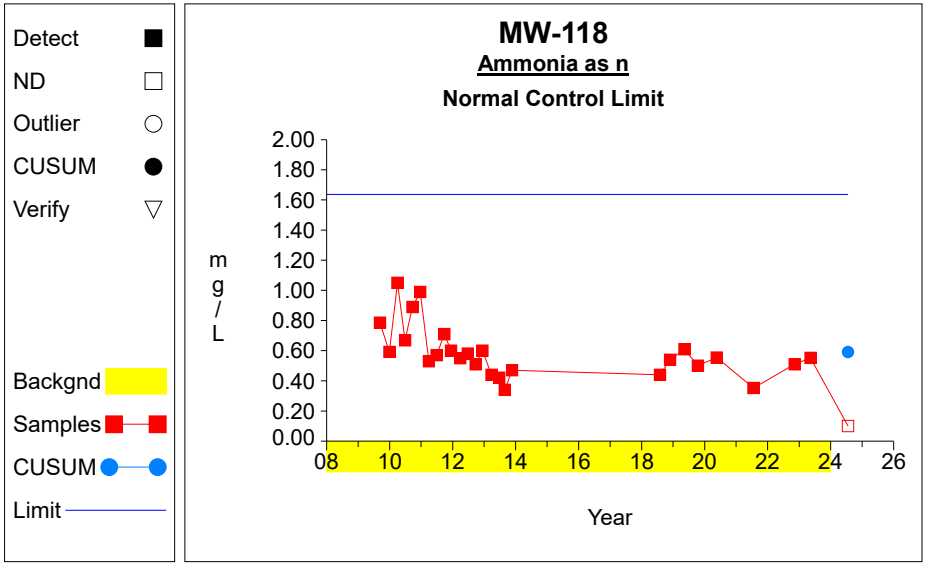
Graph 12

Prepared by: Otter Creek Environmental

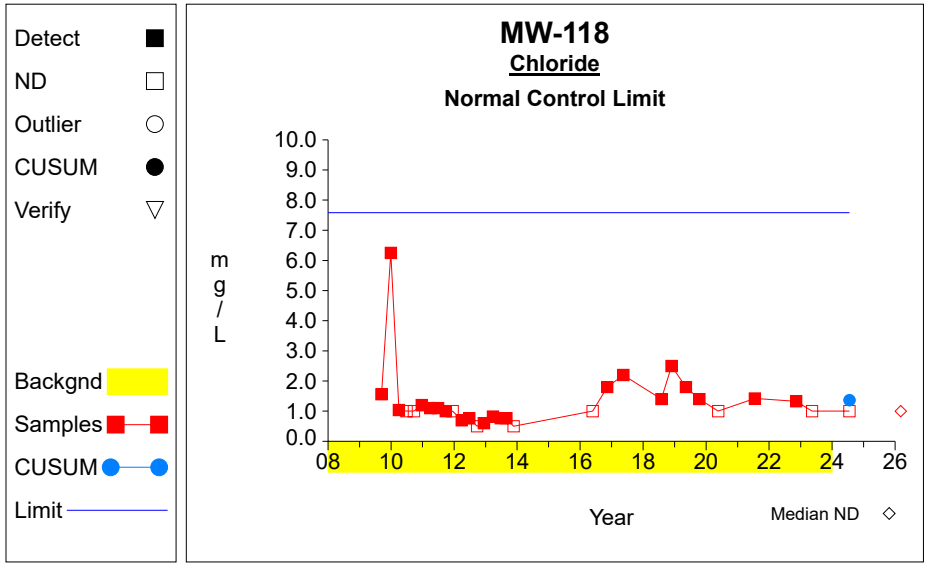
Intra-Well Control Charts / Prediction Limits



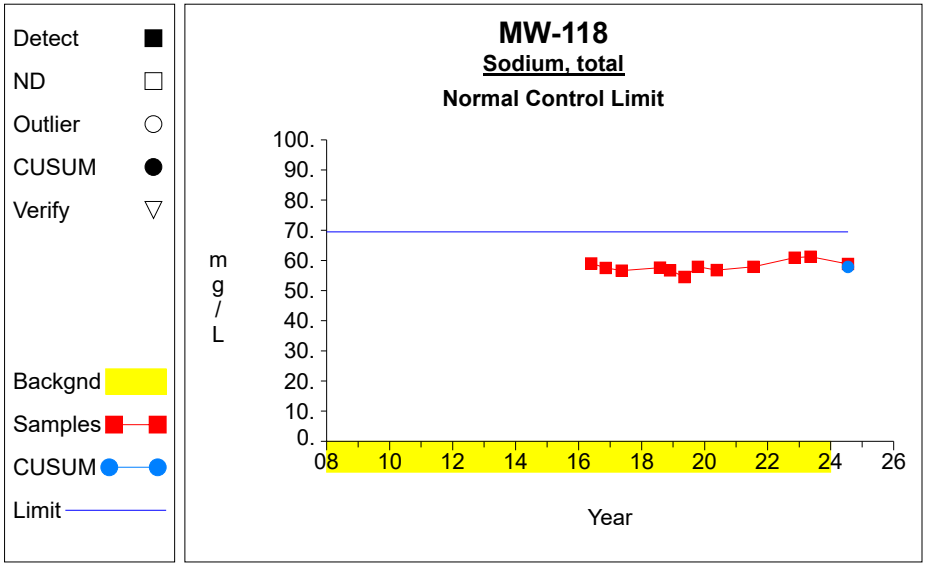
Graph 13



Graph 14



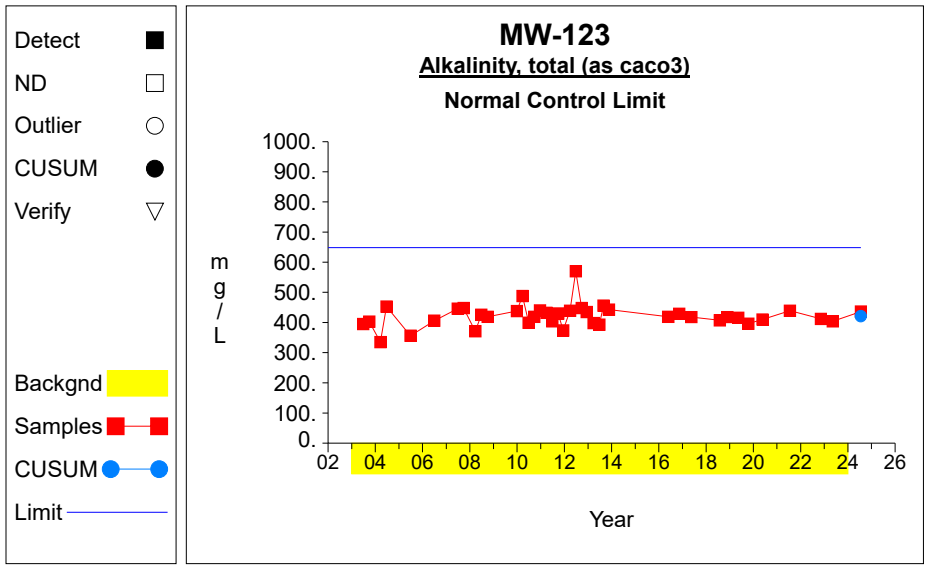
Graph 15



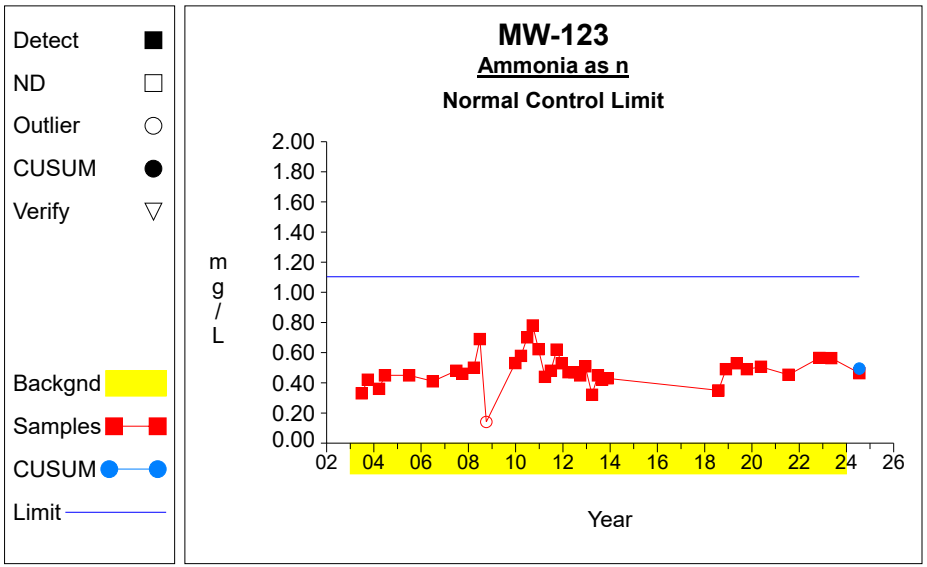
Graph 16

Prepared by: Otter Creek Environmental

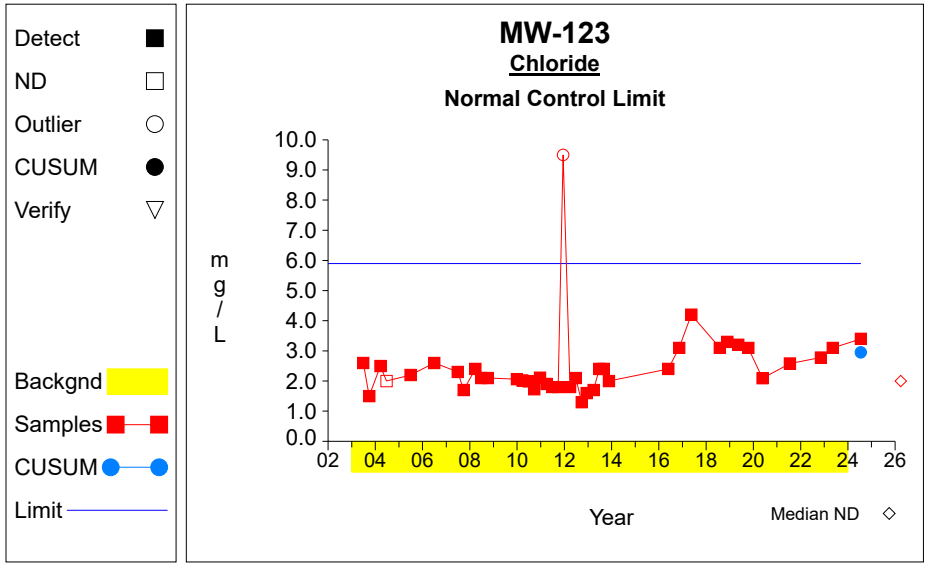
Intra-Well Control Charts / Prediction Limits



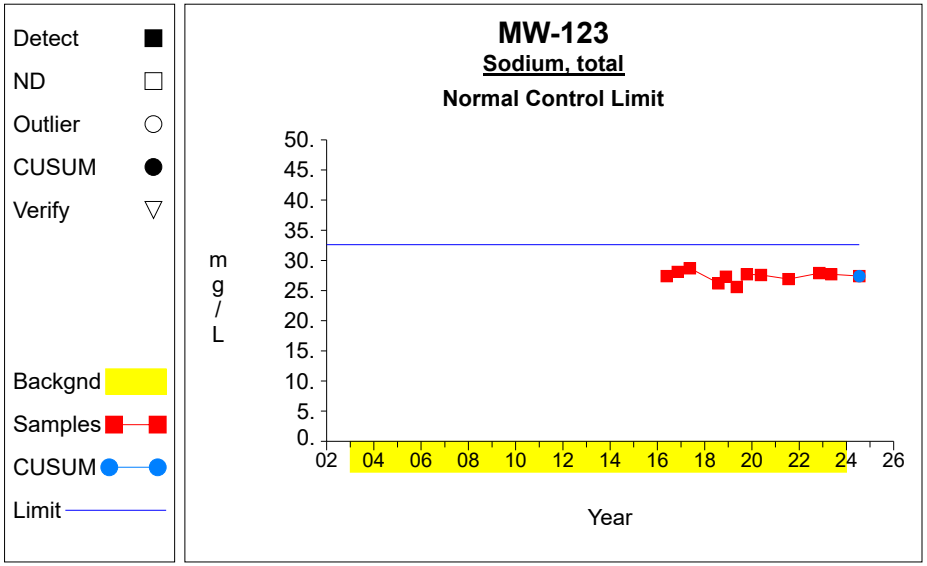
Graph 17



Graph 18



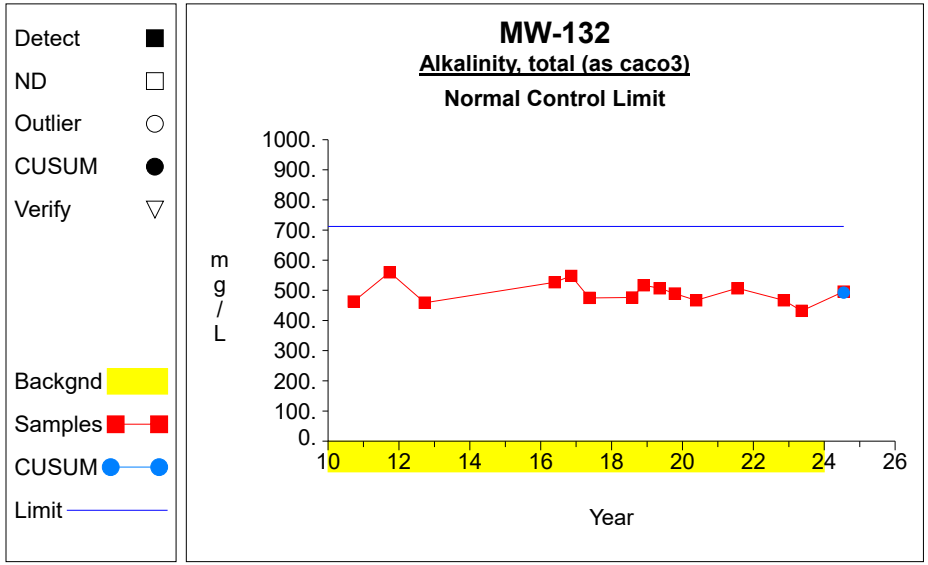
Graph 19



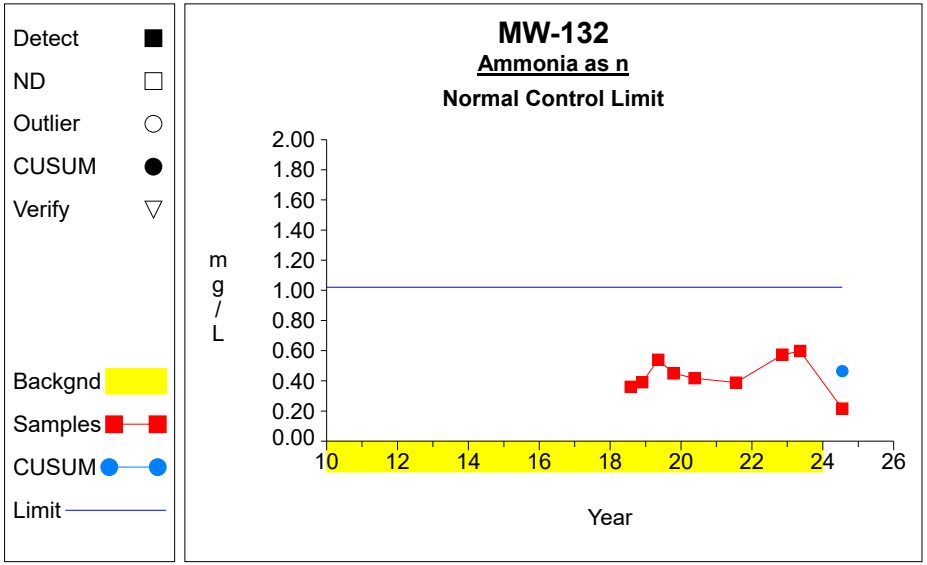
Graph 20

Prepared by: Otter Creek Environmental

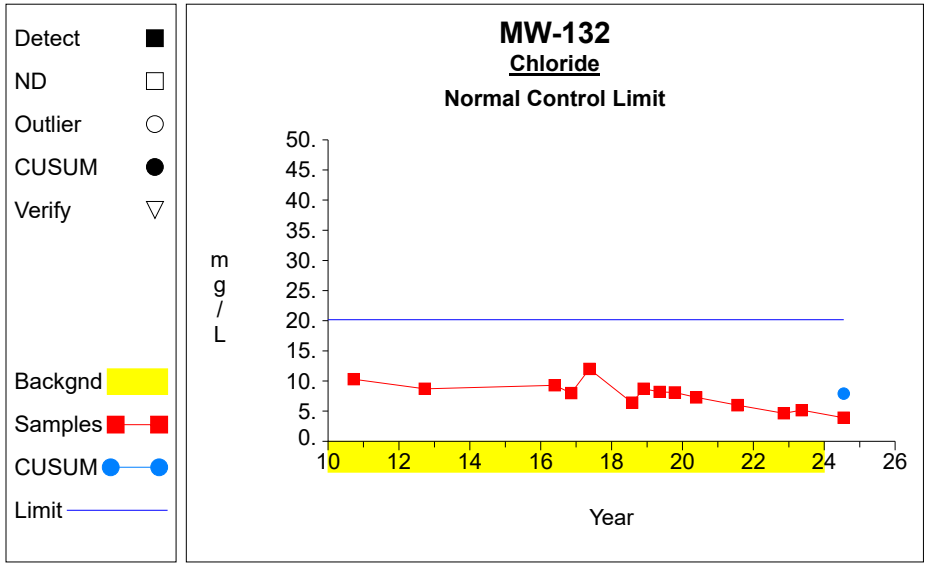
Intra-Well Control Charts / Prediction Limits



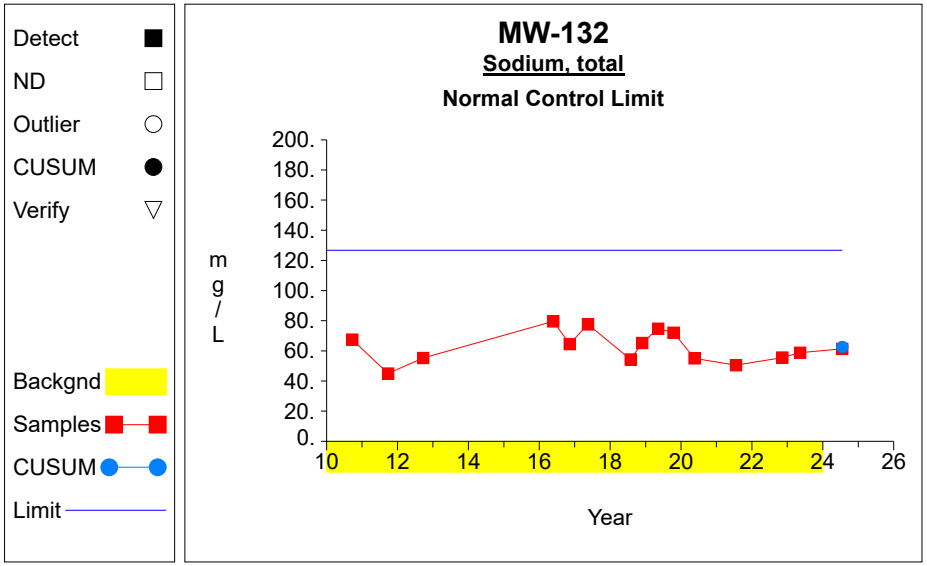
Graph 21



Graph 22



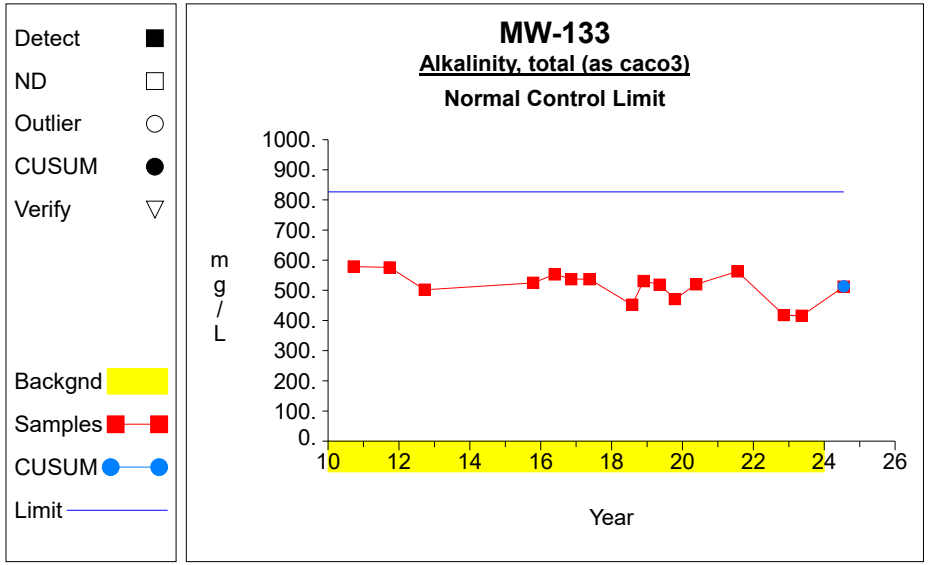
Graph 23



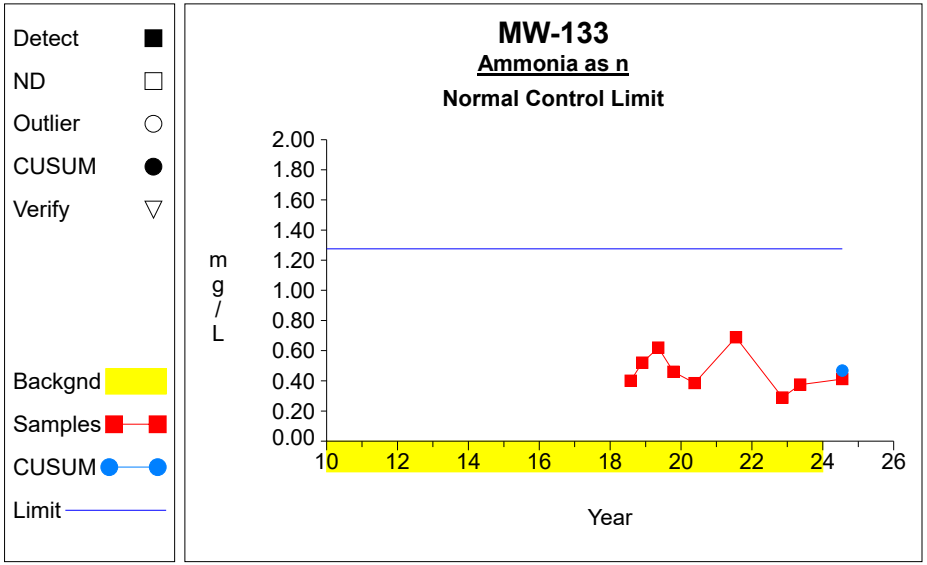
Graph 24

Prepared by: Otter Creek Environmental

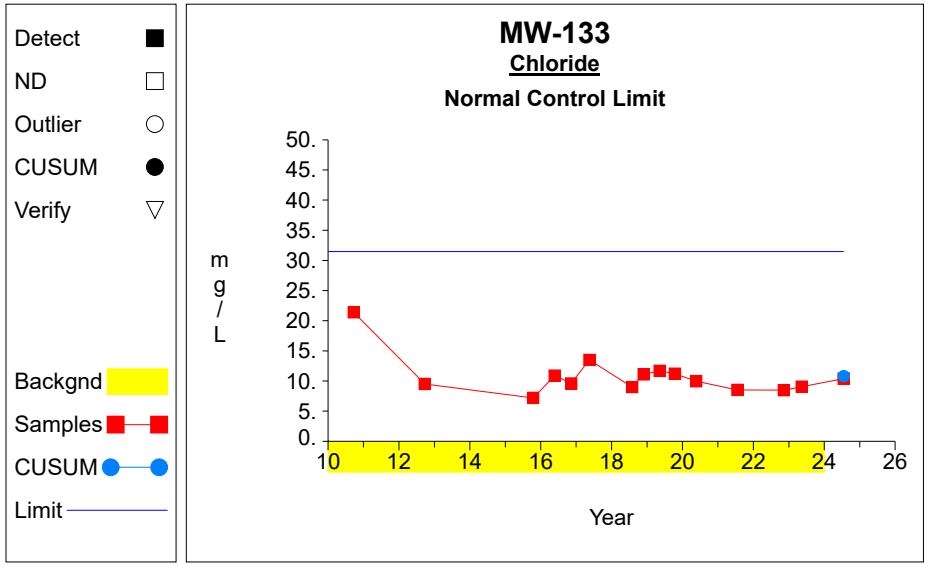
Intra-Well Control Charts / Prediction Limits



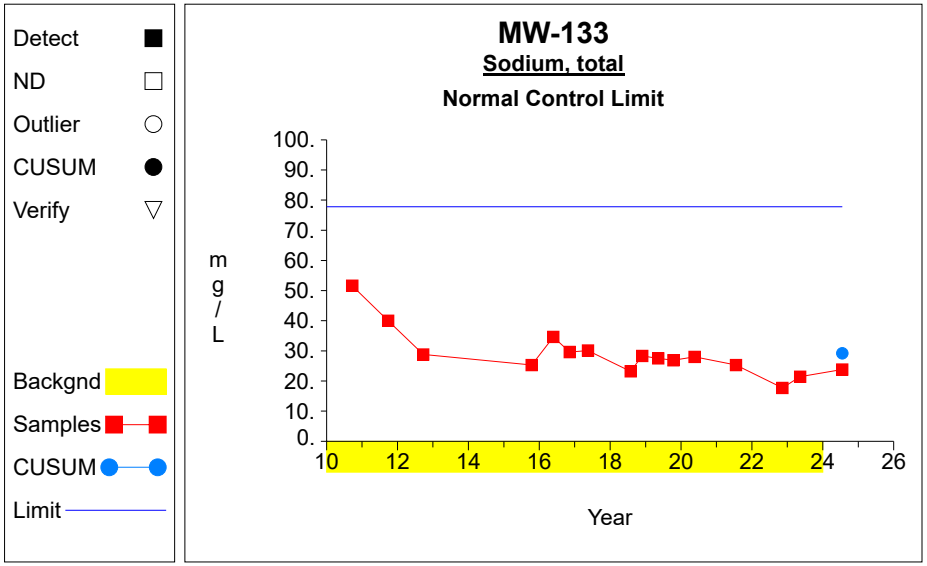
Graph 25



Graph 26



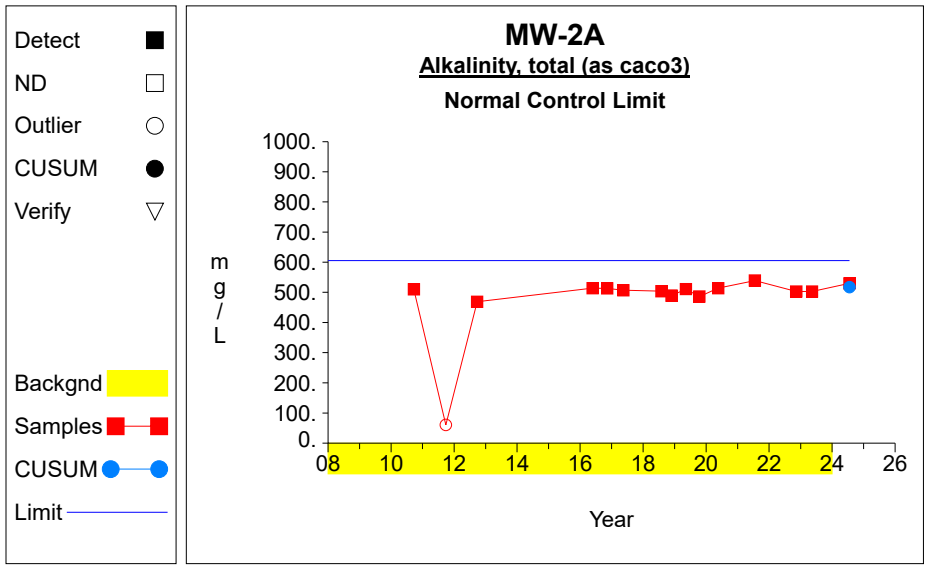
Graph 27



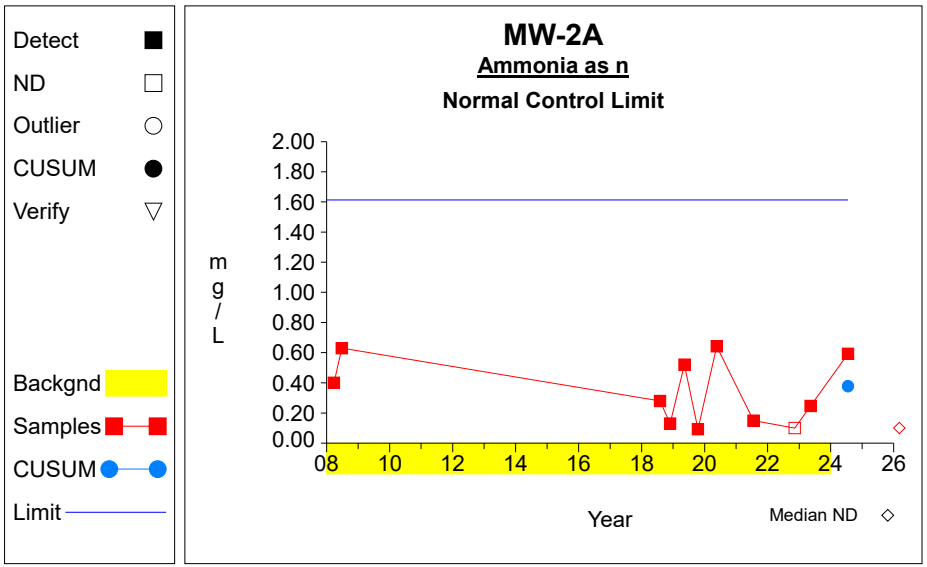
Graph 28

Prepared by: Otter Creek Environmental

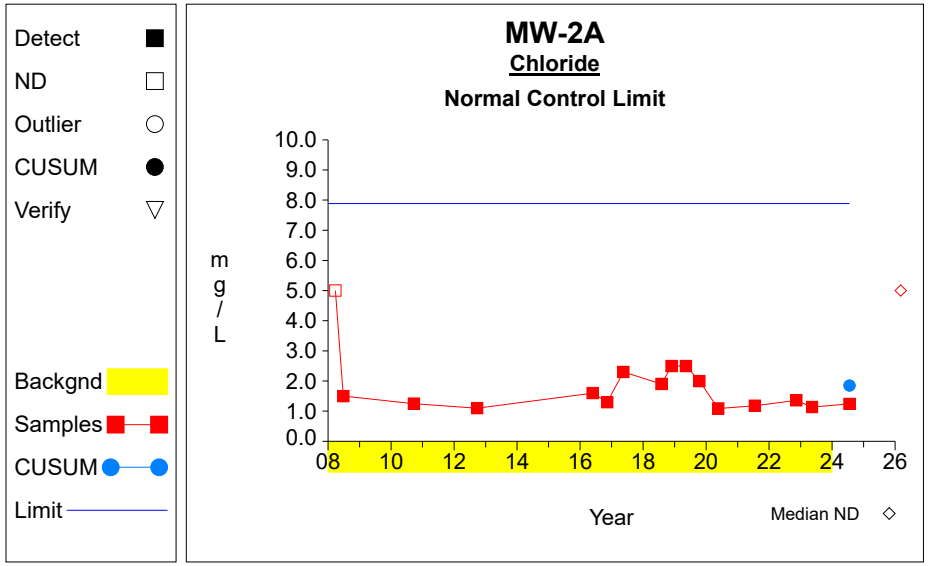
Intra-Well Control Charts / Prediction Limits



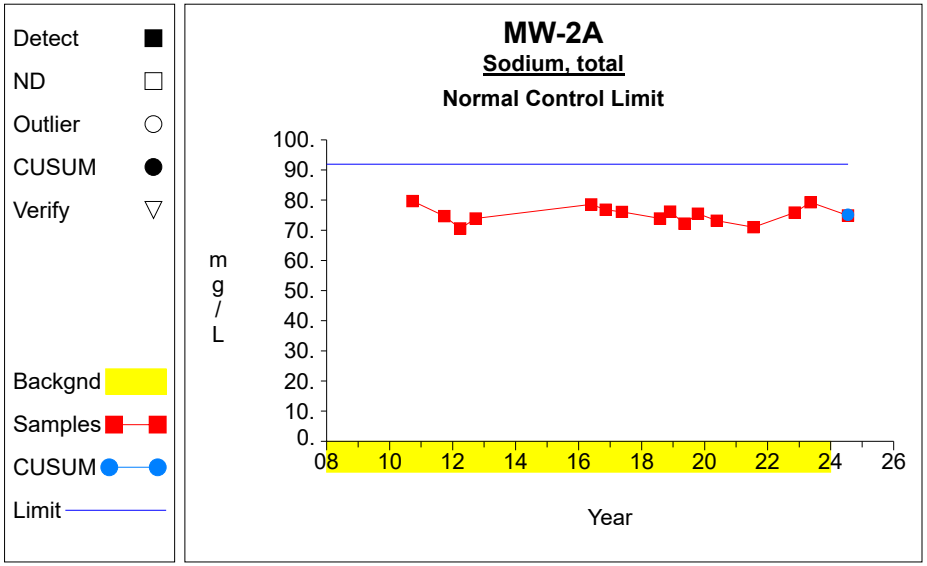
Graph 29



Graph 30



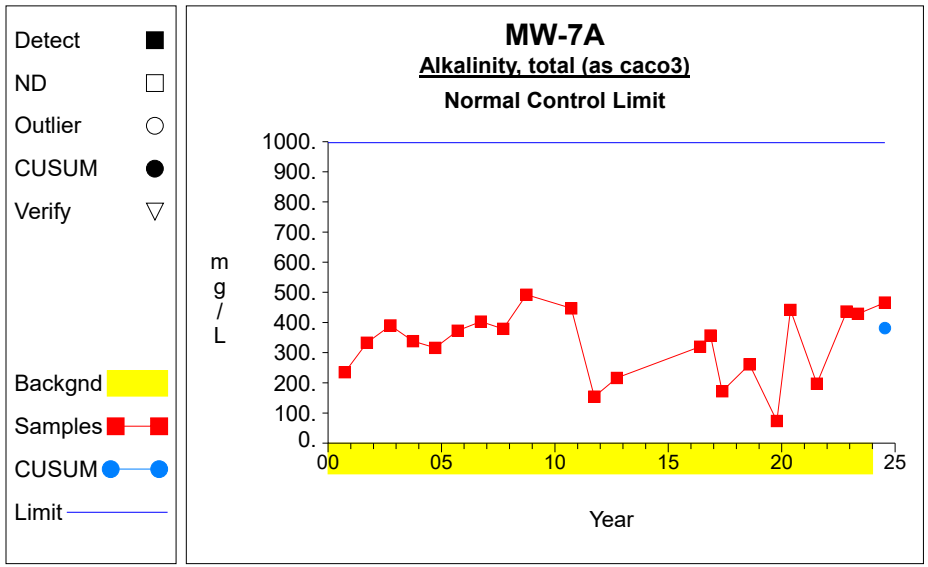
Graph 31



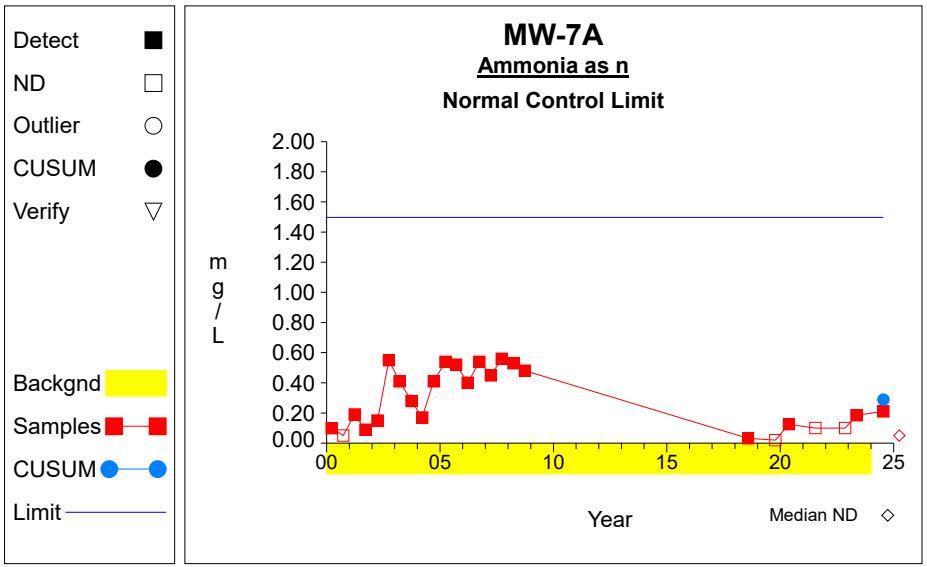
Graph 32

Prepared by: Otter Creek Environmental

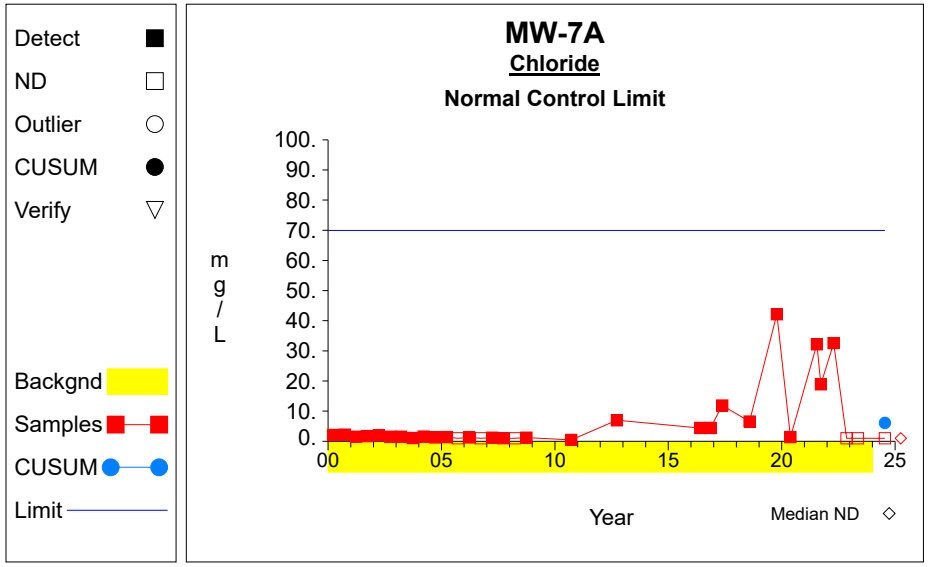
Intra-Well Control Charts / Prediction Limits



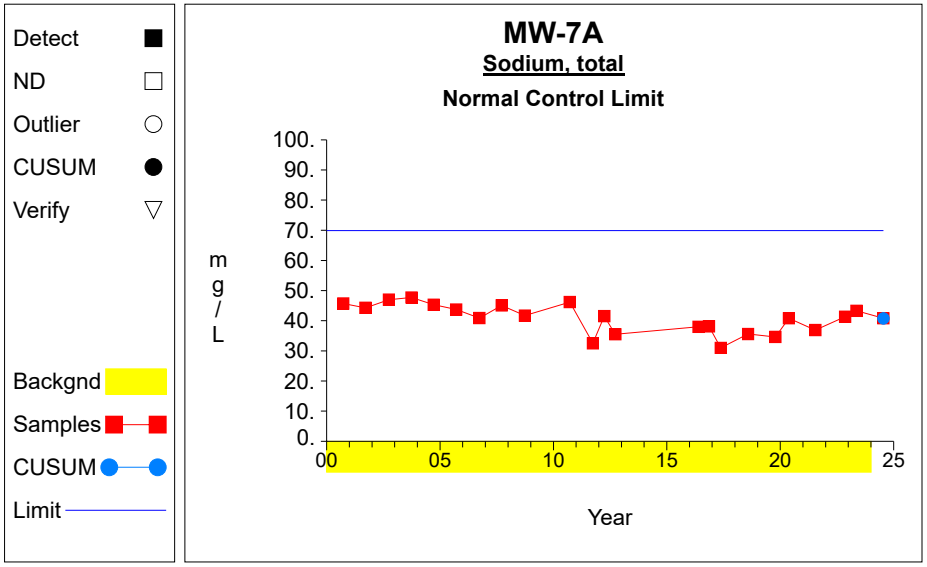
Graph 33



Graph 34



Graph 35



Graph 36

Prepared by: Otter Creek Environmental

False Positive and False Negative Rates for Current Intra-Well Control Charts Monitoring Program

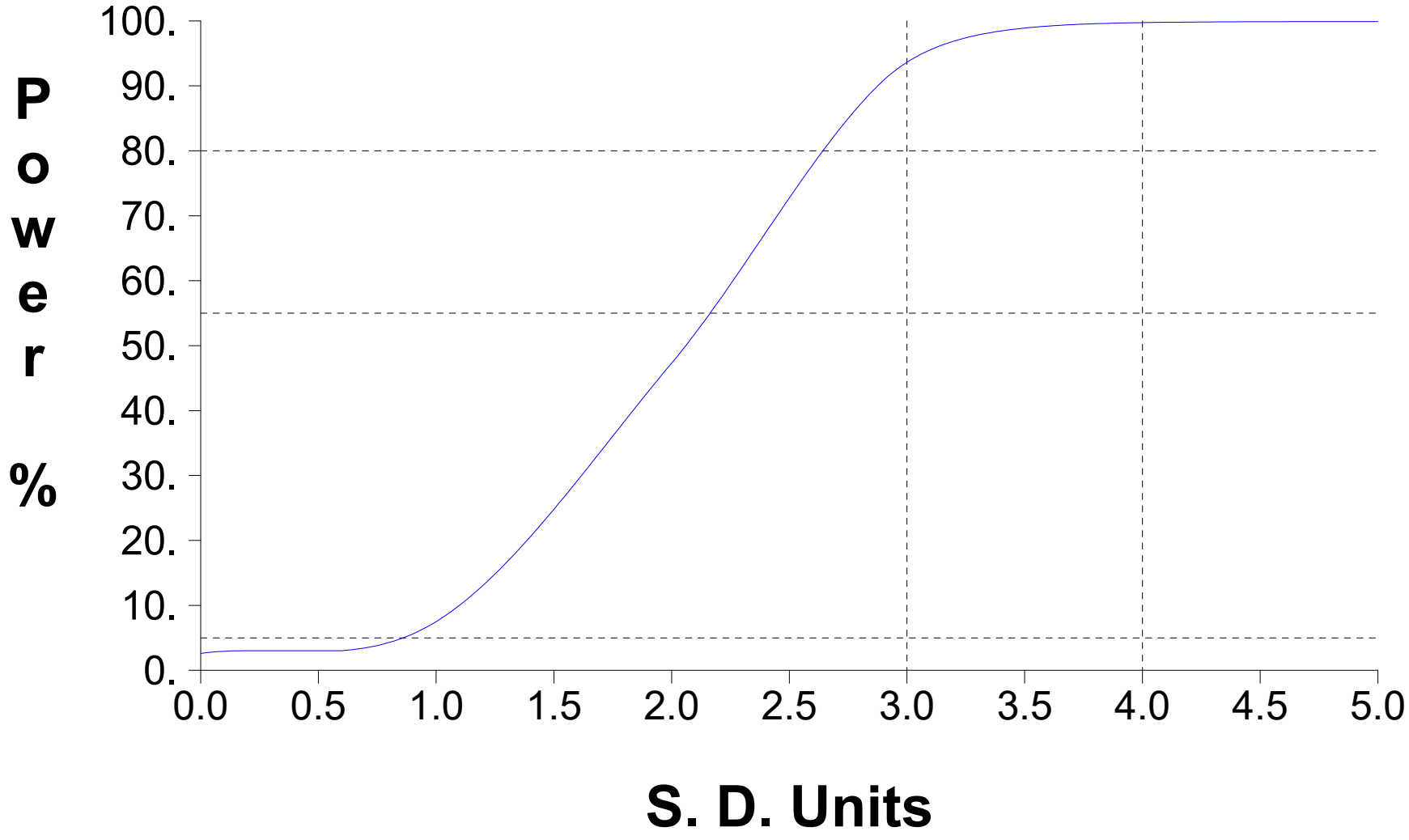


Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Alkalinity, total (as caco3)	mg/L	GU-V-2	07/16/2013	yes	361.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	08/28/2013	yes	775.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	08/29/2016	yes	812.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	11/09/2016	yes	831.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	02/16/2017	yes	810.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	05/16/2017	yes	722.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	07/31/2018	yes	684.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	10/15/2019	yes	656.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	05/20/2020	yes	506.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	07/20/2021	yes	638.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	11/11/2022	yes	644.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	05/11/2023	yes	245.0000					
Alkalinity, total (as caco3)	mg/L	GU-V-2	07/19/2024		470.0000			640.3333		
Ammonia as n	mg/L	GU-V-2	07/31/2018	yes	0.4700					
Ammonia as n	mg/L	GU-V-2	10/15/2019	yes	0.1500					
Ammonia as n	mg/L	GU-V-2	05/20/2020	yes	0.1000	ND				
Ammonia as n	mg/L	GU-V-2	07/20/2021	yes	0.7080					
Ammonia as n	mg/L	GU-V-2	11/11/2022	yes	0.1000	ND				
Ammonia as n	mg/L	GU-V-2	05/11/2023	yes	0.1000	ND				
Ammonia as n	mg/L	GU-V-2	07/19/2024		0.1000	ND		0.2713		
Chloride	mg/L	GU-V-2	07/16/2013	yes	82.6000					
Chloride	mg/L	GU-V-2	08/28/2013	yes	87.3000					
Chloride	mg/L	GU-V-2	08/29/2016	yes	67.1000					
Chloride	mg/L	GU-V-2	11/09/2016	yes	69.8000					
Chloride	mg/L	GU-V-2	02/16/2017	yes	70.1000					
Chloride	mg/L	GU-V-2	05/16/2017	yes	39.0000					
Chloride	mg/L	GU-V-2	07/31/2018	yes	32.6000					
Chloride	mg/L	GU-V-2	10/15/2019	yes	37.0000					
Chloride	mg/L	GU-V-2	05/20/2020	yes	23.4000					
Chloride	mg/L	GU-V-2	07/20/2021	yes	32.5000					
Chloride	mg/L	GU-V-2	11/11/2022	yes	36.4000					
Chloride	mg/L	GU-V-2	05/11/2023	yes	17.8000					
Chloride	mg/L	GU-V-2	07/19/2024		33.1000			49.6333		
Sodium, total	mg/L	GU-V-2	07/16/2013	yes	43.0000					
Sodium, total	mg/L	GU-V-2	08/28/2013	yes	36.5000					
Sodium, total	mg/L	GU-V-2	08/29/2016	yes	44.4000					
Sodium, total	mg/L	GU-V-2	11/09/2016	yes	44.4000					
Sodium, total	mg/L	GU-V-2	02/16/2017	yes	45.3000					
Sodium, total	mg/L	GU-V-2	05/16/2017	yes	42.0000					
Sodium, total	mg/L	GU-V-2	07/31/2018	yes	45.1000					
Sodium, total	mg/L	GU-V-2	10/15/2019	yes	44.3000					
Sodium, total	mg/L	GU-V-2	05/20/2020	yes	38.1000					
Sodium, total	mg/L	GU-V-2	07/20/2021	yes	44.7000					
Sodium, total	mg/L	GU-V-2	11/11/2022	yes	43.3000					
Sodium, total	mg/L	GU-V-2	05/11/2023	yes	44.9000					
Sodium, total	mg/L	GU-V-2	07/19/2024		45.1000			43.0000		
Alkalinity, total (as caco3)	mg/L	MW-110	09/26/2000	yes	407.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/26/2001	yes	371.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/26/2002	yes	404.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/29/2003	yes	401.0000					

* - Outlier for that well and constituent.
** - Non-outlier detected sample Result and / or CUSUM value exceeds limit.
*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Alkalinity, total (as caco3)	mg/L	MW-110	09/20/2004	yes	351.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/19/2005	yes	302.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/27/2006	yes	328.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/19/2007	yes	339.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/29/2008	yes	382.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/22/2010	yes	351.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	09/27/2011	yes	86.0000		yes			*
Alkalinity, total (as caco3)	mg/L	MW-110	09/25/2012	yes	363.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	05/25/2016	yes	432.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	11/09/2016	yes	403.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	05/15/2017	yes	436.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	07/31/2018	yes	392.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	10/15/2019	yes	425.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	05/19/2020	yes	352.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	07/19/2021	yes	473.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	11/10/2022	yes	452.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	05/11/2023	yes	431.0000					
Alkalinity, total (as caco3)	mg/L	MW-110	07/19/2024		422.0000			389.7500		
Ammonia as n	mg/L	MW-110	03/23/2000	yes	0.2200					
Ammonia as n	mg/L	MW-110	09/06/2000	yes	0.0500	ND			0.0200	***
Ammonia as n	mg/L	MW-110	03/27/2001	yes	0.0100	ND			0.0200	***
Ammonia as n	mg/L	MW-110	09/26/2001	yes	0.0100	ND			0.0200	***
Ammonia as n	mg/L	MW-110	03/28/2002	yes	0.0100	ND			0.0200	***
Ammonia as n	mg/L	MW-110	09/26/2002	yes	0.0100	ND			0.0200	***
Ammonia as n	mg/L	MW-110	03/18/2003	yes	0.0730					
Ammonia as n	mg/L	MW-110	09/29/2003	yes	0.0200	ND				
Ammonia as n	mg/L	MW-110	03/18/2004	yes	0.0200	ND				
Ammonia as n	mg/L	MW-110	09/20/2004	yes	0.0200	ND				
Ammonia as n	mg/L	MW-110	03/28/2005	yes	0.0200	ND				
Ammonia as n	mg/L	MW-110	09/19/2005	yes	0.1200					
Ammonia as n	mg/L	MW-110	03/21/2006	yes	0.0350					
Ammonia as n	mg/L	MW-110	09/27/2006	yes	0.0200	ND				
Ammonia as n	mg/L	MW-110	03/29/2007	yes	0.0460					
Ammonia as n	mg/L	MW-110	09/19/2007	yes	0.0550					
Ammonia as n	mg/L	MW-110	03/26/2008	yes	0.0200					
Ammonia as n	mg/L	MW-110	06/26/2008	yes	0.0200	ND				
Ammonia as n	mg/L	MW-110	09/29/2008	yes	0.0200	ND				
Ammonia as n	mg/L	MW-110	07/31/2018	yes	6.3000					
Ammonia as n	mg/L	MW-110	10/15/2019	yes	0.4500					
Ammonia as n	mg/L	MW-110	05/19/2020	yes	0.1000	ND			0.0200	***
Ammonia as n	mg/L	MW-110	07/19/2021	yes	0.4670					
Ammonia as n	mg/L	MW-110	11/10/2022	yes	0.1760					
Ammonia as n	mg/L	MW-110	05/11/2023	yes	0.1000	ND			0.0200	***
Ammonia as n	mg/L	MW-110	07/19/2024		0.9250			0.3297		
Chloride	mg/L	MW-110	03/23/2000	yes	2.6000					
Chloride	mg/L	MW-110	09/26/2000	yes	5.2000					
Chloride	mg/L	MW-110	03/27/2001	yes	7.6000					
Chloride	mg/L	MW-110	09/26/2001	yes	7.0000					
Chloride	mg/L	MW-110	03/28/2002	yes	6.5000					
Chloride	mg/L	MW-110	09/26/2002	yes	6.0000					

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**** - ND value replaced with manual RL.
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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chloride	mg/L	MW-110	03/18/2003	yes	5.3000					
Chloride	mg/L	MW-110	09/29/2003	yes	3.8000					
Chloride	mg/L	MW-110	03/18/2004	yes	4.4000					
Chloride	mg/L	MW-110	09/20/2004	yes	5.1000					
Chloride	mg/L	MW-110	03/28/2005	yes	4.8000					
Chloride	mg/L	MW-110	09/19/2005	yes	5.2000					
Chloride	mg/L	MW-110	03/21/2006	yes	4.4000					
Chloride	mg/L	MW-110	09/27/2006	yes	5.0000					
Chloride	mg/L	MW-110	03/29/2007	yes	3.6000					
Chloride	mg/L	MW-110	09/19/2007	yes	3.6000					
Chloride	mg/L	MW-110	03/26/2008	yes	3.8000					
Chloride	mg/L	MW-110	06/26/2008	yes	4.3000					
Chloride	mg/L	MW-110	09/29/2008	yes	3.9000					
Chloride	mg/L	MW-110	09/22/2010	yes	3.7900					
Chloride	mg/L	MW-110	09/25/2012	yes	2.6000					
Chloride	mg/L	MW-110	05/25/2016	yes	2.4000					
Chloride	mg/L	MW-110	11/09/2016	yes	2.6000					
Chloride	mg/L	MW-110	05/15/2017	yes	2.9000					
Chloride	mg/L	MW-110	07/31/2018	yes	3.3000					
Chloride	mg/L	MW-110	10/15/2019	yes	2.7000					
Chloride	mg/L	MW-110	05/19/2020	yes	2.0100					
Chloride	mg/L	MW-110	07/19/2021	yes	1.7900					
Chloride	mg/L	MW-110	11/10/2022	yes	1.7000					
Chloride	mg/L	MW-110	05/11/2023	yes	1.5400					
Chloride	mg/L	MW-110	07/19/2024		2.2900			3.9810		
Sodium, total	mg/L	MW-110	09/29/2008	yes	58.6000					
Sodium, total	mg/L	MW-110	09/22/2010	yes	62.5000					
Sodium, total	mg/L	MW-110	09/27/2011	yes	55.9000					
Sodium, total	mg/L	MW-110	03/29/2012	yes	46.3000					
Sodium, total	mg/L	MW-110	09/25/2012	yes	54.3000					
Sodium, total	mg/L	MW-110	05/25/2016	yes	68.5000					
Sodium, total	mg/L	MW-110	11/09/2016	yes	56.7000					
Sodium, total	mg/L	MW-110	05/15/2017	yes	72.5000					
Sodium, total	mg/L	MW-110	07/31/2018	yes	52.4000					
Sodium, total	mg/L	MW-110	10/15/2019	yes	68.9000					
Sodium, total	mg/L	MW-110	05/19/2020	yes	42.0000					
Sodium, total	mg/L	MW-110	07/19/2021	yes	73.6000					
Sodium, total	mg/L	MW-110	11/10/2022	yes	75.9000					
Sodium, total	mg/L	MW-110	05/11/2023	yes	74.3000					
Sodium, total	mg/L	MW-110	07/19/2024		56.2000			61.6000		
Alkalinity, total (as caco3)	mg/L	MW-117	09/10/2009	yes	482.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	12/29/2009	yes	440.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	03/31/2010	yes	560.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	06/29/2010	yes	496.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	09/22/2010	yes	494.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	12/21/2010	yes	442.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	03/30/2011	yes	531.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	06/29/2011	yes	456.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	09/27/2011	yes	491.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	12/13/2011	yes	534.0000					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Alkalinity, total (as caco3)	mg/L	MW-117	03/28/2012	yes	487.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	06/25/2012	yes	494.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	09/25/2012	yes	501.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	12/11/2012	yes	501.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	03/26/2013	yes	466.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	06/24/2013	yes	477.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	08/28/2013	yes	520.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	11/20/2013	yes	469.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	05/25/2016	yes	469.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	11/10/2016	yes	483.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	05/15/2017	yes	450.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	07/31/2018	yes	471.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	11/27/2018	yes	477.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	05/10/2019	yes	468.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	10/14/2019	yes	435.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	05/19/2020	yes	501.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	07/19/2021	yes	477.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	11/10/2022	yes	458.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	05/11/2023	yes	490.0000					
Alkalinity, total (as caco3)	mg/L	MW-117	07/19/2024		477.0000			483.4483		
Ammonia as n	mg/L	MW-117	09/10/2009	yes	1.0100					
Ammonia as n	mg/L	MW-117	12/29/2009	yes	0.7440					
Ammonia as n	mg/L	MW-117	03/31/2010	yes	0.6570					
Ammonia as n	mg/L	MW-117	06/29/2010	yes	1.9400					
Ammonia as n	mg/L	MW-117	09/22/2010	yes	0.8200					
Ammonia as n	mg/L	MW-117	12/21/2010	yes	0.9870					
Ammonia as n	mg/L	MW-117	03/30/2011	yes	0.5900					
Ammonia as n	mg/L	MW-117	06/29/2011	yes	0.6900					
Ammonia as n	mg/L	MW-117	09/27/2011	yes	0.8300					
Ammonia as n	mg/L	MW-117	12/13/2011	yes	0.7400					
Ammonia as n	mg/L	MW-117	03/28/2012	yes	0.6700					
Ammonia as n	mg/L	MW-117	06/25/2012	yes	0.6900					
Ammonia as n	mg/L	MW-117	09/25/2012	yes	0.6600					
Ammonia as n	mg/L	MW-117	12/11/2012	yes	0.7200					
Ammonia as n	mg/L	MW-117	03/26/2013	yes	0.5100					
Ammonia as n	mg/L	MW-117	06/24/2013	yes	0.5800					
Ammonia as n	mg/L	MW-117	08/28/2013	yes	0.4100					
Ammonia as n	mg/L	MW-117	11/20/2013	yes	0.5500					
Ammonia as n	mg/L	MW-117	07/31/2018	yes	0.5400					
Ammonia as n	mg/L	MW-117	11/27/2018	yes	0.6000					
Ammonia as n	mg/L	MW-117	05/10/2019	yes	0.7200					
Ammonia as n	mg/L	MW-117	10/14/2019	yes	0.6500					
Ammonia as n	mg/L	MW-117	05/19/2020	yes	0.6370					
Ammonia as n	mg/L	MW-117	07/19/2021	yes	0.6400					
Ammonia as n	mg/L	MW-117	11/10/2022	yes	0.7200					
Ammonia as n	mg/L	MW-117	05/11/2023	yes	0.6780					
Ammonia as n	mg/L	MW-117	07/19/2024		0.2710			0.7301		
Chloride	mg/L	MW-117	09/10/2009	yes	3.8300					
Chloride	mg/L	MW-117	12/29/2009	yes	15.2000					
Chloride	mg/L	MW-117	03/31/2010	yes	3.2100					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chloride	mg/L	MW-117	06/29/2010	yes	4.4300					
Chloride	mg/L	MW-117	09/22/2010	yes	4.2800					
Chloride	mg/L	MW-117	12/21/2010	yes	8.1000					
Chloride	mg/L	MW-117	03/30/2011	yes	3.7000					
Chloride	mg/L	MW-117	06/29/2011	yes	7.7000					
Chloride	mg/L	MW-117	09/27/2011	yes	3.8000					
Chloride	mg/L	MW-117	12/13/2011	yes	3.5000					
Chloride	mg/L	MW-117	03/28/2012	yes	3.7000					
Chloride	mg/L	MW-117	06/25/2012	yes	5.0000					
Chloride	mg/L	MW-117	09/25/2012	yes	2.9000					
Chloride	mg/L	MW-117	12/11/2012	yes	2.6000					
Chloride	mg/L	MW-117	03/26/2013	yes	3.3000					
Chloride	mg/L	MW-117	06/24/2013	yes	7.2000					
Chloride	mg/L	MW-117	08/28/2013	yes	3.2000					
Chloride	mg/L	MW-117	11/20/2013	yes	2.1000					
Chloride	mg/L	MW-117	05/25/2016	yes	7.8000					
Chloride	mg/L	MW-117	11/10/2016	yes	4.6000					
Chloride	mg/L	MW-117	05/15/2017	yes	10.0000					
Chloride	mg/L	MW-117	07/31/2018	yes	4.2000					
Chloride	mg/L	MW-117	11/27/2018	yes	4.4000					
Chloride	mg/L	MW-117	05/10/2019	yes	4.7000					
Chloride	mg/L	MW-117	10/14/2019	yes	5.0000					
Chloride	mg/L	MW-117	05/19/2020	yes	3.8100					
Chloride	mg/L	MW-117	07/19/2021	yes	7.9900					
Chloride	mg/L	MW-117	11/10/2022	yes	3.3400					
Chloride	mg/L	MW-117	05/11/2023	yes	5.1300					
Chloride	mg/L	MW-117	07/19/2024		12.4000			10.3474		
Sodium, total	mg/L	MW-117	05/25/2016	yes	76.8000					
Sodium, total	mg/L	MW-117	11/10/2016	yes	72.2000					
Sodium, total	mg/L	MW-117	05/15/2017	yes	74.7000					
Sodium, total	mg/L	MW-117	07/31/2018	yes	70.0000					
Sodium, total	mg/L	MW-117	11/27/2018	yes	68.2000					
Sodium, total	mg/L	MW-117	05/10/2019	yes	68.6000					
Sodium, total	mg/L	MW-117	10/14/2019	yes	76.2000					
Sodium, total	mg/L	MW-117	05/19/2020	yes	68.6000					
Sodium, total	mg/L	MW-117	07/19/2021	yes	68.6000					
Sodium, total	mg/L	MW-117	11/10/2022	yes	71.3000					
Sodium, total	mg/L	MW-117	05/11/2023	yes	73.1000					
Sodium, total	mg/L	MW-117	07/19/2024		73.4000			71.6636		
Alkalinity, total (as caco3)	mg/L	MW-118	09/10/2009	yes	439.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	12/29/2009	yes	461.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	03/31/2010	yes	457.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	06/29/2010	yes	455.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	09/22/2010	yes	435.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	12/21/2010	yes	464.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	03/30/2011	yes	511.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	06/29/2011	yes	420.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	09/27/2011	yes	444.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	12/13/2011	yes	496.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	03/28/2012	yes	464.0000					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Alkalinity, total (as caco3)	mg/L	MW-118	06/25/2012	yes	528.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	09/25/2012	yes	405.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	12/11/2012	yes	461.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	03/26/2013	yes	420.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	06/24/2013	yes	400.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	08/28/2013	yes	474.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	11/20/2013	yes	443.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	05/25/2016	yes	429.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	11/10/2016	yes	435.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	05/15/2017	yes	427.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	07/31/2018	yes	427.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	11/27/2018	yes	435.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	05/10/2019	yes	431.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	10/14/2019	yes	416.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	05/19/2020	yes	436.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	07/19/2021	yes	483.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	11/10/2022	yes	446.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	05/11/2023	yes	436.0000					
Alkalinity, total (as caco3)	mg/L	MW-118	07/19/2024		451.0000			447.5172		
Ammonia as n	mg/L	MW-118	09/10/2009	yes	0.7860					
Ammonia as n	mg/L	MW-118	12/29/2009	yes	0.5920					
Ammonia as n	mg/L	MW-118	03/31/2010	yes	1.0500					
Ammonia as n	mg/L	MW-118	06/29/2010	yes	0.6690					
Ammonia as n	mg/L	MW-118	09/22/2010	yes	0.8900					
Ammonia as n	mg/L	MW-118	12/21/2010	yes	0.9890					
Ammonia as n	mg/L	MW-118	03/30/2011	yes	0.5300					
Ammonia as n	mg/L	MW-118	06/29/2011	yes	0.5700					
Ammonia as n	mg/L	MW-118	09/27/2011	yes	0.7100					
Ammonia as n	mg/L	MW-118	12/13/2011	yes	0.6000					
Ammonia as n	mg/L	MW-118	03/28/2012	yes	0.5500					
Ammonia as n	mg/L	MW-118	06/25/2012	yes	0.5800					
Ammonia as n	mg/L	MW-118	09/25/2012	yes	0.5100					
Ammonia as n	mg/L	MW-118	12/11/2012	yes	0.6000					
Ammonia as n	mg/L	MW-118	03/26/2013	yes	0.4400					
Ammonia as n	mg/L	MW-118	06/24/2013	yes	0.4200					
Ammonia as n	mg/L	MW-118	08/28/2013	yes	0.3400					
Ammonia as n	mg/L	MW-118	11/20/2013	yes	0.4700					
Ammonia as n	mg/L	MW-118	07/31/2018	yes	0.4400					
Ammonia as n	mg/L	MW-118	11/27/2018	yes	0.5400					
Ammonia as n	mg/L	MW-118	05/10/2019	yes	0.6100					
Ammonia as n	mg/L	MW-118	10/14/2019	yes	0.5000					
Ammonia as n	mg/L	MW-118	05/19/2020	yes	0.5540					
Ammonia as n	mg/L	MW-118	07/19/2021	yes	0.3520					
Ammonia as n	mg/L	MW-118	11/10/2022	yes	0.5100					
Ammonia as n	mg/L	MW-118	05/11/2023	yes	0.5520					
Ammonia as n	mg/L	MW-118	07/19/2024		0.1000	ND		0.5905		
Chloride	mg/L	MW-118	09/10/2009	yes	1.5600					
Chloride	mg/L	MW-118	12/29/2009	yes	6.2500					
Chloride	mg/L	MW-118	03/31/2010	yes	1.0400					
Chloride	mg/L	MW-118	06/29/2010	yes	1.0000	ND				

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chloride	mg/L	MW-118	09/22/2010	yes	1.0000	ND				
Chloride	mg/L	MW-118	12/21/2010	yes	1.2000					
Chloride	mg/L	MW-118	03/30/2011	yes	1.1000					
Chloride	mg/L	MW-118	06/29/2011	yes	1.1000					
Chloride	mg/L	MW-118	09/27/2011	yes	1.0000					
Chloride	mg/L	MW-118	12/13/2011	yes	1.0000	ND				
Chloride	mg/L	MW-118	03/28/2012	yes	0.7000					
Chloride	mg/L	MW-118	06/25/2012	yes	0.7600					
Chloride	mg/L	MW-118	09/25/2012	yes	0.5000	ND			1.0000	***
Chloride	mg/L	MW-118	12/11/2012	yes	0.6000					
Chloride	mg/L	MW-118	03/26/2013	yes	0.8200					
Chloride	mg/L	MW-118	06/24/2013	yes	0.7700					
Chloride	mg/L	MW-118	08/28/2013	yes	0.7700					
Chloride	mg/L	MW-118	11/20/2013	yes	0.5000	ND			1.0000	***
Chloride	mg/L	MW-118	05/25/2016	yes	1.0000	ND				
Chloride	mg/L	MW-118	11/10/2016	yes	1.8000					
Chloride	mg/L	MW-118	05/15/2017	yes	2.2000					
Chloride	mg/L	MW-118	07/31/2018	yes	1.4000					
Chloride	mg/L	MW-118	11/27/2018	yes	2.5000					
Chloride	mg/L	MW-118	05/10/2019	yes	1.8000					
Chloride	mg/L	MW-118	10/14/2019	yes	1.4000					
Chloride	mg/L	MW-118	05/19/2020	yes	1.0000	ND				
Chloride	mg/L	MW-118	07/19/2021	yes	1.4200					
Chloride	mg/L	MW-118	11/10/2022	yes	1.3300					
Chloride	mg/L	MW-118	05/11/2023	yes	1.0000	ND				
Chloride	mg/L	MW-118	07/19/2024		1.0000	ND		1.3628		
Sodium, total	mg/L	MW-118	05/25/2016	yes	59.0000					
Sodium, total	mg/L	MW-118	11/10/2016	yes	57.5000					
Sodium, total	mg/L	MW-118	05/15/2017	yes	56.6000					
Sodium, total	mg/L	MW-118	07/31/2018	yes	57.6000					
Sodium, total	mg/L	MW-118	11/27/2018	yes	56.7000					
Sodium, total	mg/L	MW-118	05/10/2019	yes	54.5000					
Sodium, total	mg/L	MW-118	10/14/2019	yes	57.9000					
Sodium, total	mg/L	MW-118	05/19/2020	yes	56.8000					
Sodium, total	mg/L	MW-118	07/19/2021	yes	57.9000					
Sodium, total	mg/L	MW-118	11/10/2022	yes	60.9000					
Sodium, total	mg/L	MW-118	05/11/2023	yes	61.2000					
Sodium, total	mg/L	MW-118	07/19/2024		58.8000			57.8727		
Alkalinity, total (as caco3)	mg/L	MW-123	06/26/2003	yes	395.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	09/29/2003	yes	403.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	03/19/2004	yes	335.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/22/2004	yes	453.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/29/2005	yes	356.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/29/2006	yes	406.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/29/2007	yes	446.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	09/27/2007	yes	448.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	03/26/2008	yes	371.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/26/2008	yes	426.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	10/02/2008	yes	419.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	12/28/2009	yes	438.0000					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Alkalinity, total (as caco3)	mg/L	MW-123	03/24/2010	yes	488.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/28/2010	yes	399.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	09/22/2010	yes	419.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	12/20/2010	yes	440.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	03/30/2011	yes	432.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/28/2011	yes	404.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	09/27/2011	yes	430.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	12/12/2011	yes	374.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	03/28/2012	yes	439.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/26/2012	yes	570.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	09/25/2012	yes	448.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	12/11/2012	yes	435.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	03/26/2013	yes	398.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	06/25/2013	yes	393.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	08/29/2013	yes	456.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	11/21/2013	yes	443.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	05/25/2016	yes	419.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	11/09/2016	yes	429.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	05/16/2017	yes	418.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	07/31/2018	yes	407.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	11/27/2018	yes	418.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	05/10/2019	yes	416.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	10/14/2019	yes	396.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	05/19/2020	yes	410.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	07/19/2021	yes	439.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	11/10/2022	yes	412.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	05/11/2023	yes	404.0000					
Alkalinity, total (as caco3)	mg/L	MW-123	07/19/2024		436.0000			421.3333		
Ammonia as n	mg/L	MW-123	06/26/2003	yes	0.3300					
Ammonia as n	mg/L	MW-123	09/29/2003	yes	0.4200					
Ammonia as n	mg/L	MW-123	03/19/2004	yes	0.3600					
Ammonia as n	mg/L	MW-123	06/22/2004	yes	0.4500					
Ammonia as n	mg/L	MW-123	06/29/2005	yes	0.4500					
Ammonia as n	mg/L	MW-123	06/29/2006	yes	0.4100					
Ammonia as n	mg/L	MW-123	06/29/2007	yes	0.4800					
Ammonia as n	mg/L	MW-123	09/27/2007	yes	0.4600					
Ammonia as n	mg/L	MW-123	03/26/2008	yes	0.5000					
Ammonia as n	mg/L	MW-123	06/26/2008	yes	0.6900					
Ammonia as n	mg/L	MW-123	10/02/2008	yes	0.1400		yes			*
Ammonia as n	mg/L	MW-123	12/28/2009	yes	0.5310					
Ammonia as n	mg/L	MW-123	03/24/2010	yes	0.5790					
Ammonia as n	mg/L	MW-123	06/28/2010	yes	0.7020					
Ammonia as n	mg/L	MW-123	09/22/2010	yes	0.7800					
Ammonia as n	mg/L	MW-123	12/20/2010	yes	0.6230					
Ammonia as n	mg/L	MW-123	03/30/2011	yes	0.4400					
Ammonia as n	mg/L	MW-123	06/28/2011	yes	0.4800					
Ammonia as n	mg/L	MW-123	09/27/2011	yes	0.6200					
Ammonia as n	mg/L	MW-123	12/12/2011	yes	0.5300					
Ammonia as n	mg/L	MW-123	03/28/2012	yes	0.4700					
Ammonia as n	mg/L	MW-123	06/26/2012	yes	0.4700					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Ammonia as n	mg/L	MW-123	09/25/2012	yes	0.4500					
Ammonia as n	mg/L	MW-123	12/11/2012	yes	0.5100					
Ammonia as n	mg/L	MW-123	03/26/2013	yes	0.3200					
Ammonia as n	mg/L	MW-123	06/25/2013	yes	0.4500					
Ammonia as n	mg/L	MW-123	08/29/2013	yes	0.4200					
Ammonia as n	mg/L	MW-123	11/21/2013	yes	0.4300					
Ammonia as n	mg/L	MW-123	07/31/2018	yes	0.3500					
Ammonia as n	mg/L	MW-123	11/27/2018	yes	0.4900					
Ammonia as n	mg/L	MW-123	05/10/2019	yes	0.5300					
Ammonia as n	mg/L	MW-123	10/14/2019	yes	0.4900					
Ammonia as n	mg/L	MW-123	05/19/2020	yes	0.5060					
Ammonia as n	mg/L	MW-123	07/19/2021	yes	0.4530					
Ammonia as n	mg/L	MW-123	11/10/2022	yes	0.5650					
Ammonia as n	mg/L	MW-123	05/11/2023	yes	0.5640					
Ammonia as n	mg/L	MW-123	07/19/2024		0.4640			0.4944		
Chloride	mg/L	MW-123	06/26/2003	yes	2.6000					
Chloride	mg/L	MW-123	09/29/2003	yes	1.5000					
Chloride	mg/L	MW-123	03/19/2004	yes	2.5000					
Chloride	mg/L	MW-123	06/22/2004	yes	2.0000	ND				
Chloride	mg/L	MW-123	06/29/2005	yes	2.2000					
Chloride	mg/L	MW-123	06/29/2006	yes	2.6000					
Chloride	mg/L	MW-123	06/29/2007	yes	2.3000					
Chloride	mg/L	MW-123	09/27/2007	yes	1.7000					
Chloride	mg/L	MW-123	03/26/2008	yes	2.4000					
Chloride	mg/L	MW-123	06/26/2008	yes	2.1000					
Chloride	mg/L	MW-123	10/02/2008	yes	2.1000					
Chloride	mg/L	MW-123	12/28/2009	yes	2.0600					
Chloride	mg/L	MW-123	03/24/2010	yes	2.0200					
Chloride	mg/L	MW-123	06/28/2010	yes	1.9900					
Chloride	mg/L	MW-123	09/22/2010	yes	1.7300					
Chloride	mg/L	MW-123	12/20/2010	yes	2.1100					
Chloride	mg/L	MW-123	03/30/2011	yes	1.9000					
Chloride	mg/L	MW-123	06/28/2011	yes	1.8000					
Chloride	mg/L	MW-123	09/27/2011	yes	1.8000					
Chloride	mg/L	MW-123	12/12/2011	yes	9.5000		yes			*
Chloride	mg/L	MW-123	03/28/2012	yes	1.8000					
Chloride	mg/L	MW-123	06/26/2012	yes	2.1000					
Chloride	mg/L	MW-123	09/25/2012	yes	1.3000					
Chloride	mg/L	MW-123	12/11/2012	yes	1.6000					
Chloride	mg/L	MW-123	03/26/2013	yes	1.7000					
Chloride	mg/L	MW-123	06/25/2013	yes	2.4000					
Chloride	mg/L	MW-123	08/29/2013	yes	2.4000					
Chloride	mg/L	MW-123	11/21/2013	yes	2.0000					
Chloride	mg/L	MW-123	05/25/2016	yes	2.4000					
Chloride	mg/L	MW-123	11/09/2016	yes	3.1000					
Chloride	mg/L	MW-123	05/16/2017	yes	4.2000					
Chloride	mg/L	MW-123	07/31/2018	yes	3.1000					
Chloride	mg/L	MW-123	11/27/2018	yes	3.3000					
Chloride	mg/L	MW-123	05/10/2019	yes	3.2000					
Chloride	mg/L	MW-123	10/14/2019	yes	3.1000					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chloride	mg/L	MW-123	05/19/2020	yes	2.0900					
Chloride	mg/L	MW-123	07/19/2021	yes	2.5800					
Chloride	mg/L	MW-123	11/10/2022	yes	2.7800					
Chloride	mg/L	MW-123	05/11/2023	yes	3.1000					
Chloride	mg/L	MW-123	07/19/2024		3.4000			2.9511		
Sodium, total	mg/L	MW-123	05/25/2016	yes	27.4000					
Sodium, total	mg/L	MW-123	11/09/2016	yes	28.1000					
Sodium, total	mg/L	MW-123	05/16/2017	yes	28.7000					
Sodium, total	mg/L	MW-123	07/31/2018	yes	26.2000					
Sodium, total	mg/L	MW-123	11/27/2018	yes	27.3000					
Sodium, total	mg/L	MW-123	05/10/2019	yes	25.6000					
Sodium, total	mg/L	MW-123	10/14/2019	yes	27.7000					
Sodium, total	mg/L	MW-123	05/19/2020	yes	27.6000					
Sodium, total	mg/L	MW-123	07/19/2021	yes	26.9000					
Sodium, total	mg/L	MW-123	11/10/2022	yes	27.9000					
Sodium, total	mg/L	MW-123	05/11/2023	yes	27.7000					
Sodium, total	mg/L	MW-123	07/19/2024		27.4000			27.3727		
Alkalinity, total (as caco3)	mg/L	MW-132	09/22/2010	yes	463.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	09/27/2011	yes	560.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	09/24/2012	yes	459.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	05/24/2016	yes	527.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	11/09/2016	yes	548.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	05/15/2017	yes	475.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	07/31/2018	yes	476.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	11/27/2018	yes	517.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	05/09/2019	yes	507.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	10/14/2019	yes	489.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	05/20/2020	yes	467.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	07/19/2021	yes	507.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	11/10/2022	yes	467.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	05/11/2023	yes	432.0000					
Alkalinity, total (as caco3)	mg/L	MW-132	07/19/2024		496.0000			492.4286		
Ammonia as n	mg/L	MW-132	07/31/2018	yes	0.3600					
Ammonia as n	mg/L	MW-132	11/27/2018	yes	0.3900					
Ammonia as n	mg/L	MW-132	05/09/2019	yes	0.5400					
Ammonia as n	mg/L	MW-132	10/14/2019	yes	0.4500					
Ammonia as n	mg/L	MW-132	05/20/2020	yes	0.4170					
Ammonia as n	mg/L	MW-132	07/19/2021	yes	0.3880					
Ammonia as n	mg/L	MW-132	11/10/2022	yes	0.5730					
Ammonia as n	mg/L	MW-132	05/11/2023	yes	0.5980					
Ammonia as n	mg/L	MW-132	07/19/2024		0.2160			0.4645		
Chloride	mg/L	MW-132	09/22/2010	yes	10.3000					
Chloride	mg/L	MW-132	09/24/2012	yes	8.7000					
Chloride	mg/L	MW-132	05/24/2016	yes	9.3000					
Chloride	mg/L	MW-132	11/09/2016	yes	8.0000					
Chloride	mg/L	MW-132	05/15/2017	yes	12.0000					
Chloride	mg/L	MW-132	07/31/2018	yes	6.4000					
Chloride	mg/L	MW-132	11/27/2018	yes	8.7000					
Chloride	mg/L	MW-132	05/09/2019	yes	8.2000					
Chloride	mg/L	MW-132	10/14/2019	yes	8.1000					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chloride	mg/L	MW-132	05/20/2020	yes	7.3000					
Chloride	mg/L	MW-132	07/19/2021	yes	6.0000					
Chloride	mg/L	MW-132	11/10/2022	yes	4.6600					
Chloride	mg/L	MW-132	05/11/2023	yes	5.1800					
Chloride	mg/L	MW-132	07/19/2024		3.9100			7.9108		
Sodium, total	mg/L	MW-132	09/22/2010	yes	67.5000					
Sodium, total	mg/L	MW-132	09/27/2011	yes	45.0000					
Sodium, total	mg/L	MW-132	09/24/2012	yes	55.3000					
Sodium, total	mg/L	MW-132	05/24/2016	yes	79.6000					
Sodium, total	mg/L	MW-132	11/09/2016	yes	64.5000					
Sodium, total	mg/L	MW-132	05/15/2017	yes	77.6000					
Sodium, total	mg/L	MW-132	07/31/2018	yes	54.3000					
Sodium, total	mg/L	MW-132	11/27/2018	yes	65.3000					
Sodium, total	mg/L	MW-132	05/09/2019	yes	74.7000					
Sodium, total	mg/L	MW-132	10/14/2019	yes	72.0000					
Sodium, total	mg/L	MW-132	05/20/2020	yes	55.0000					
Sodium, total	mg/L	MW-132	07/19/2021	yes	50.5000					
Sodium, total	mg/L	MW-132	11/10/2022	yes	55.5000					
Sodium, total	mg/L	MW-132	05/11/2023	yes	58.8000					
Sodium, total	mg/L	MW-132	07/19/2024		61.3000			62.5429		
Alkalinity, total (as caco3)	mg/L	MW-133	09/22/2010	yes	579.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	09/27/2011	yes	576.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	09/24/2012	yes	502.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	10/14/2015	yes	525.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	05/24/2016	yes	553.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	11/09/2016	yes	537.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	05/15/2017	yes	537.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	07/31/2018	yes	452.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	11/27/2018	yes	531.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	05/09/2019	yes	519.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	10/14/2019	yes	471.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	05/20/2020	yes	520.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	07/19/2021	yes	563.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	11/10/2022	yes	418.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	05/11/2023	yes	416.0000					
Alkalinity, total (as caco3)	mg/L	MW-133	07/19/2024		512.0000			513.2667		
Ammonia as n	mg/L	MW-133	07/31/2018	yes	0.4000					
Ammonia as n	mg/L	MW-133	11/27/2018	yes	0.5200					
Ammonia as n	mg/L	MW-133	05/09/2019	yes	0.6200					
Ammonia as n	mg/L	MW-133	10/14/2019	yes	0.4600					
Ammonia as n	mg/L	MW-133	05/20/2020	yes	0.3850					
Ammonia as n	mg/L	MW-133	07/19/2021	yes	0.6890					
Ammonia as n	mg/L	MW-133	11/10/2022	yes	0.2890					
Ammonia as n	mg/L	MW-133	05/11/2023	yes	0.3750					
Ammonia as n	mg/L	MW-133	07/19/2024		0.4120			0.4673		
Chloride	mg/L	MW-133	09/22/2010	yes	21.4000					
Chloride	mg/L	MW-133	09/24/2012	yes	9.5000					
Chloride	mg/L	MW-133	10/14/2015	yes	7.2000					
Chloride	mg/L	MW-133	05/24/2016	yes	10.9000					
Chloride	mg/L	MW-133	11/09/2016	yes	9.6000					

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chloride	mg/L	MW-133	05/15/2017	yes	13.5000					
Chloride	mg/L	MW-133	07/31/2018	yes	9.0000					
Chloride	mg/L	MW-133	11/27/2018	yes	11.1000					
Chloride	mg/L	MW-133	05/09/2019	yes	11.7000					
Chloride	mg/L	MW-133	10/14/2019	yes	11.2000					
Chloride	mg/L	MW-133	05/20/2020	yes	9.9800					
Chloride	mg/L	MW-133	07/19/2021	yes	8.5300					
Chloride	mg/L	MW-133	11/10/2022	yes	8.4900					
Chloride	mg/L	MW-133	05/11/2023	yes	9.0600					
Chloride	mg/L	MW-133	07/19/2024		10.4000			10.7971		
Sodium, total	mg/L	MW-133	09/22/2010	yes	51.6000					
Sodium, total	mg/L	MW-133	09/27/2011	yes	40.0000					
Sodium, total	mg/L	MW-133	09/24/2012	yes	28.8000					
Sodium, total	mg/L	MW-133	10/14/2015	yes	25.3000					
Sodium, total	mg/L	MW-133	05/24/2016	yes	34.6000					
Sodium, total	mg/L	MW-133	11/09/2016	yes	29.6000					
Sodium, total	mg/L	MW-133	05/15/2017	yes	30.1000					
Sodium, total	mg/L	MW-133	07/31/2018	yes	23.2000					
Sodium, total	mg/L	MW-133	11/27/2018	yes	28.3000					
Sodium, total	mg/L	MW-133	05/09/2019	yes	27.5000					
Sodium, total	mg/L	MW-133	10/14/2019	yes	26.9000					
Sodium, total	mg/L	MW-133	05/20/2020	yes	28.0000					
Sodium, total	mg/L	MW-133	07/19/2021	yes	25.3000					
Sodium, total	mg/L	MW-133	11/10/2022	yes	17.7000					
Sodium, total	mg/L	MW-133	05/11/2023	yes	21.4000					
Sodium, total	mg/L	MW-133	07/19/2024		23.8000			29.2200		
Alkalinity, total (as caco3)	mg/L	MW-2A	09/22/2010	yes	510.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	09/27/2011	yes	60.3000		yes			*
Alkalinity, total (as caco3)	mg/L	MW-2A	09/25/2012	yes	469.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	05/25/2016	yes	514.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	11/10/2016	yes	513.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	05/16/2017	yes	507.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	07/31/2018	yes	504.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	11/27/2018	yes	489.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	05/10/2019	yes	511.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	10/15/2019	yes	486.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	05/19/2020	yes	514.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	07/19/2021	yes	539.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	11/11/2022	yes	503.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	05/11/2023	yes	503.0000					
Alkalinity, total (as caco3)	mg/L	MW-2A	07/19/2024		530.0000			517.4346		
Ammonia as n	mg/L	MW-2A	03/26/2008	yes	0.4000					
Ammonia as n	mg/L	MW-2A	06/26/2008	yes	0.6300					
Ammonia as n	mg/L	MW-2A	07/31/2018	yes	0.2800					
Ammonia as n	mg/L	MW-2A	11/27/2018	yes	0.1300					
Ammonia as n	mg/L	MW-2A	05/10/2019	yes	0.5200					
Ammonia as n	mg/L	MW-2A	10/15/2019	yes	0.0920					
Ammonia as n	mg/L	MW-2A	05/19/2020	yes	0.6420					
Ammonia as n	mg/L	MW-2A	07/19/2021	yes	0.1490					
Ammonia as n	mg/L	MW-2A	11/11/2022	yes	0.1000	ND				

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Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Ammonia as n	mg/L	MW-2A	05/11/2023	yes	0.2460					
Ammonia as n	mg/L	MW-2A	07/19/2024		0.5930			0.3772		
Chloride	mg/L	MW-2A	03/26/2008	yes	5.0000	ND				
Chloride	mg/L	MW-2A	06/26/2008	yes	1.5000					
Chloride	mg/L	MW-2A	09/22/2010	yes	1.2500					
Chloride	mg/L	MW-2A	09/25/2012	yes	1.1000					
Chloride	mg/L	MW-2A	05/25/2016	yes	1.6000					
Chloride	mg/L	MW-2A	11/10/2016	yes	1.3000					
Chloride	mg/L	MW-2A	05/16/2017	yes	2.3000					
Chloride	mg/L	MW-2A	07/31/2018	yes	1.9000					
Chloride	mg/L	MW-2A	11/27/2018	yes	2.5000					
Chloride	mg/L	MW-2A	05/10/2019	yes	2.5000					
Chloride	mg/L	MW-2A	10/15/2019	yes	2.0000					
Chloride	mg/L	MW-2A	05/19/2020	yes	1.0900					
Chloride	mg/L	MW-2A	07/19/2021	yes	1.1800					
Chloride	mg/L	MW-2A	11/11/2022	yes	1.3600					
Chloride	mg/L	MW-2A	05/11/2023	yes	1.1400					
Chloride	mg/L	MW-2A	07/19/2024		1.2400			1.8480		
Sodium, total	mg/L	MW-2A	09/22/2010	yes	79.7000					
Sodium, total	mg/L	MW-2A	09/27/2011	yes	74.7000					
Sodium, total	mg/L	MW-2A	03/29/2012	yes	70.6000					
Sodium, total	mg/L	MW-2A	09/25/2012	yes	73.9000					
Sodium, total	mg/L	MW-2A	05/25/2016	yes	78.6000					
Sodium, total	mg/L	MW-2A	11/10/2016	yes	76.8000					
Sodium, total	mg/L	MW-2A	05/16/2017	yes	76.1000					
Sodium, total	mg/L	MW-2A	07/31/2018	yes	73.9000					
Sodium, total	mg/L	MW-2A	11/27/2018	yes	76.2000					
Sodium, total	mg/L	MW-2A	05/10/2019	yes	72.2000					
Sodium, total	mg/L	MW-2A	10/15/2019	yes	75.5000					
Sodium, total	mg/L	MW-2A	05/19/2020	yes	73.2000					
Sodium, total	mg/L	MW-2A	07/19/2021	yes	71.0000					
Sodium, total	mg/L	MW-2A	11/11/2022	yes	75.9000					
Sodium, total	mg/L	MW-2A	05/11/2023	yes	79.3000					
Sodium, total	mg/L	MW-2A	07/19/2024		74.9000			75.1733		
Alkalinity, total (as caco3)	mg/L	MW-7A	09/26/2000	yes	235.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/17/2001	yes	333.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/30/2002	yes	390.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/29/2003	yes	338.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/20/2004	yes	316.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/19/2005	yes	373.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/27/2006	yes	403.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/19/2007	yes	379.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/29/2008	yes	492.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/22/2010	yes	447.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/27/2011	yes	154.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	09/25/2012	yes	216.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	05/25/2016	yes	320.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	11/10/2016	yes	357.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	05/16/2017	yes	172.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	07/31/2018	yes	261.0000					

* - Outlier for that well and constituent.
** - Non-outlier detected sample Result and / or CUSUM value exceeds limit.
*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Alkalinity, total (as caco3)	mg/L	MW-7A	10/15/2019	yes	73.3000					
Alkalinity, total (as caco3)	mg/L	MW-7A	05/19/2020	yes	442.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	07/19/2021	yes	197.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	11/11/2022	yes	436.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	05/11/2023	yes	429.0000					
Alkalinity, total (as caco3)	mg/L	MW-7A	07/19/2024		466.0000			381.6836		
Ammonia as n	mg/L	MW-7A	03/22/2000	yes	0.0990					
Ammonia as n	mg/L	MW-7A	09/26/2000	yes	0.0500	ND				
Ammonia as n	mg/L	MW-7A	03/28/2001	yes	0.1900					
Ammonia as n	mg/L	MW-7A	09/17/2001	yes	0.0890					
Ammonia as n	mg/L	MW-7A	03/28/2002	yes	0.1500					
Ammonia as n	mg/L	MW-7A	09/30/2002	yes	0.5500					
Ammonia as n	mg/L	MW-7A	03/18/2003	yes	0.4100					
Ammonia as n	mg/L	MW-7A	09/29/2003	yes	0.2800					
Ammonia as n	mg/L	MW-7A	03/18/2004	yes	0.1700					
Ammonia as n	mg/L	MW-7A	09/20/2004	yes	0.4100					
Ammonia as n	mg/L	MW-7A	03/28/2005	yes	0.5400					
Ammonia as n	mg/L	MW-7A	09/19/2005	yes	0.5200					
Ammonia as n	mg/L	MW-7A	03/21/2006	yes	0.4000					
Ammonia as n	mg/L	MW-7A	09/27/2006	yes	0.5400					
Ammonia as n	mg/L	MW-7A	03/29/2007	yes	0.4500					
Ammonia as n	mg/L	MW-7A	09/19/2007	yes	0.5600					
Ammonia as n	mg/L	MW-7A	03/26/2008	yes	0.5300					
Ammonia as n	mg/L	MW-7A	09/29/2008	yes	0.4800					
Ammonia as n	mg/L	MW-7A	07/31/2018	yes	0.0320					
Ammonia as n	mg/L	MW-7A	10/15/2019	yes	0.0200	ND			0.0500	***
Ammonia as n	mg/L	MW-7A	05/19/2020	yes	0.1250					
Ammonia as n	mg/L	MW-7A	07/19/2021	yes	0.1000	ND			0.0500	***
Ammonia as n	mg/L	MW-7A	11/11/2022	yes	0.1000	ND			0.0500	***
Ammonia as n	mg/L	MW-7A	05/11/2023	yes	0.1850					
Ammonia as n	mg/L	MW-7A	07/19/2024		0.2110			0.2879		
Chloride	mg/L	MW-7A	03/22/2000	yes	2.1000					
Chloride	mg/L	MW-7A	09/26/2000	yes	2.2000					
Chloride	mg/L	MW-7A	03/28/2001	yes	1.5000					
Chloride	mg/L	MW-7A	09/17/2001	yes	1.7000					
Chloride	mg/L	MW-7A	03/28/2002	yes	2.0000					
Chloride	mg/L	MW-7A	09/30/2002	yes	1.5000					
Chloride	mg/L	MW-7A	03/18/2003	yes	1.5000					
Chloride	mg/L	MW-7A	09/29/2003	yes	1.1000					
Chloride	mg/L	MW-7A	03/18/2004	yes	1.6000					
Chloride	mg/L	MW-7A	09/20/2004	yes	1.3000					
Chloride	mg/L	MW-7A	03/28/2005	yes	1.4000					
Chloride	mg/L	MW-7A	09/19/2005	yes	1.0000	ND				
Chloride	mg/L	MW-7A	03/21/2006	yes	1.3000					
Chloride	mg/L	MW-7A	09/27/2006	yes	1.0000	ND				
Chloride	mg/L	MW-7A	03/29/2007	yes	1.2000					
Chloride	mg/L	MW-7A	09/19/2007	yes	1.0000					
Chloride	mg/L	MW-7A	03/26/2008	yes	1.0000	ND				
Chloride	mg/L	MW-7A	09/29/2008	yes	1.2000					
Chloride	mg/L	MW-7A	09/22/2010	yes	0.4700					

* - Outlier for that well and constituent.
** - Non-outlier detected sample Result and / or CUSUM value exceeds limit.
*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 2

Analytical Data and CUSUM Summary

Constituent	Units	Well	Date	Background	Result		Outlier	CUSUM	Adjusted	
Chloride	mg/L	MW-7A	09/25/2012	yes	7.0000					
Chloride	mg/L	MW-7A	05/25/2016	yes	4.4000					
Chloride	mg/L	MW-7A	11/10/2016	yes	4.4000					
Chloride	mg/L	MW-7A	05/16/2017	yes	11.9000					
Chloride	mg/L	MW-7A	07/31/2018	yes	6.6000					
Chloride	mg/L	MW-7A	10/15/2019	yes	42.2000					
Chloride	mg/L	MW-7A	05/19/2020	yes	1.4000					
Chloride	mg/L	MW-7A	07/19/2021	yes	32.2000					
Chloride	mg/L	MW-7A	09/23/2021	yes	18.9000					
Chloride	mg/L	MW-7A	04/14/2022	yes	32.6000					
Chloride	mg/L	MW-7A	11/11/2022	yes	1.0000	ND				
Chloride	mg/L	MW-7A	05/11/2023	yes	1.0000	ND				
Chloride	mg/L	MW-7A	07/19/2024		1.0000	ND		6.1184		
Sodium, total	mg/L	MW-7A	09/26/2000	yes	45.7000					
Sodium, total	mg/L	MW-7A	09/17/2001	yes	44.3000					
Sodium, total	mg/L	MW-7A	09/30/2002	yes	47.0000					
Sodium, total	mg/L	MW-7A	09/29/2003	yes	47.7000					
Sodium, total	mg/L	MW-7A	09/20/2004	yes	45.3000					
Sodium, total	mg/L	MW-7A	09/19/2005	yes	43.7000					
Sodium, total	mg/L	MW-7A	09/27/2006	yes	40.9000					
Sodium, total	mg/L	MW-7A	09/19/2007	yes	45.1000					
Sodium, total	mg/L	MW-7A	09/29/2008	yes	41.7000					
Sodium, total	mg/L	MW-7A	09/22/2010	yes	46.2000					
Sodium, total	mg/L	MW-7A	09/27/2011	yes	32.5000					
Sodium, total	mg/L	MW-7A	03/29/2012	yes	41.5000					
Sodium, total	mg/L	MW-7A	09/25/2012	yes	35.5000					
Sodium, total	mg/L	MW-7A	05/25/2016	yes	38.0000					
Sodium, total	mg/L	MW-7A	11/10/2016	yes	38.1000					
Sodium, total	mg/L	MW-7A	05/16/2017	yes	31.0000					
Sodium, total	mg/L	MW-7A	07/31/2018	yes	35.6000					
Sodium, total	mg/L	MW-7A	10/15/2019	yes	34.6000					
Sodium, total	mg/L	MW-7A	05/19/2020	yes	40.8000					
Sodium, total	mg/L	MW-7A	07/19/2021	yes	36.9000					
Sodium, total	mg/L	MW-7A	11/11/2022	yes	41.3000					
Sodium, total	mg/L	MW-7A	05/11/2023	yes	43.3000					
Sodium, total	mg/L	MW-7A	07/19/2024		40.8000			40.7591		

* - Outlier for that well and constituent.
** - Non-outlier detected sample Result and / or CUSUM value exceeds limit.
*** - ND value replaced with median RL.
**** - ND value replaced with manual RL.
ND = Not detected, Result = detection limit.

Table 4

Dixon's Test Outliers
1% Significance Level

Constituent	Units	Well	Date	Result	ND Qualifier	Date Range	N	Critical Value
Alkalinity, total (as caco3)	mg/L	MW-110	09/27/2011	86.0000		09/26/2000-05/11/2023	21	0.5263
Ammonia as n	mg/L	MW-123	10/02/2008	0.1400		06/26/2003-05/11/2023	36	0.4273
Chloride	mg/L	MW-123	12/12/2011	9.5000		06/26/2003-05/11/2023	39	0.4157
Alkalinity, total (as caco3)	mg/L	MW-2A	09/27/2011	60.3000		09/22/2010-05/11/2023	14	0.6403

N = Total number of independent measurements in background at each well.
Date Range = Dates of the first and last measurements included in background at each well.
Critical Value depends on the significance level and on N-1 when the two most extreme values are tested or N for the most extreme value.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at GU-V-2
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **7684.0** / **12** = **640.333**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**5.29**x**10^6** - **5.90**x**10^7**/**12**) / (**12**-1))^{½} = **184.378**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **640.333** + **6.0** * **184.378** = **1746.6**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **12** * (**12**-1) / 2 = **66**	Number of sample pairs during trend detection period.
5	S = **-28.131**	Sen's estimator of trend.
6	var(S) = **212.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**66** - **2.326** * **212.667**^{½}) / 2 = **16.04**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-85.295**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at GU-V-2
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **1.628** / **6** = **0.271**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**0.775** - **2.65**/**6**) / (**6**-1))^{½} = **0.258**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.271** + **6.0** * **0.258** = **1.82**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **6** * (**6**-1) / 2 = **15**	Number of sample pairs during trend detection period.
5	S = **-0.016**	Sen's estimator of trend.
6	var(S) = **24.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**15** - **2.326** * **24.667**^{½}) / 2 = **1.724**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.371**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at GU-V-2
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **595.6** / **12** = **49.633**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**35930.88** - **354739.36**/**12**) / (**12**-1))^{½} = **24.063**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **49.633** + **6.0** * **24.063** = **194.011**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **12** * (**12**-1) / 2 = **66**	Number of sample pairs during trend detection period.
5	S = **-6.427**	Sen's estimator of trend.
6	var(S) = **212.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**66** - **2.326** * **212.667**^{½}) / 2 = **16.04**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-11.063**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at GU-V-2
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **516.0** / **12** = **43.0**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**22277.16** - **266256.0**/**12**) / (**12**-1))^{½} = **2.847**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **43.0** + **6.0** * **2.847** = **60.082**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **12** * (**12**-1) / 2 = **66**	Number of sample pairs during trend detection period.
5	S = **0.094**	Sen's estimator of trend.
6	var(S) = **211.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**66** - **2.326** * **211.667**^{½}) / 2 = **16.08**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.347**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-110
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **7795.0** / **20** = **389.75**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**3.08**x**10^6** - **6.08**x**10^7**/**20**) / (**20**-1))^{½} = **44.795**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **389.75** + **6.0** * **44.795** = **658.522**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **20** * (**20**-1) / 2 = **190**	Number of sample pairs during trend detection period.
5	S = **3.043**	Sen's estimator of trend.
6	var(S) = **949.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**190** - **2.326** * **949.0**^{½}) / 2 = **59.173**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.707**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-110
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **8.242** / **25** = **0.33**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**40.222** - **67.931**/**25**) / (**25**-1))^{½} = **1.25**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.33** + **6.0** * **1.25** = **7.83**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **25** * (**25**-1) / 2 = **300**	Number of sample pairs during trend detection period.
5	S = **0.0**	Sen's estimator of trend.
6	var(S) = **1425.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**300** - **2.326** * **1425.0**^{½}) / 2 = **106.098**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **0.0**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-110
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **119.43** / **30** = **3.981**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**547.95** - **14263.525**/**30**) / (**30**-1))^{½} = **1.581**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **3.981** + **6.0** * **1.581** = **13.468**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **30** * (**30**-1) / 2 = **435**	Number of sample pairs during trend detection period.
5	S = **-0.184**	Sen's estimator of trend.
6	var(S) = **3134.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**435** - **2.326** * **3134.0**^{½}) / 2 = **152.393**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.241**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-110
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **862.4** / **14** = **61.6**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**54675.82** - **743733.76**/**14**) / (**14**-1))^{½} = **10.926**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **61.6** + **6.0** * **10.926** = **127.158**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **14** * (**14**-1) / 2 = **91**	Number of sample pairs during trend detection period.
5	S = **1.074**	Sen's estimator of trend.
6	var(S) = **333.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**91** - **2.326** * **333.667**^{½}) / 2 = **24.256**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.935**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-117
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **14020.0** / **29** = **483.448**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**6.80**x**10^6** - **1.97**x**10^8**/**29**) / (**29**-1))^{½} = **28.751**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **483.448** + **6.0** * **28.751** = **655.954**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
5	S = **-1.849**	Sen's estimator of trend.
6	var(S) = **2832.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**406** - **2.326** * **2832.667**^{½}) / 2 = **141.102**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-5.117**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-117
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **18.983** / **26** = **0.73**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**15.808** - **360.354**/**26**) / (**26**-1))^{½} = **0.279**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.73** + **6.0** * **0.279** = **2.405**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **26** * (**26**-1) / 2 = **325**	Number of sample pairs during trend detection period.
5	S = **-0.016**	Sen's estimator of trend.
6	var(S) = **2053.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**325** - **2.326** * **2053.667**^{½}) / 2 = **109.796**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.056**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-117
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **148.72** / **29** = **5.128**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**972.395** - **22117.638**/**29**) / (**29**-1))^{½} = **2.737**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **5.128** + **6.0** * **2.737** = **21.549**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
5	S = **0.015**	Sen's estimator of trend.
6	var(S) = **2840.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**406** - **2.326** * **2840.0**^{½}) / 2 = **141.022**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.335**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-117
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **788.3** / **11** = **71.664**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**56594.03** - **621416.89**/**11**) / (**11**-1))^{½} = **3.187**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **71.664** + **6.0** * **3.187** = **90.787**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **11** * (**11**-1) / 2 = **55**	Number of sample pairs during trend detection period.
5	S = **-0.472**	Sen's estimator of trend.
6	var(S) = **161.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**55** - **2.326** * **161.333**^{½}) / 2 = **12.728**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-2.034**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-118
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **12978.0** / **29** = **447.517**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**5.83**x**10^6** - **1.68**x**10^8**/**29**) / (**29**-1))^{½} = **29.728**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **447.517** + **6.0** * **29.728** = **625.886**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
5	S = **-1.579**	Sen's estimator of trend.
6	var(S) = **2833.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**406** - **2.326** * **2833.333**^{½}) / 2 = **141.095**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-4.622**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-118
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **15.354** / **26** = **0.591**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**9.827** - **235.745**/**26**) / (**26**-1))^{½} = **0.174**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.591** + **6.0** * **0.174** = **1.636**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **26** * (**26**-1) / 2 = **325**	Number of sample pairs during trend detection period.
5	S = **-0.024**	Sen's estimator of trend.
6	var(S) = **2055.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**325** - **2.326** * **2055.333**^{½}) / 2 = **109.774**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.057**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-118
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **39.52** / **29** = **1.363**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**83.999** - **1561.83**/**29**) / (**29**-1))^{½} = **1.038**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **1.363** + **6.0** * **1.038** = **7.588**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **29** * (**29**-1) / 2 = **406**	Number of sample pairs during trend detection period.
5	S = **0.0**	Sen's estimator of trend.
6	var(S) = **2746.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**406** - **2.326** * **2746.0**^{½}) / 2 = **142.056**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.069**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-118
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **636.6** / **11** = **57.873**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**36879.02** - **405259.56**/**11**) / (**11**-1))^{½} = **1.93**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **57.873** + **6.0** * **1.93** = **69.452**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **11** * (**11**-1) / 2 = **55**	Number of sample pairs during trend detection period.
5	S = **0.294**	Sen's estimator of trend.
6	var(S) = **164.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**55** - **2.326** * **164.0**^{½}) / 2 = **12.606**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.587**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-123
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **16432.0** / **39** = **421.333**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**6.98**x**10^6** - **2.70**x**10^8**/**39**) / (**39**-1))^{½} = **37.8**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **421.333** + **6.0** * **37.8** = **648.131**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **39** * (**39**-1) / 2 = **741**	Number of sample pairs during trend detection period.
5	S = **0.0**	Sen's estimator of trend.
6	var(S) = **6826.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**741** - **2.326** * **6826.0**^{½}) / 2 = **274.413**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-2.253**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-123
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **17.303** / **35** = **0.494**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**8.905** - **299.394**/**35**) / (**35**-1))^{½} = **0.102**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.494** + **6.0** * **0.102** = **1.104**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **35** * (**35**-1) / 2 = **595**	Number of sample pairs during trend detection period.
5	S = **0.003**	Sen's estimator of trend.
6	var(S) = **4944.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**595** - **2.326** * **4944.667**^{½}) / 2 = **215.72**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.005**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-123
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **87.66** / **38** = **2.307**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**215.472** - **7684.276**/**38**) / (**38**-1))^{½} = **0.599**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **2.307** + **6.0** * **0.599** = **5.898**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **38** * (**38**-1) / 2 = **703**	Number of sample pairs during trend detection period.
5	S = **0.039**	Sen's estimator of trend.
6	var(S) = **6299.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**703** - **2.326** * **6299.333**^{½}) / 2 = **259.195**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.002**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-123
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **301.1** / **11** = **27.373**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**8249.51** - **90661.21**/**11**) / (**11**-1))^{½} = **0.871**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **27.373** + **6.0** * **0.871** = **32.597**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **11** * (**11**-1) / 2 = **55**	Number of sample pairs during trend detection period.
5	S = **0.0**	Sen's estimator of trend.
6	var(S) = **164.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**55** - **2.326** * **164.0**^{½}) / 2 = **12.606**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.421**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-132
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **6894.0** / **14** = **492.429**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**3.41**x**10^6** - **4.75**x**10^7**/**14**) / (**14**-1))^{½} = **36.576**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **492.429** + **6.0** * **36.576** = **711.884**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **14** * (**14**-1) / 2 = **91**	Number of sample pairs during trend detection period.
5	S = **-4.988**	Sen's estimator of trend.
6	var(S) = **331.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**91** - **2.326** * **331.667**^{½}) / 2 = **24.32**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-14.594**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-132
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **3.716** / **8** = **0.465**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**1.786** - **13.809**/**8**) / (**8**-1))^{½} = **0.093**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.465** + **6.0** * **0.093** = **1.02**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **8** * (**8**-1) / 2 = **28**	Number of sample pairs during trend detection period.
5	S = **0.044**	Sen's estimator of trend.
6	var(S) = **65.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**28** - **2.326** * **65.333**^{½}) / 2 = **4.6**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.043**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-132
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **102.84** / **13** = **7.911**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**863.608** - **10576.066**/**13**) / (**13**-1))^{½} = **2.043**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **7.911** + **6.0** * **2.043** = **20.166**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **13** * (**13**-1) / 2 = **78**	Number of sample pairs during trend detection period.
5	S = **-0.43**	Sen's estimator of trend.
6	var(S) = **267.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**78** - **2.326** * **267.667**^{½}) / 2 = **19.973**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-1.01**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-132
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **875.6** / **14** = **62.543**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**56247.12** - **766675.36**/**14**) / (**14**-1))^{½} = **10.686**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **62.543** + **6.0** * **10.686** = **126.661**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **14** * (**14**-1) / 2 = **91**	Number of sample pairs during trend detection period.
5	S = **-0.544**	Sen's estimator of trend.
6	var(S) = **333.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**91** - **2.326** * **333.667**^{½}) / 2 = **24.256**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-3.834**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-133
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **7699.0** / **15** = **513.267**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**3.99**x**10^6** - **5.93**x**10^7**/**15**) / (**15**-1))^{½} = **52.214**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **513.267** + **6.0** * **52.214** = **826.554**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **15** * (**15**-1) / 2 = **105**	Number of sample pairs during trend detection period.
5	S = **-7.534**	Sen's estimator of trend.
6	var(S) = **407.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**105** - **2.326** * **407.333**^{½}) / 2 = **29.028**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-17.219**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-133
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **3.738** / **8** = **0.467**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**1.873** - **13.973**/**8**) / (**8**-1))^{½} = **0.135**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.467** + **6.0** * **0.135** = **1.275**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **8** * (**8**-1) / 2 = **28**	Number of sample pairs during trend detection period.
5	S = **-0.025**	Sen's estimator of trend.
6	var(S) = **65.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**28** - **2.326** * **65.333**^{½}) / 2 = **4.6**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.145**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-133
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **151.16** / **14** = **10.797**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**1786.335** - **22849.346**/**14**) / (**14**-1))^{½} = **3.444**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **10.797** + **6.0** * **3.444** = **31.464**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **14** * (**14**-1) / 2 = **91**	Number of sample pairs during trend detection period.
5	S = **-0.228**	Sen's estimator of trend.
6	var(S) = **333.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**91** - **2.326** * **333.667**^{½}) / 2 = **24.256**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.976**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-133
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **438.3** / **15** = **29.22**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**13725.75** - **192106.89**/**15**) / (**15**-1))^{½} = **8.1**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **29.22** + **6.0** * **8.1** = **77.822**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **15** * (**15**-1) / 2 = **105**	Number of sample pairs during trend detection period.
5	S = **-1.453**	Sen's estimator of trend.
6	var(S) = **407.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**105** - **2.326** * **407.333**^{½}) / 2 = **29.028**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-2.401**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-2A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **6562.0** / **13** = **504.769**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**3.32**x**10^6** - **4.31**x**10^7**/**13**) / (**13**-1))^{½} = **16.754**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **504.769** + **6.0** * **16.754** = **605.292**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **13** * (**13**-1) / 2 = **78**	Number of sample pairs during trend detection period.
5	S = **-0.105**	Sen's estimator of trend.
6	var(S) = **266.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**78** - **2.326** * **266.667**^{½}) / 2 = **20.008**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-2.647**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-2A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **3.189** / **10** = **0.319**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**1.436** - **10.17**/**10**) / (**10**-1))^{½} = **0.216**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.319** + **6.0** * **0.216** = **1.613**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **10** * (**10**-1) / 2 = **45**	Number of sample pairs during trend detection period.
5	S = **-0.019**	Sen's estimator of trend.
6	var(S) = **125.0**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**45** - **2.326** * **125.0**^{½}) / 2 = **9.497**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.058**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-2A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **27.72** / **15** = **1.848**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**65.402** - **768.398**/**15**) / (**15**-1))^{½} = **1.006**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **1.848** + **6.0** * **1.006** = **7.886**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **15** * (**15**-1) / 2 = **105**	Number of sample pairs during trend detection period.
5	S = **-0.024**	Sen's estimator of trend.
6	var(S) = **407.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**105** - **2.326** * **407.333**^{½}) / 2 = **29.028**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.255**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-2A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **1127.6** / **15** = **75.173**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**84874.44** - **1.27**x**10^6**/**15**) / (**15**-1))^{½} = **2.79**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **75.173** + **6.0** * **2.79** = **91.914**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **15** * (**15**-1) / 2 = **105**	Number of sample pairs during trend detection period.
5	S = **-0.15**	Sen's estimator of trend.
6	var(S) = **407.333**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**105** - **2.326** * **407.333**^{½}) / 2 = **29.028**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.913**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Alkalinity, total (as caco3) (mg/L) at MW-7A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **6763.3** / **21** = **322.062**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**2.43**x**10^6** - **4.57**x**10^7**/**21**) / (**21**-1))^{½} = **112.422**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **322.062** + **6.0** * **112.422** = **996.593**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **21** * (**21**-1) / 2 = **210**	Number of sample pairs during trend detection period.
5	S = **-0.701**	Sen's estimator of trend.
6	var(S) = **1096.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**210** - **2.326** * **1096.667**^{½}) / 2 = **66.486**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-10.742**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Ammonia as n (mg/L) at MW-7A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **6.91** / **24** = **0.288**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**2.924** - **47.748**/**24**) / (**24**-1))^{½} = **0.202**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **0.288** + **6.0** * **0.202** = **1.497**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **24** * (**24**-1) / 2 = **276**	Number of sample pairs during trend detection period.
5	S = **0.0**	Sen's estimator of trend.
6	var(S) = **1614.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**276** - **2.326** * **1614.667**^{½}) / 2 = **91.267**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.013**	One-sided lower confidence limit for slope.

Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Chloride (mg/L) at MW-7A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **189.67** / **31** = **6.118**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**4553.601** - **35974.709**/**31**) / (**31**-1))^{½} = **10.635**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **6.118** + **6.0** * **10.635** = **69.929**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **31** * (**31**-1) / 2 = **465**	Number of sample pairs during trend detection period.
5	S = **0.007**	Sen's estimator of trend.
6	var(S) = **3425.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**465** - **2.326** * **3425.667**^{½}) / 2 = **164.431**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.049**	One-sided lower confidence limit for slope.

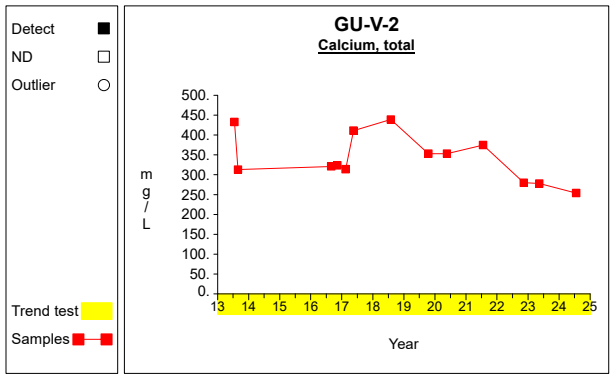
Worksheet 2 - Intra-Well Control Charts / Prediction Limits
Sodium, total (mg/L) at MW-7A
Normal Control Limit

Step	Equation	Description
1	$\overline{X}$ = **sum[X]** / **N** = **896.7** / **22** = **40.759**	Compute background mean.
2	S = ((**sum[X^2]** - **sum[X]**^{2}/**N**) / (**N**-1))^{½} = ((**37043.91** - **804070.89**/**22**) / (**22**-1))^{½} = **4.856**	Compute background sd.
3	SCL = $\overline{\mathbf{X}}$ + **F** * **S** = **40.759** + **6.0** * **4.856** = **69.896**	Compute combined Shewhart-CUSUM normal control limit.
4	N' = **N** * (**N**-1) / 2 = **22** * (**22**-1) / 2 = **231**	Number of sample pairs during trend detection period.
5	S = **-0.415**	Sen's estimator of trend.
6	var(S) = **1257.667**	Variance estimate for slope.
7	M_1(S) = (**N'** - **Z**$_{.99}$ * **var(S)**^{½}) / 2 = (**231** - **2.326** * **1257.667**^{½}) / 2 = **74.256**	Ordinal position for one-sided lower confidence limit for slope. The LCL is the M_1^{th} largest slope estimate. When M_1 is not an integer, interpolation is used.
8	LCL(S) = **-0.735**	One-sided lower confidence limit for slope.

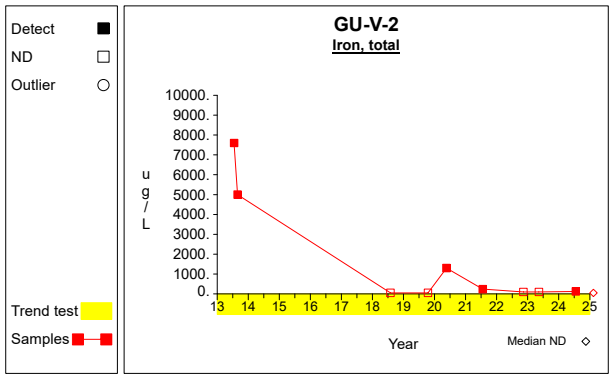
Attachment C

Time Series Plots of Supplemental Parameters

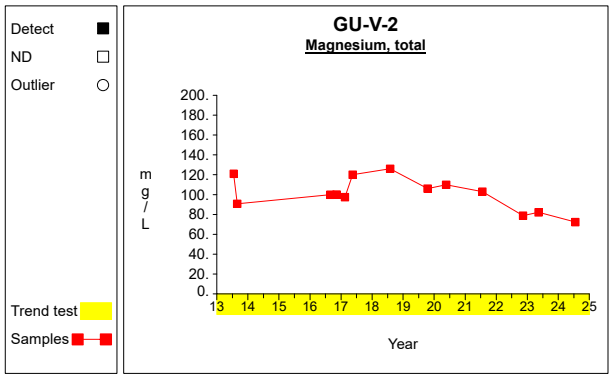
Time Series



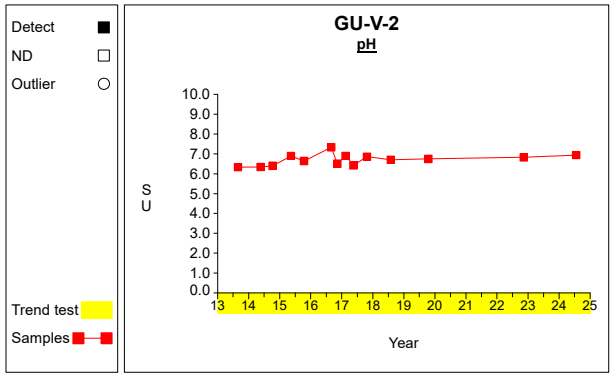
Graph 1



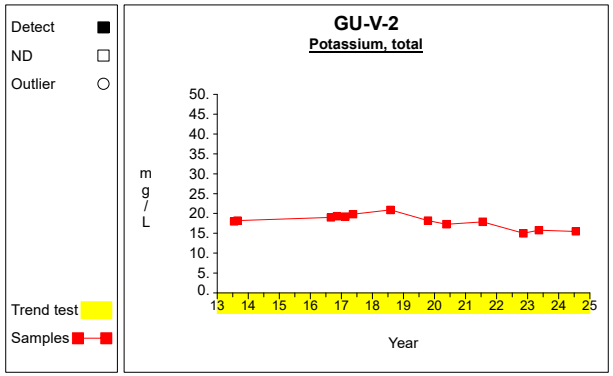
Graph 2



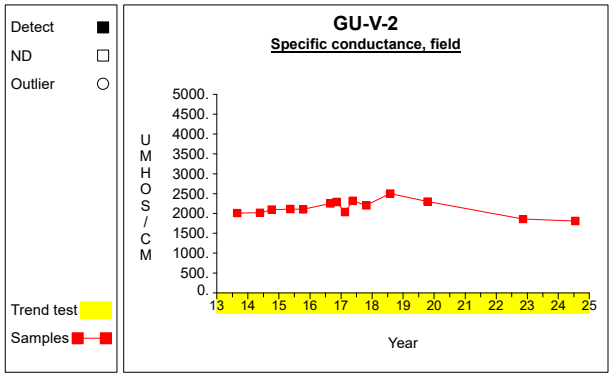
Graph 3



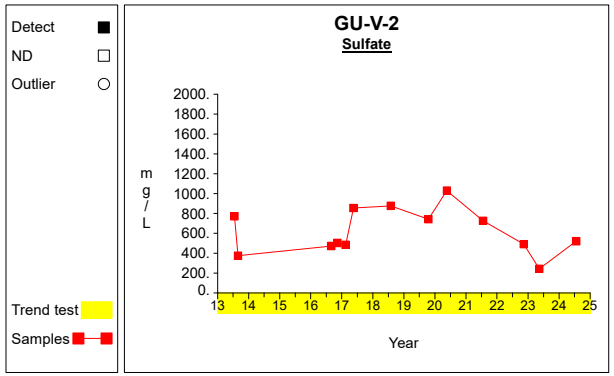
Graph 4



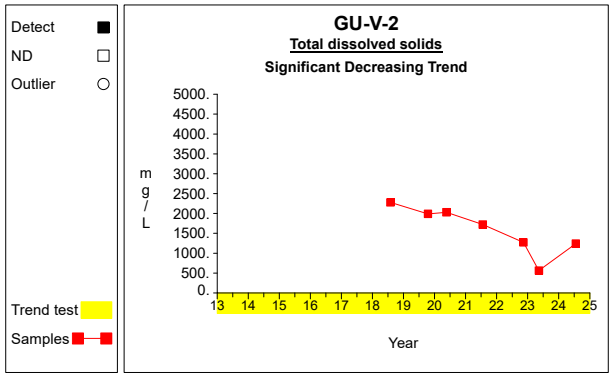
Graph 5



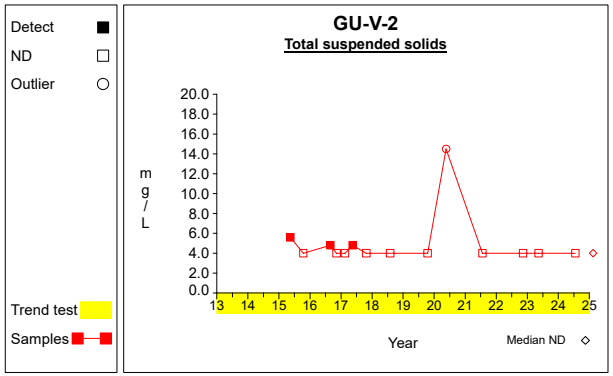
Graph 6



Graph 7



Graph 8



Graph 9

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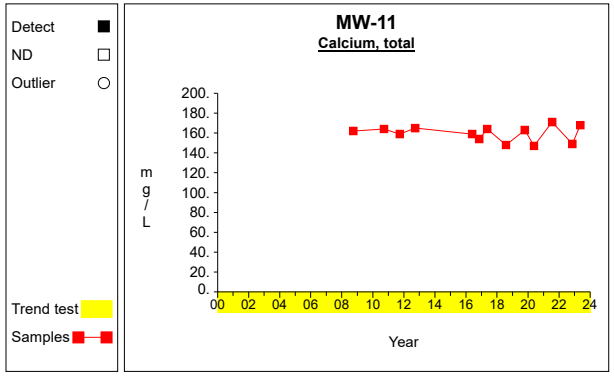
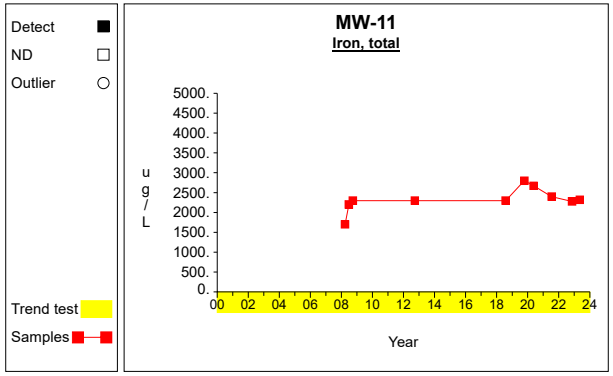
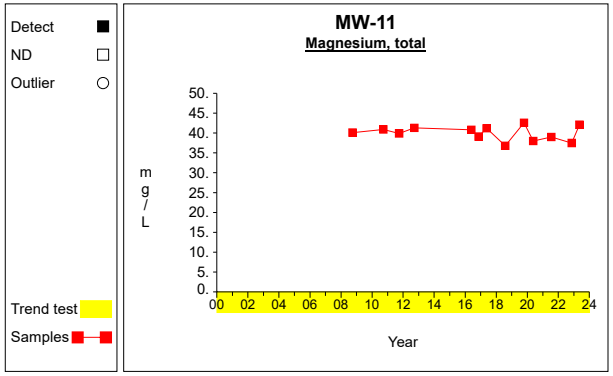
Time Series



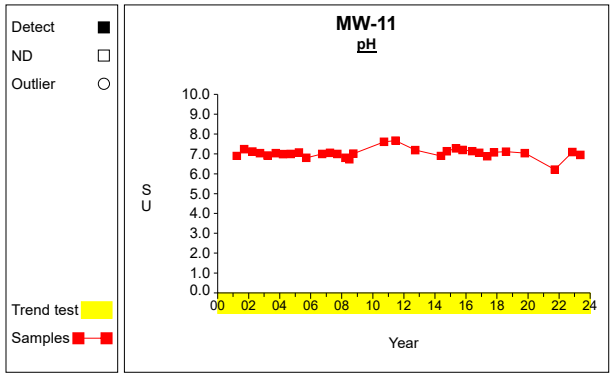
Graph 10



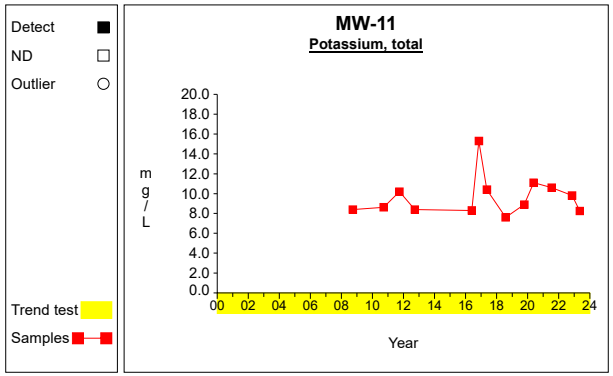
Graph 11



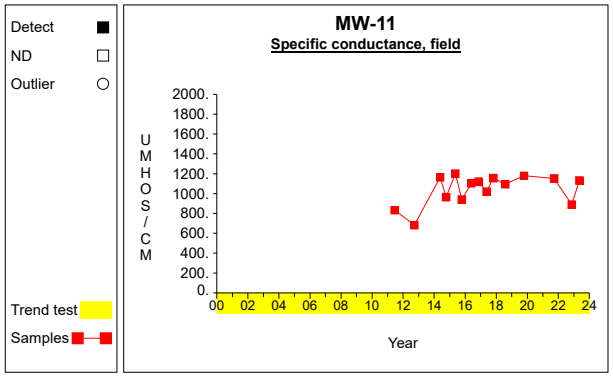
Graph 12



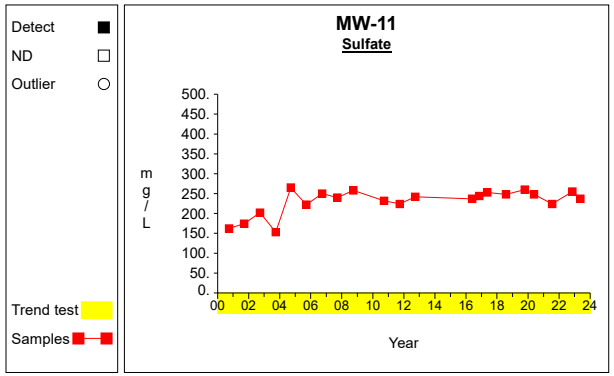
Graph 13



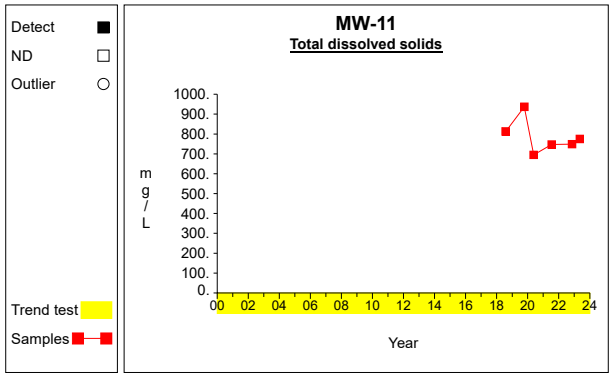
Graph 14



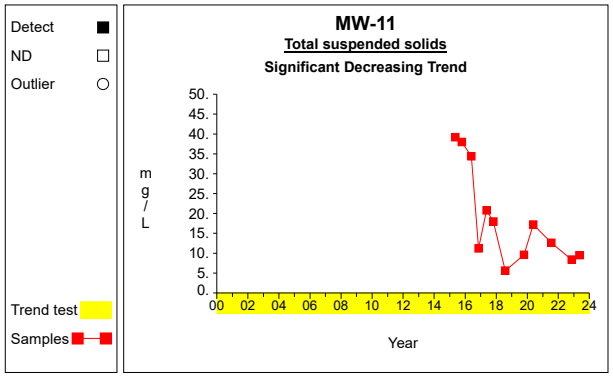
Graph 15



Graph 16



Graph 17



Graph 18

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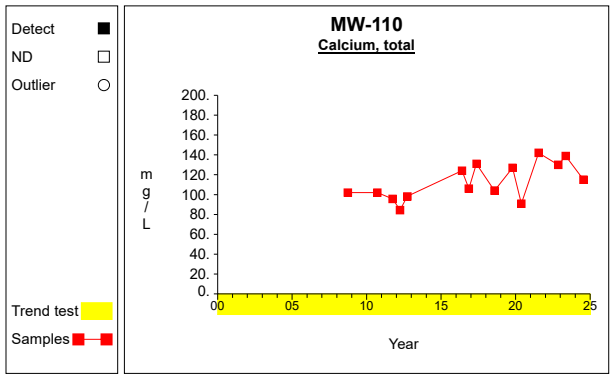
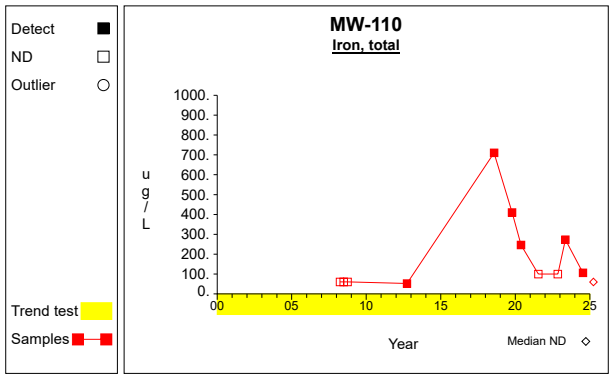
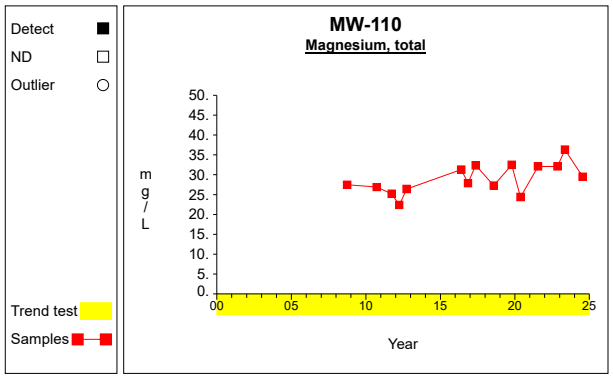
Time Series



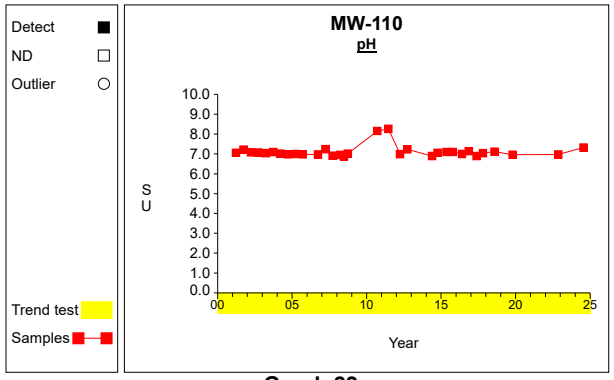
Graph 19



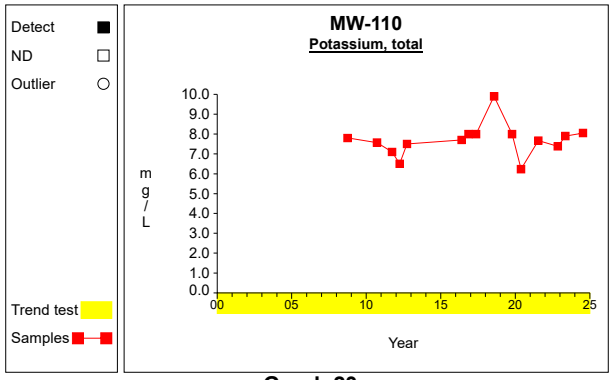
Graph 20



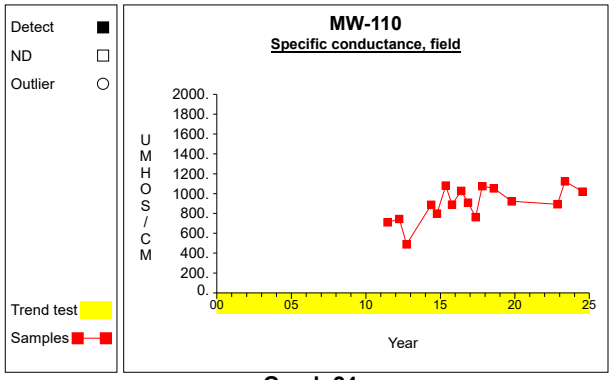
Graph 21



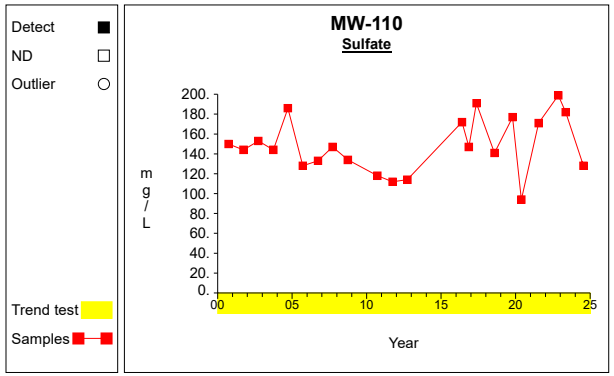
Graph 22



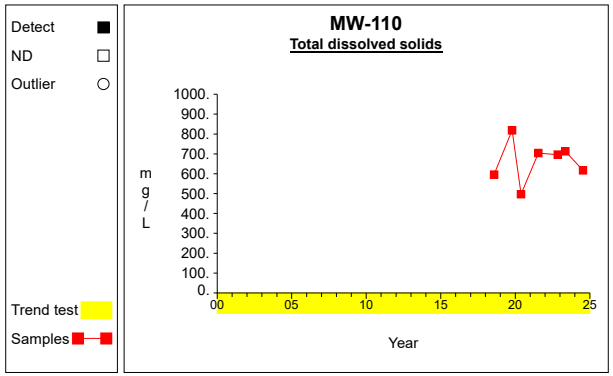
Graph 23



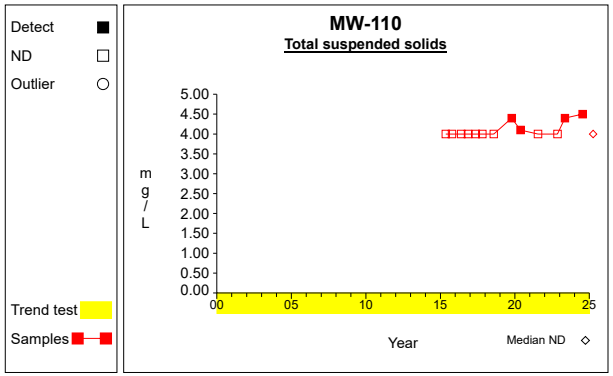
Graph 24



Graph 25



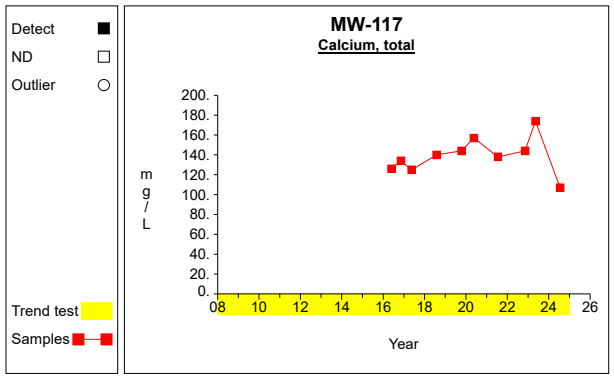
Graph 26



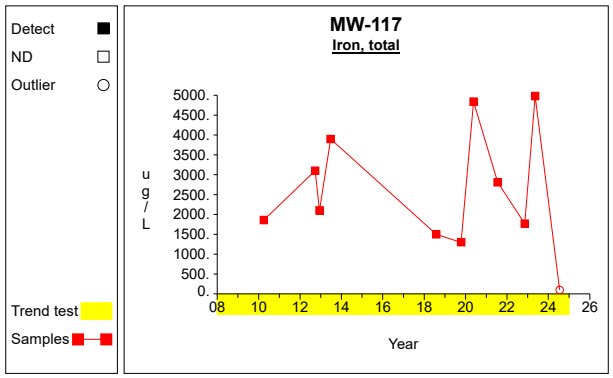
Graph 27

Prepared by: Otter Creek Environmental

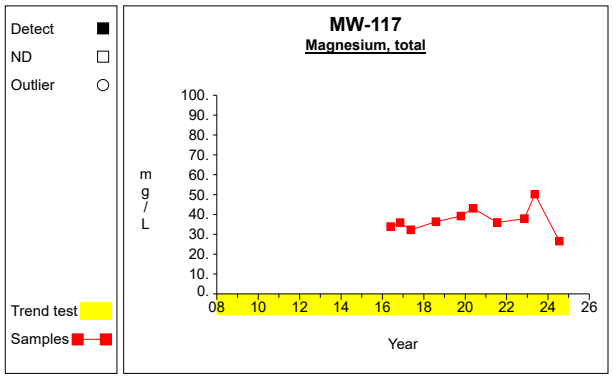
Time Series



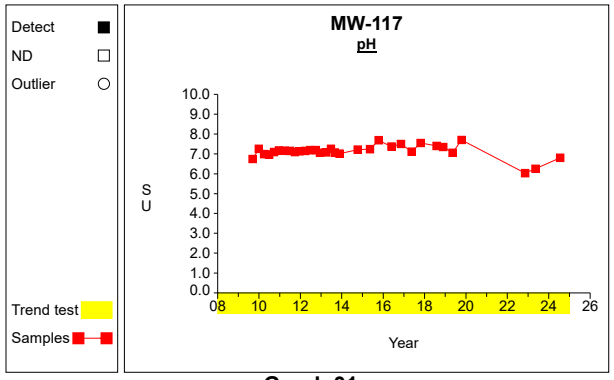
Graph 28



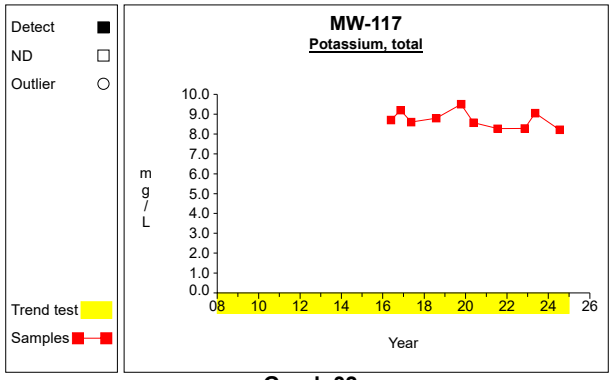
Graph 29



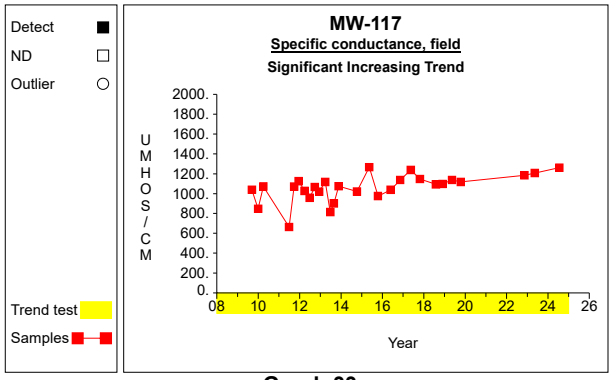
Graph 30



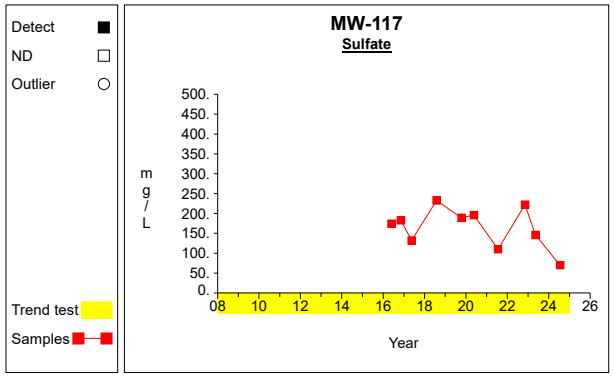
Graph 31



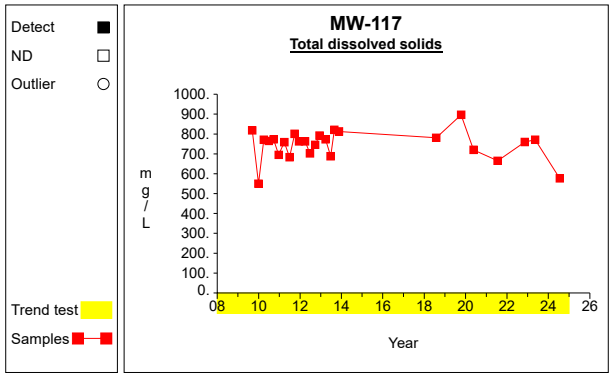
Graph 32



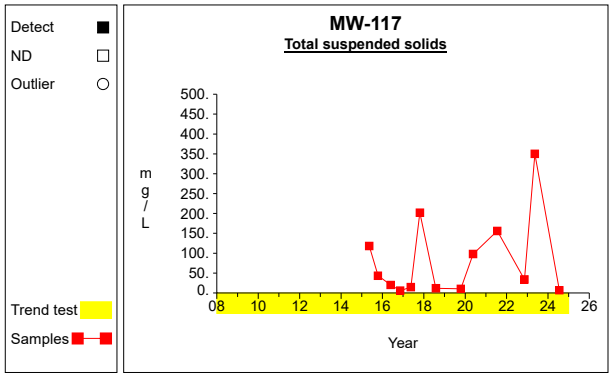
Graph 33



Graph 34



Graph 35



Graph 36

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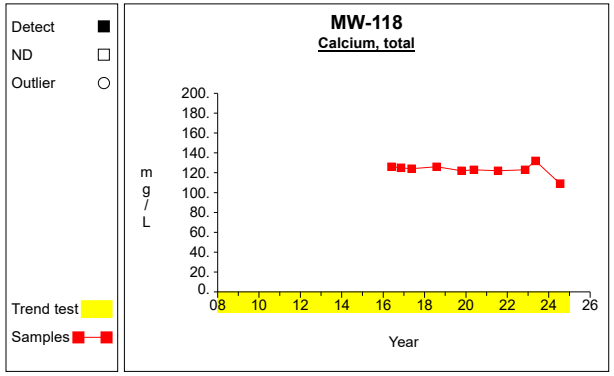
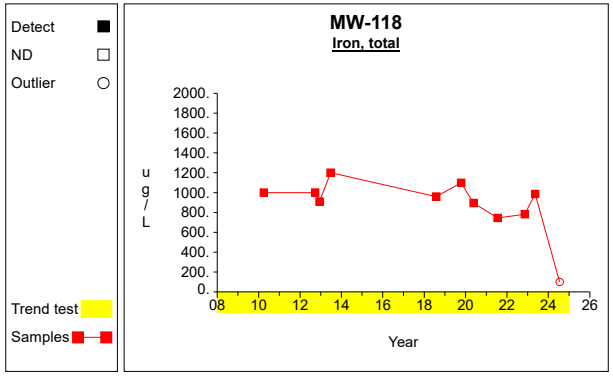
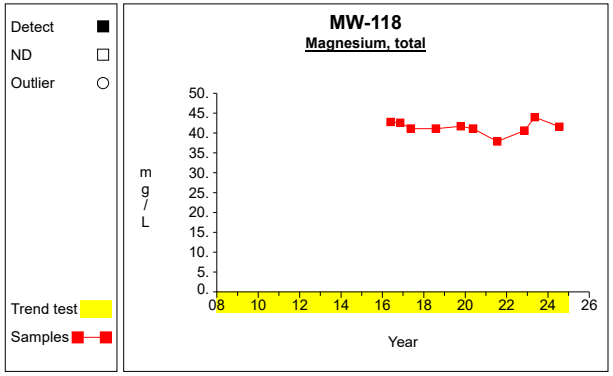
Time Series



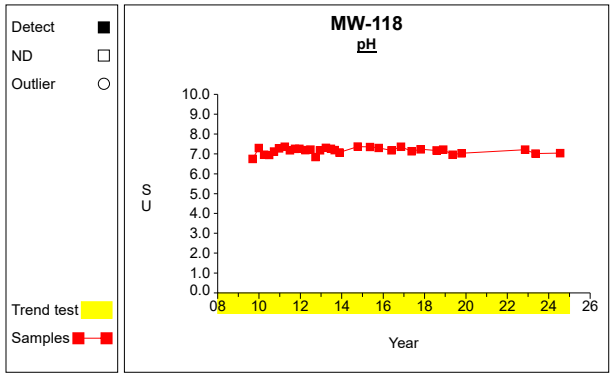
Graph 37



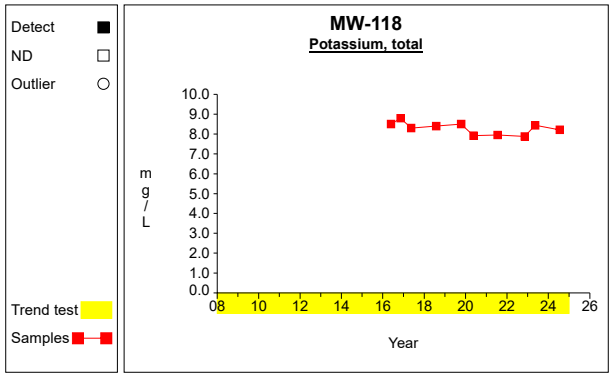
Graph 38



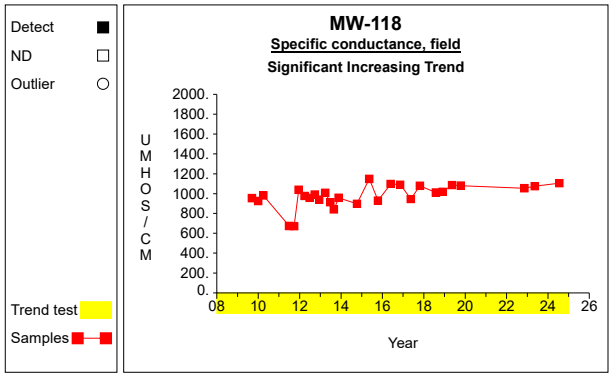
Graph 39



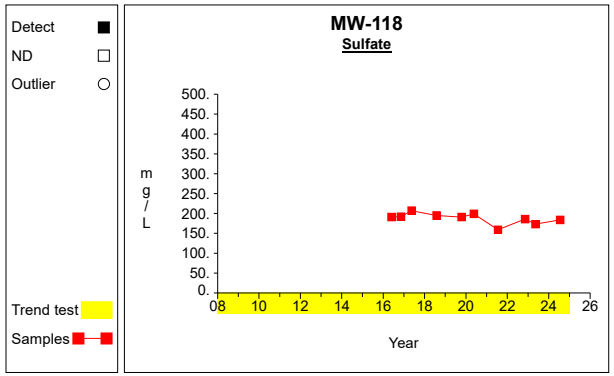
Graph 40



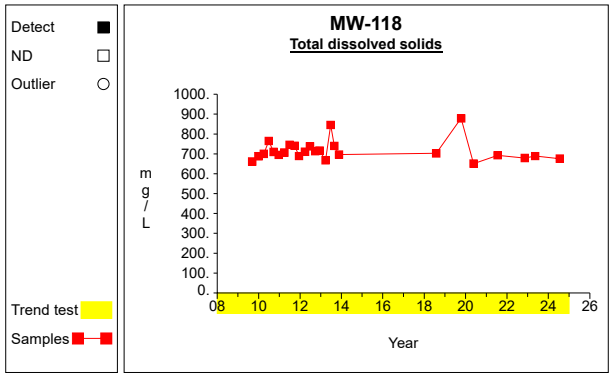
Graph 41



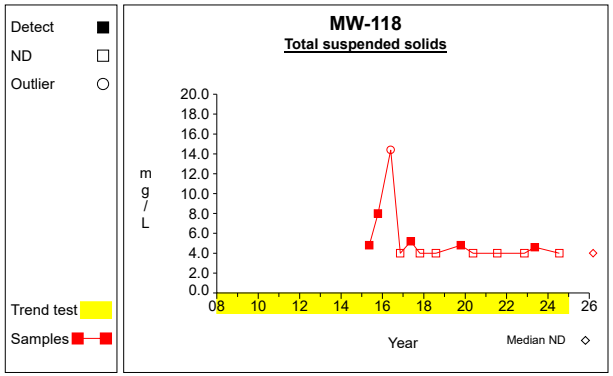
Graph 42



Graph 43



Graph 44



Graph 45

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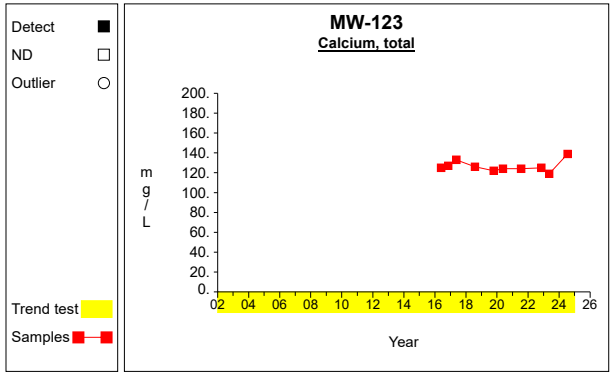
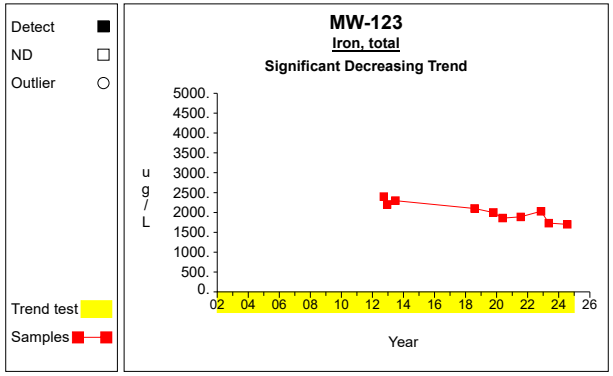
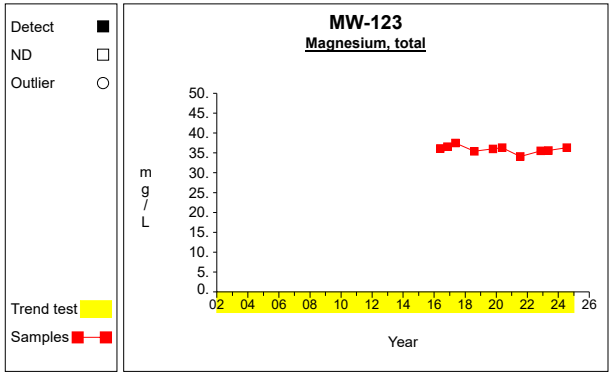
Time Series



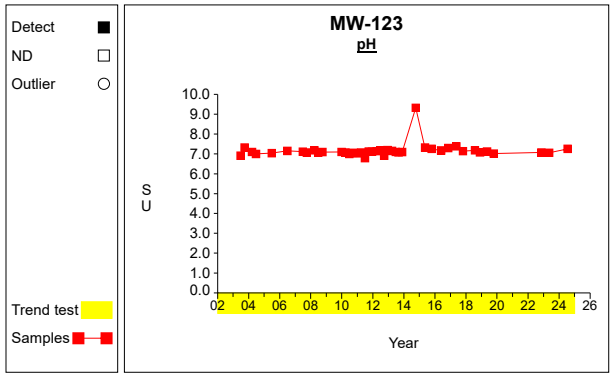
Graph 46



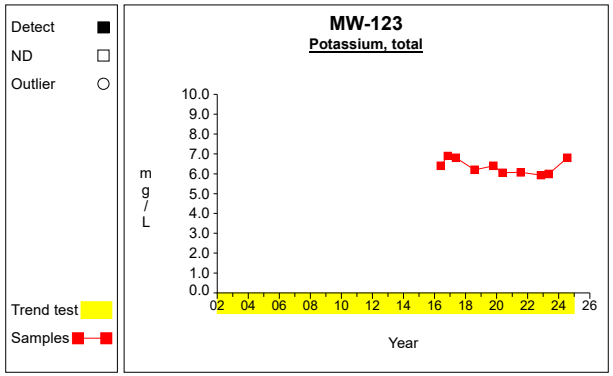
Graph 47



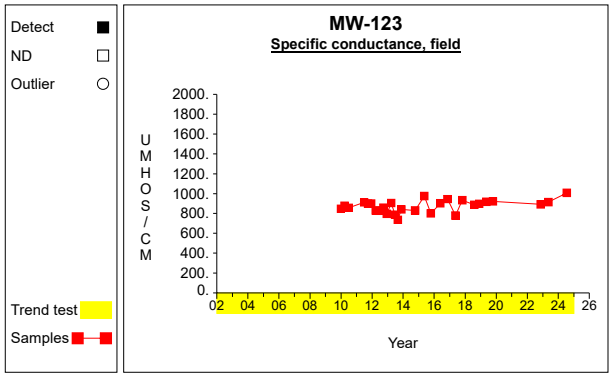
Graph 48



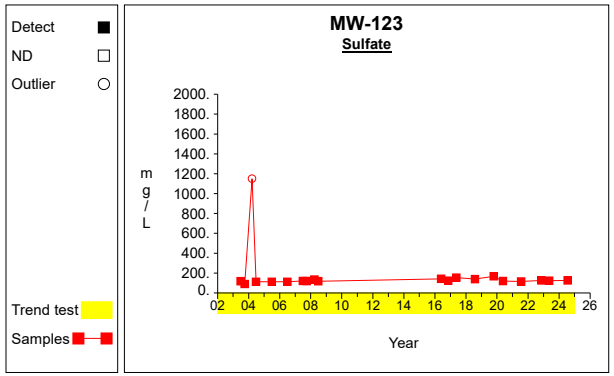
Graph 49



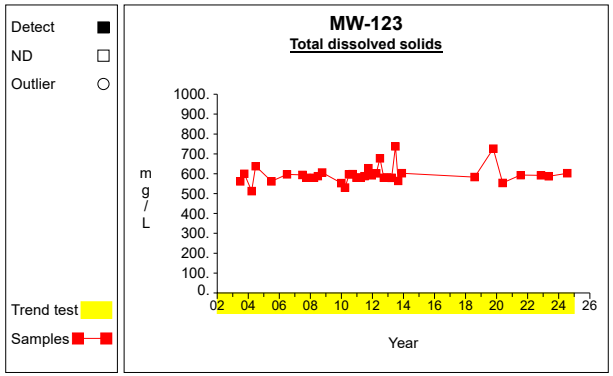
Graph 50



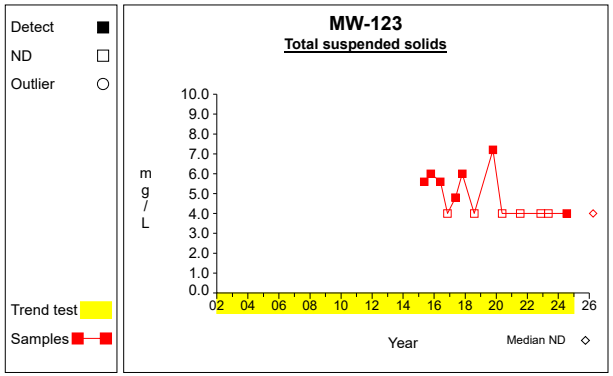
Graph 51



Graph 52



Graph 53



Graph 54

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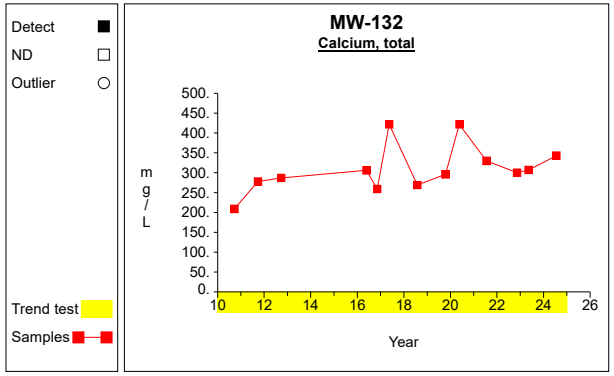
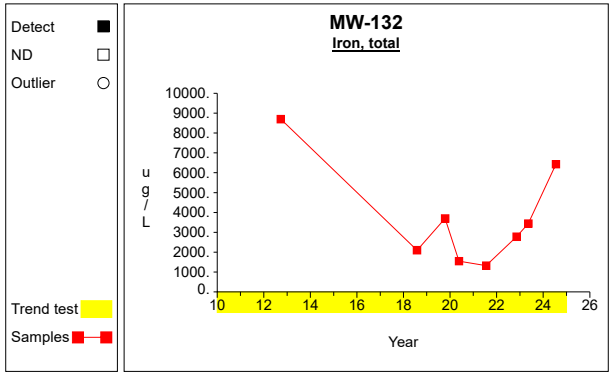
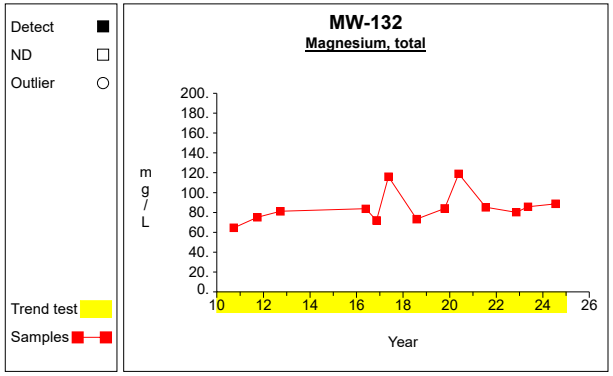
Time Series



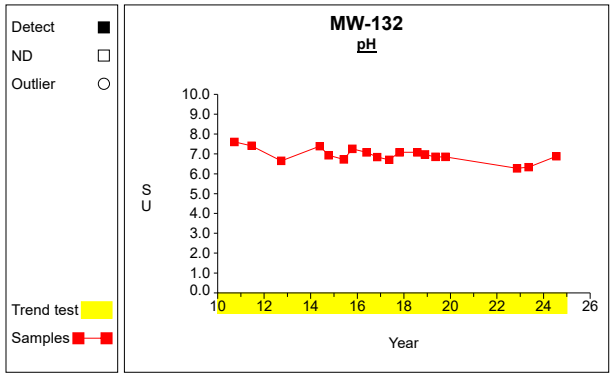
Graph 55



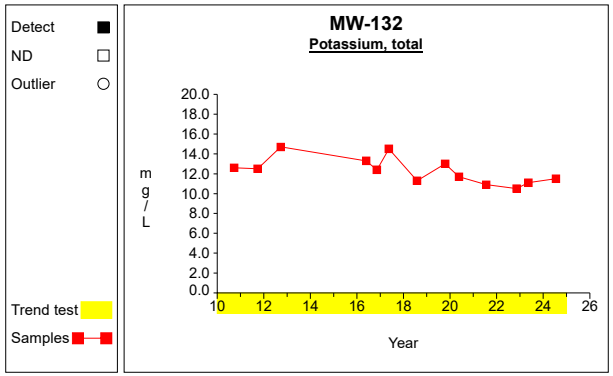
Graph 56



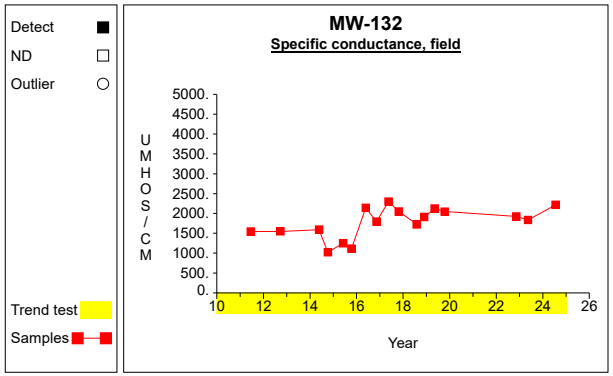
Graph 57



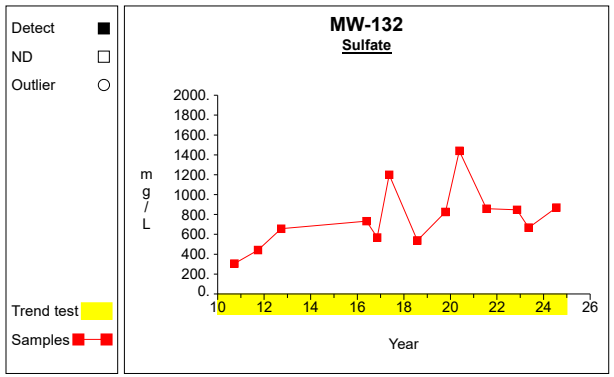
Graph 58



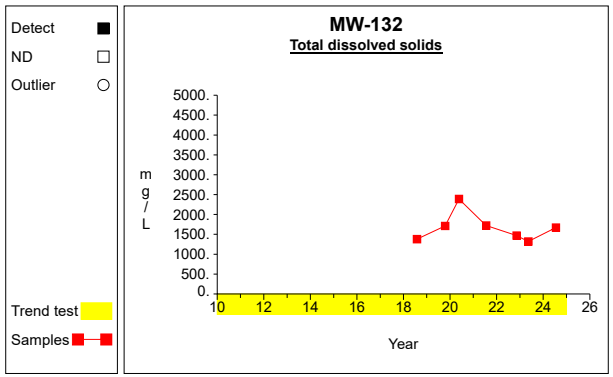
Graph 59



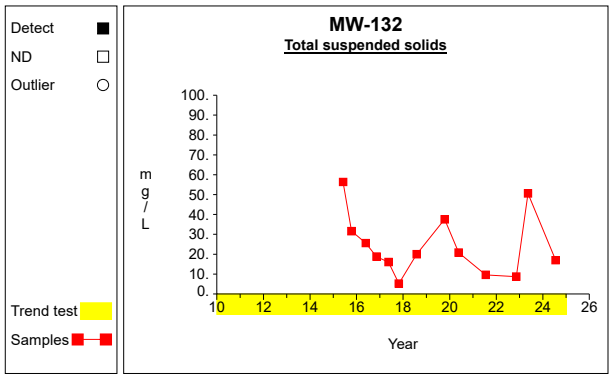
Graph 60



Graph 61



Graph 62



Graph 63

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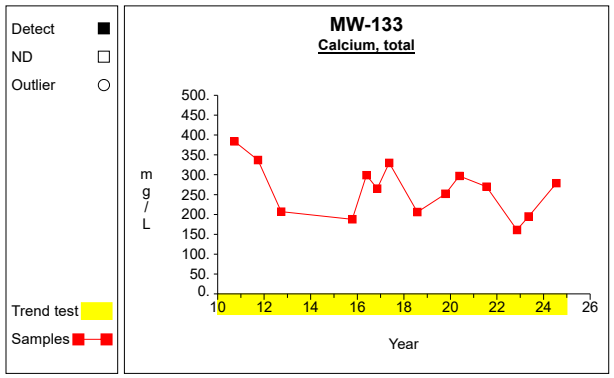
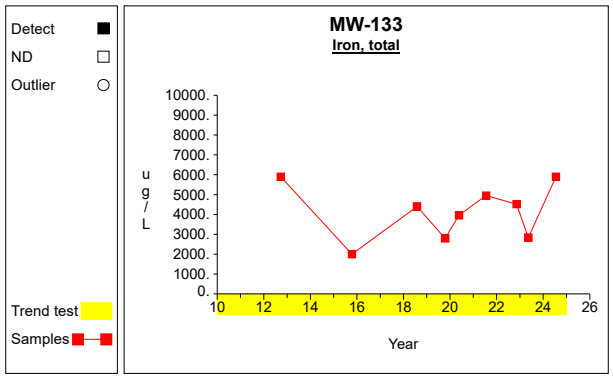
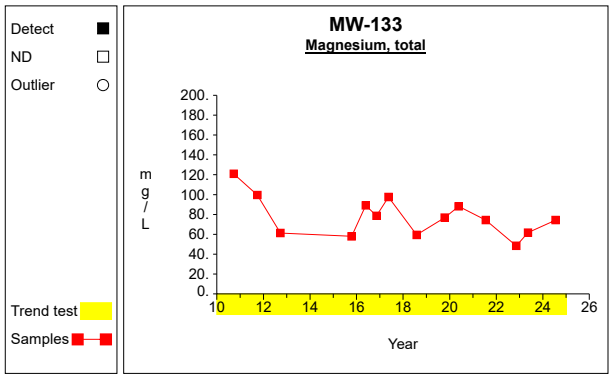
Time Series



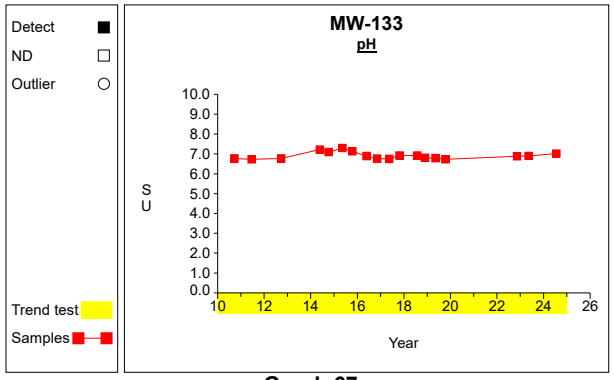
Graph 64



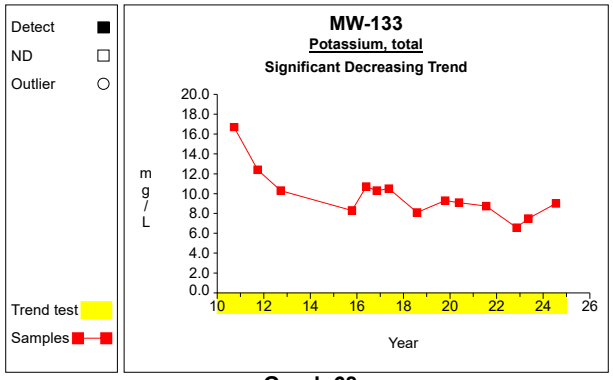
Graph 65



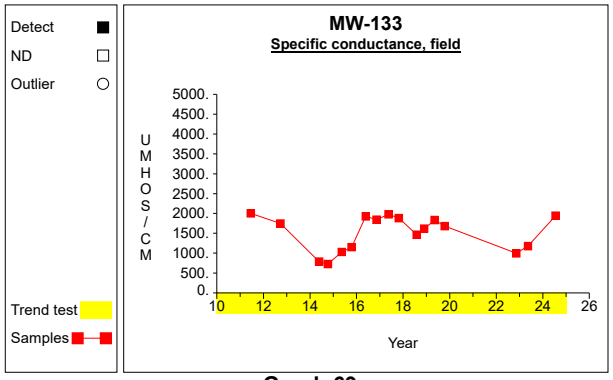
Graph 66



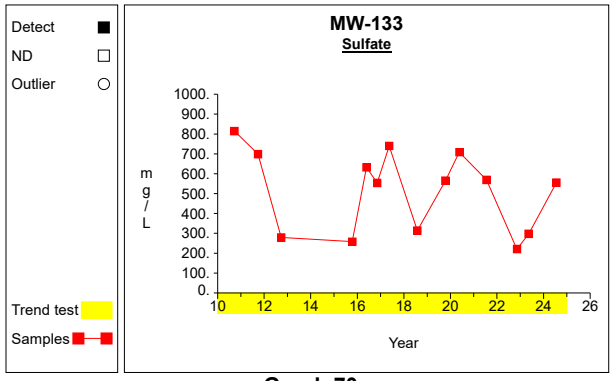
Graph 67



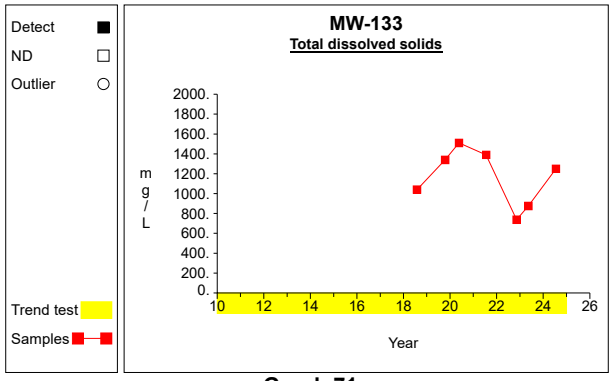
Graph 68



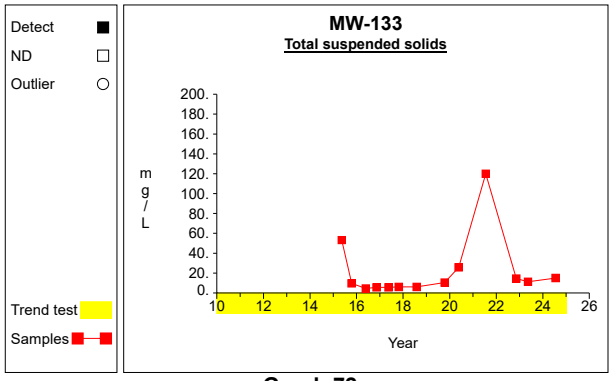
Graph 69



Graph 70



Graph 71



Graph 72

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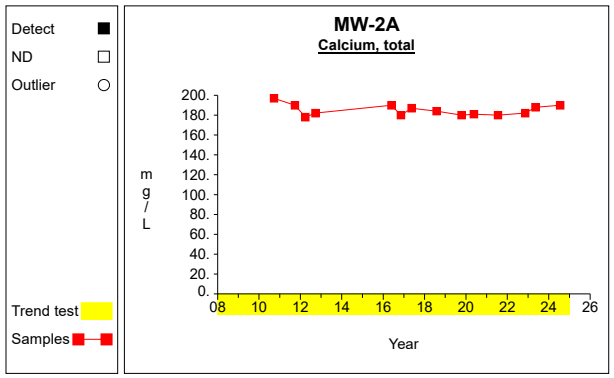
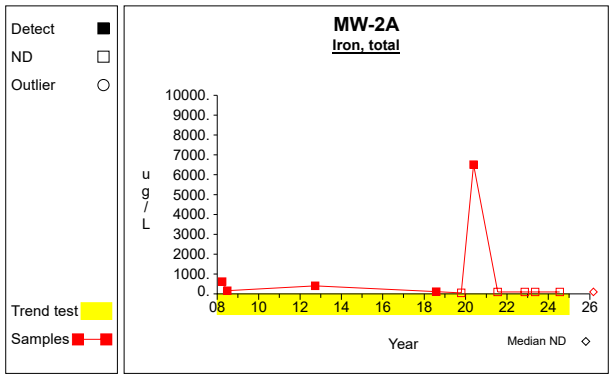
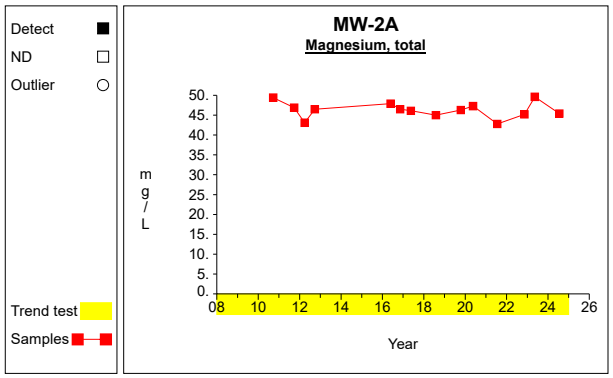
Time Series



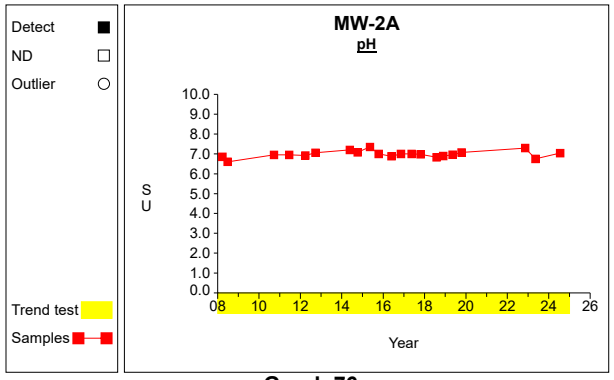
Graph 73



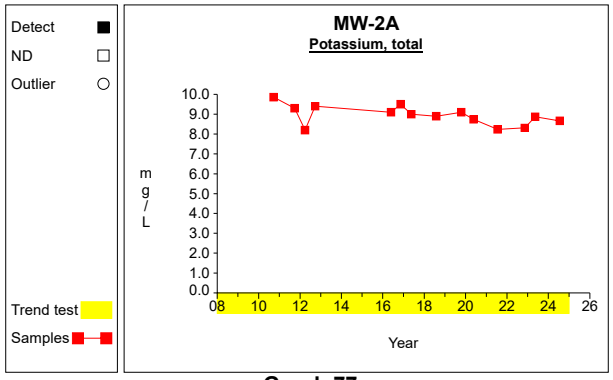
Graph 74



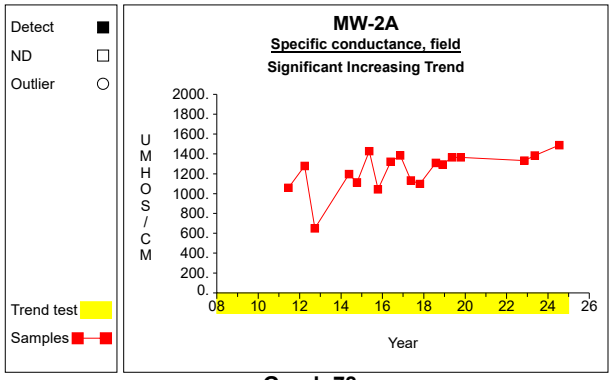
Graph 75



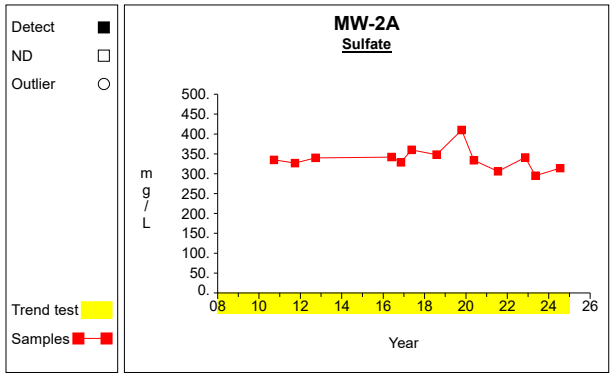
Graph 76



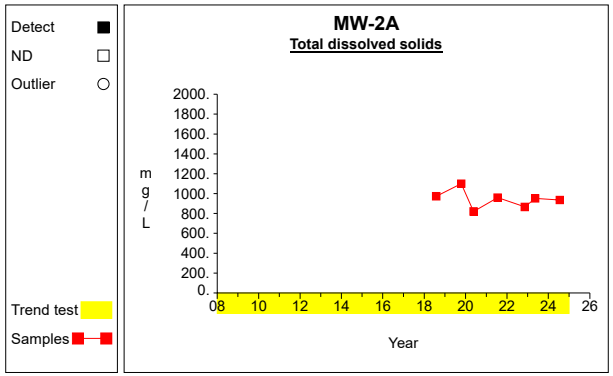
Graph 77



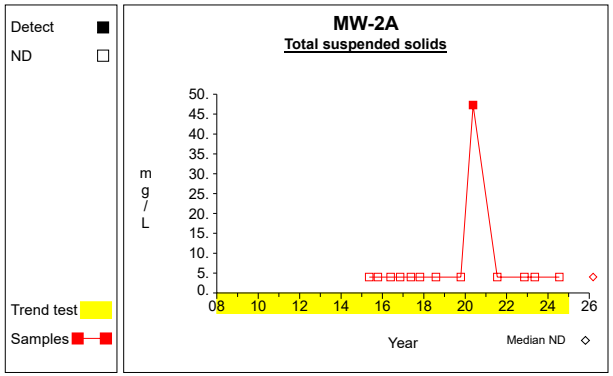
Graph 78



Graph 79



Graph 80



Graph 81

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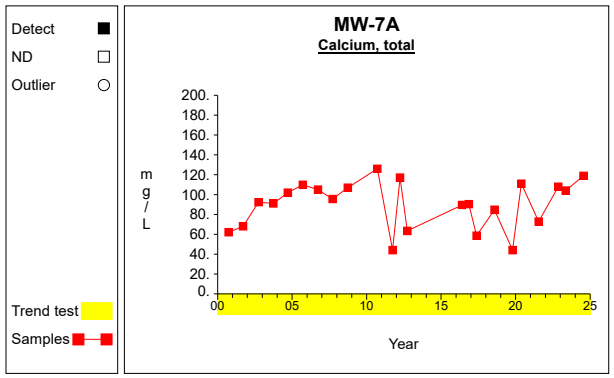
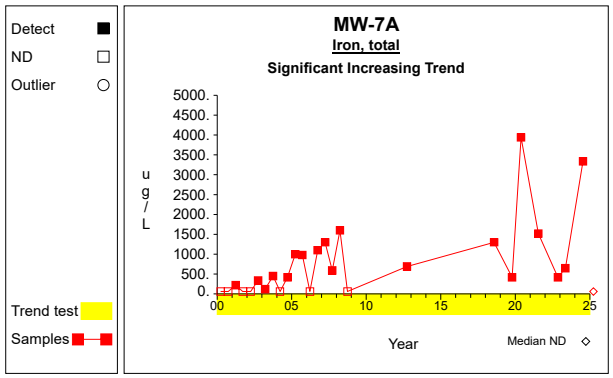
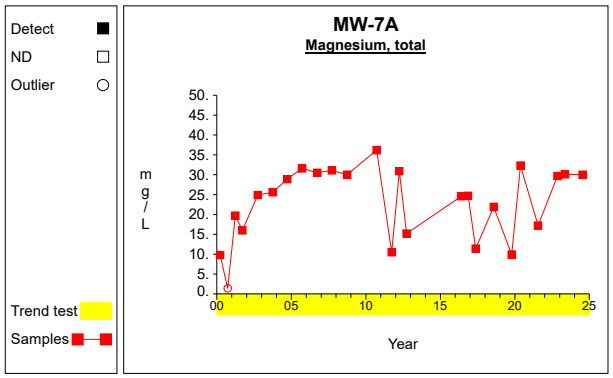
Time Series



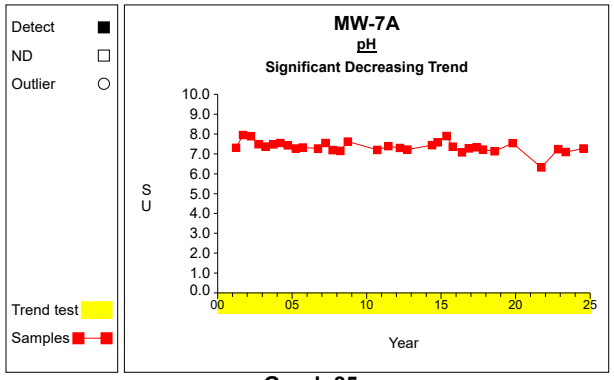
Graph 82



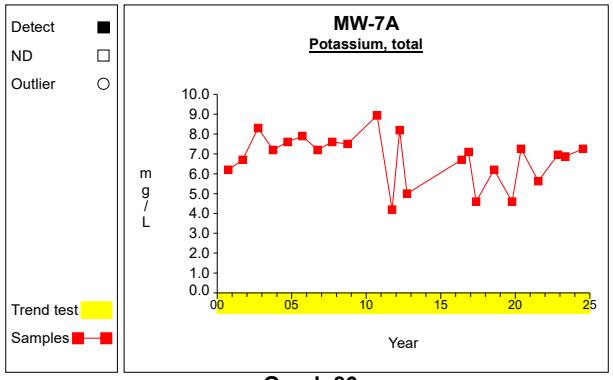
Graph 83



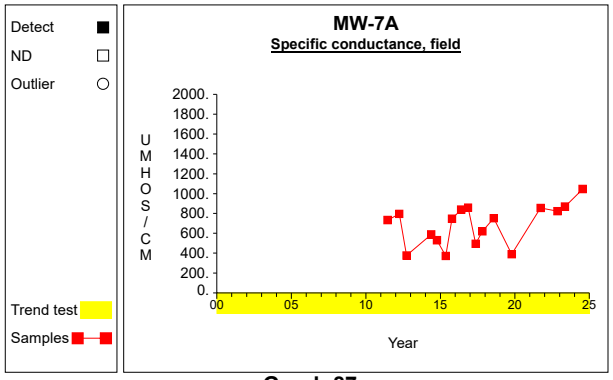
Graph 84



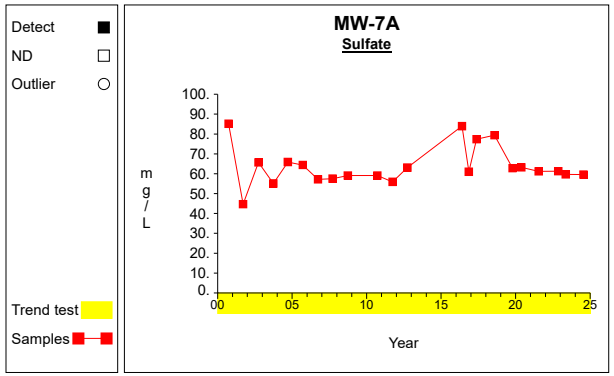
Graph 85



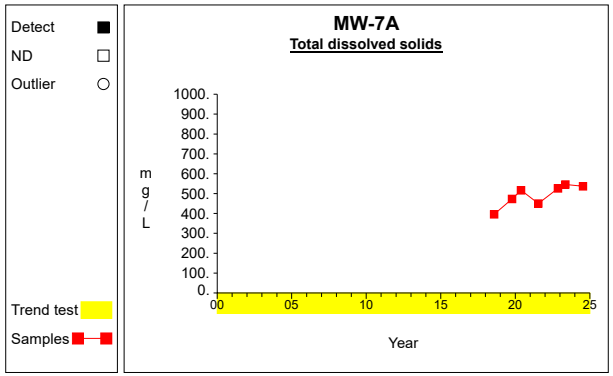
Graph 86



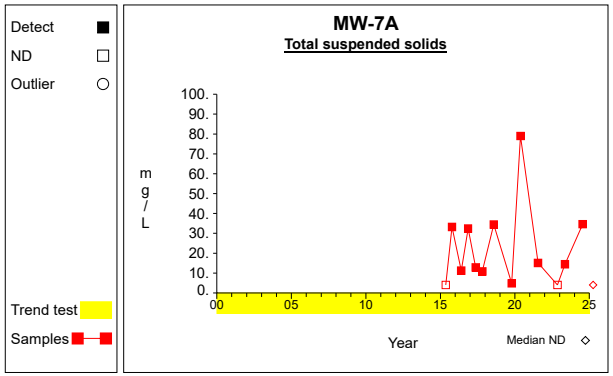
Graph 87



Graph 88



Graph 89



Graph 90

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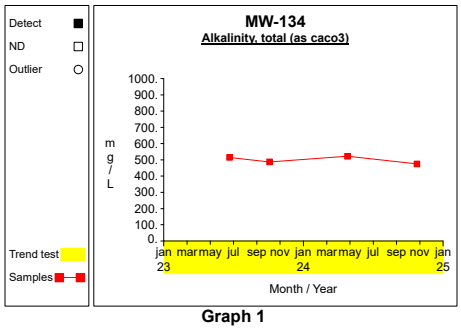
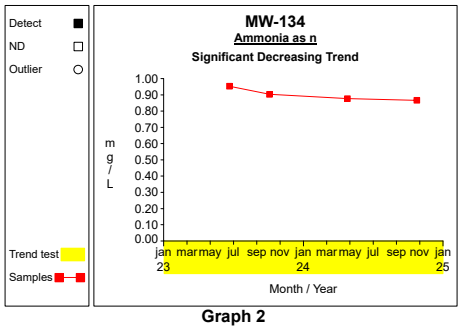
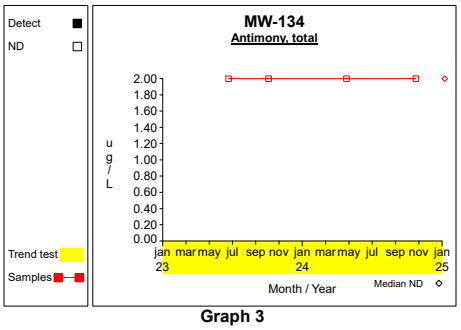
Time Series



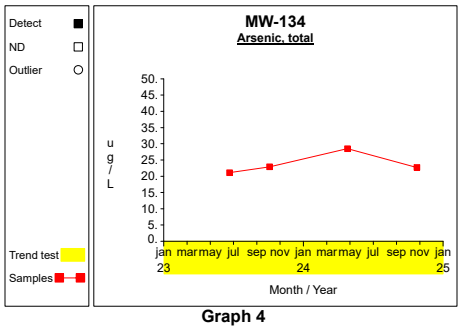
Graph 1



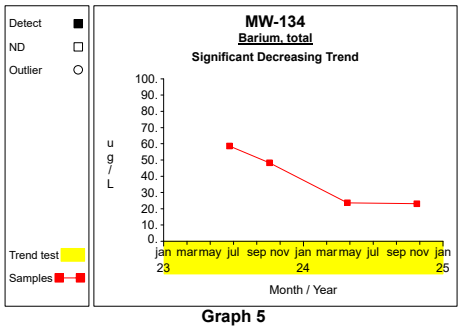
Graph 2



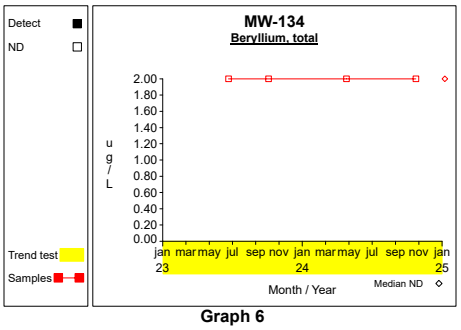
Graph 3



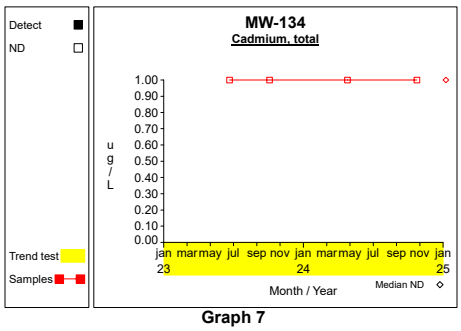
Graph 4



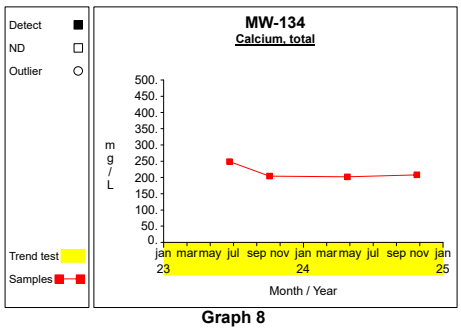
Graph 5



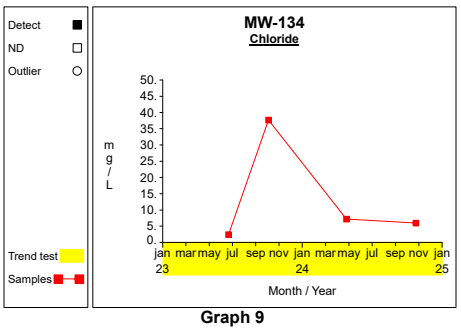
Graph 6



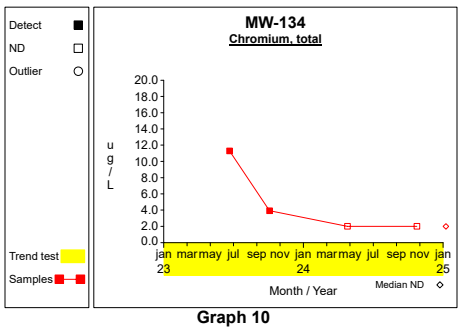
Graph 7



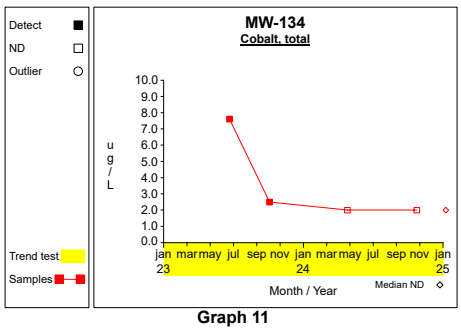
Graph 8



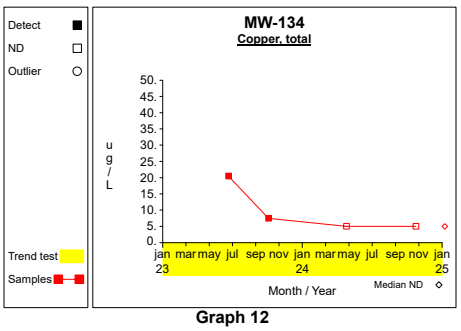
Graph 9



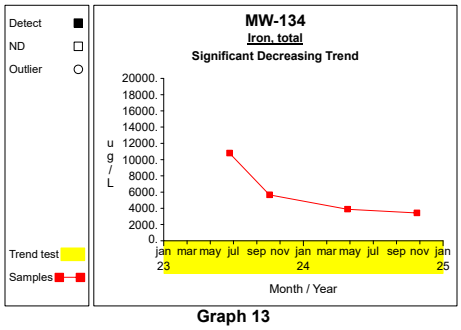
Graph 10



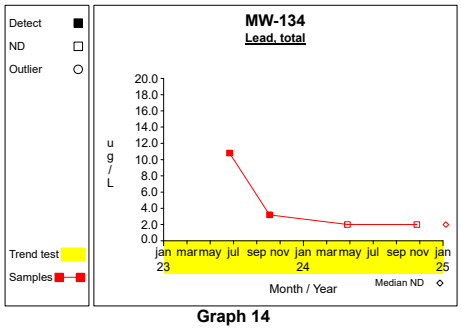
Graph 11



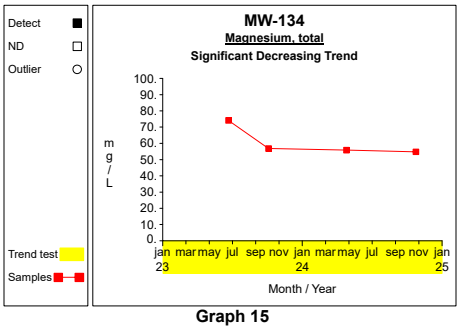
Graph 12



Graph 13



Graph 14



Graph 15

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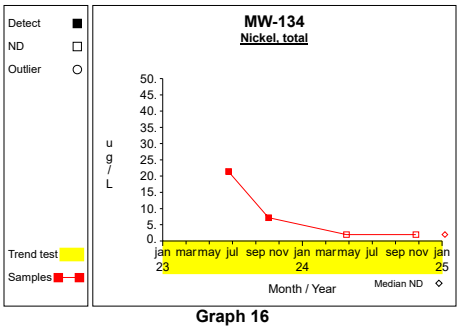
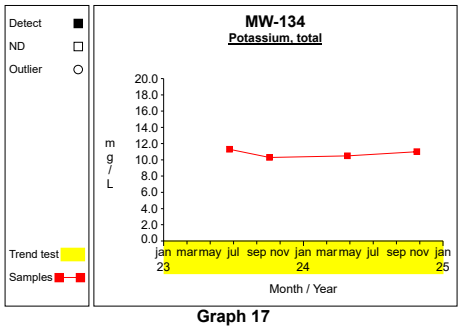
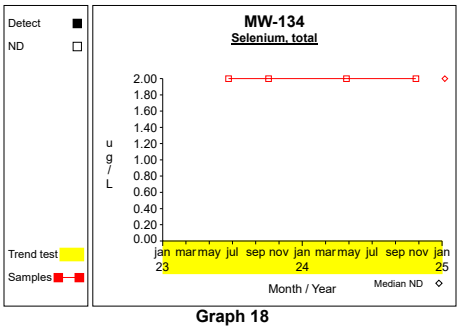
Time Series



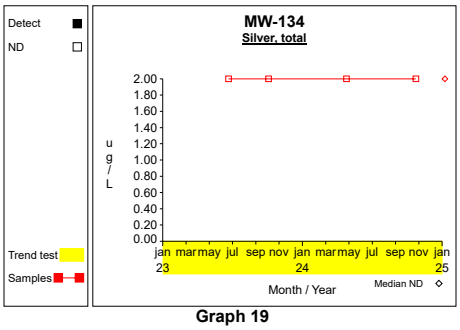
Graph 16



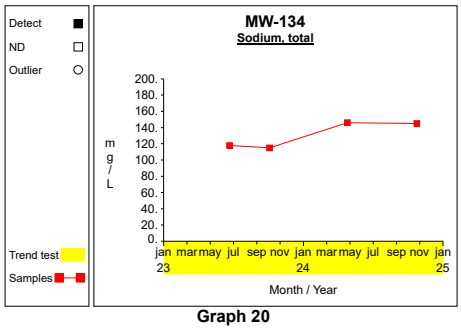
Graph 17



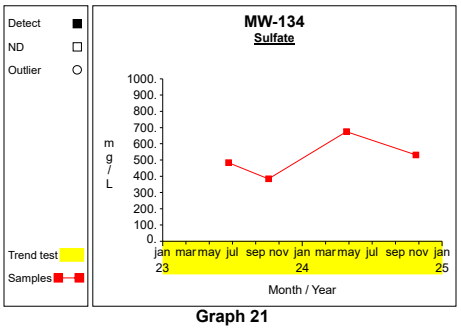
Graph 18



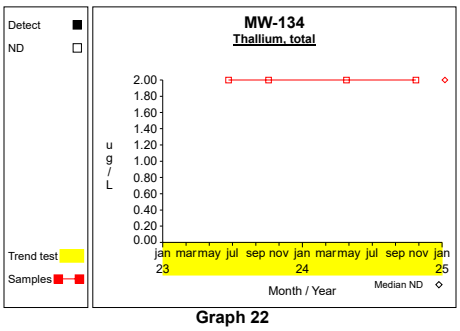
Graph 19



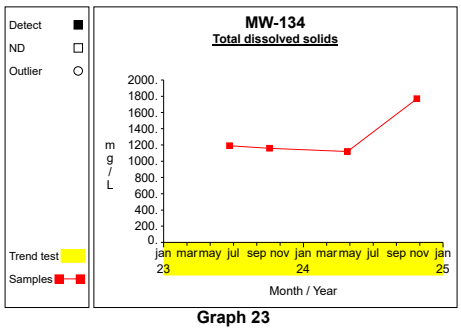
Graph 20



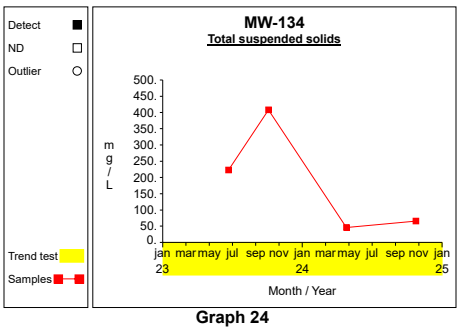
Graph 21



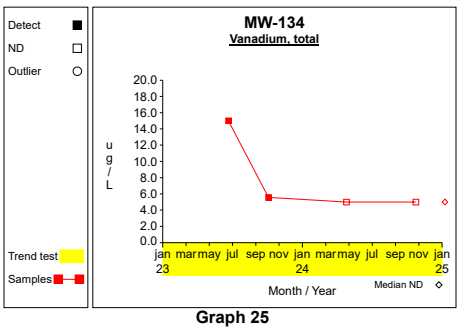
Graph 22



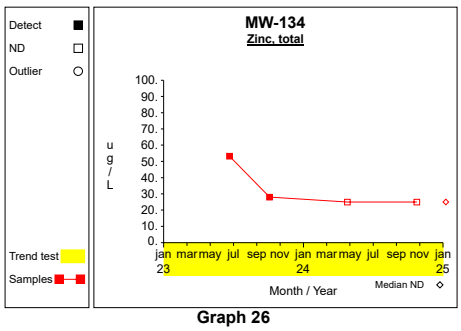
Graph 23



Graph 24

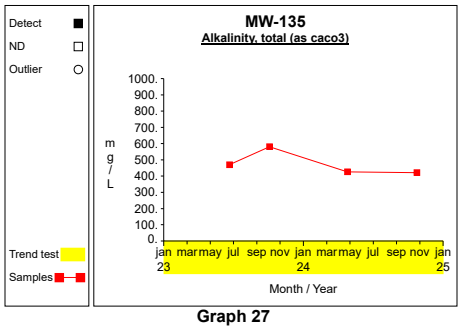


Graph 25

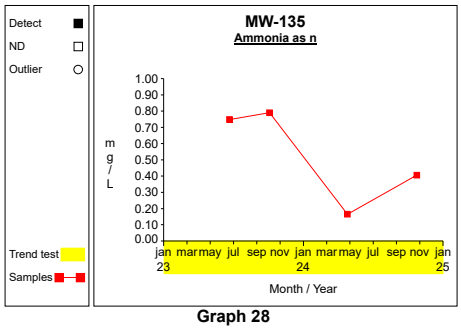


Graph 26

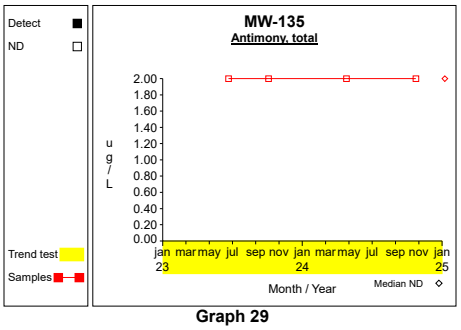
Time Series



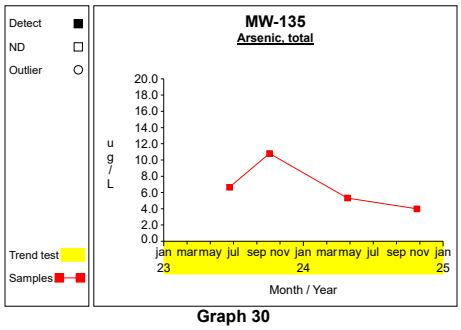
Graph 27



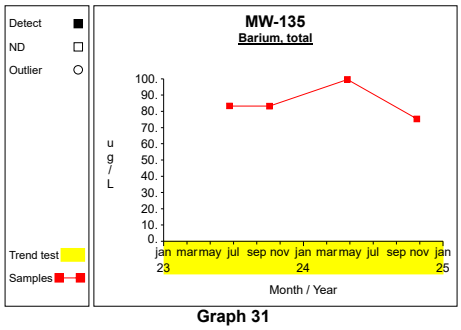
Graph 28



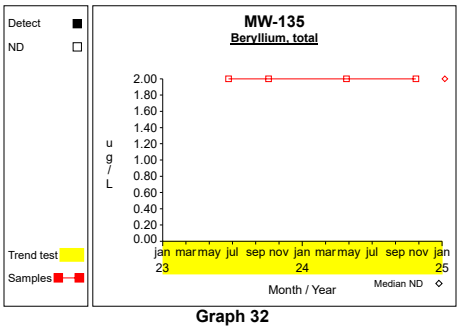
Graph 29



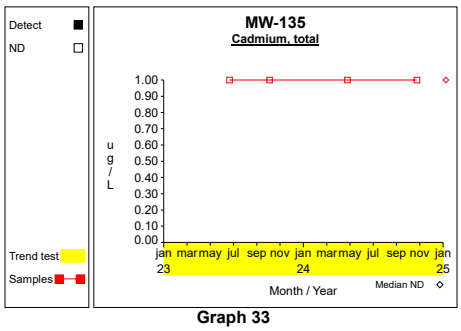
Graph 30



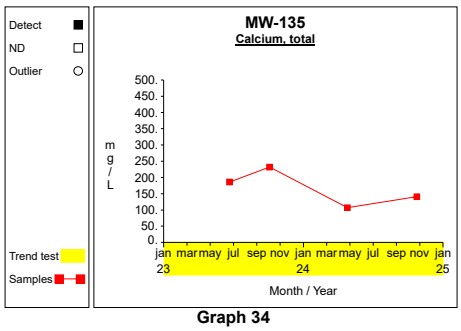
Graph 31



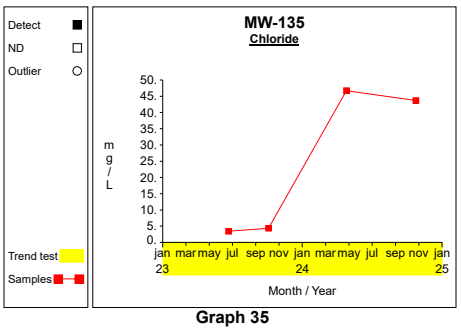
Graph 32



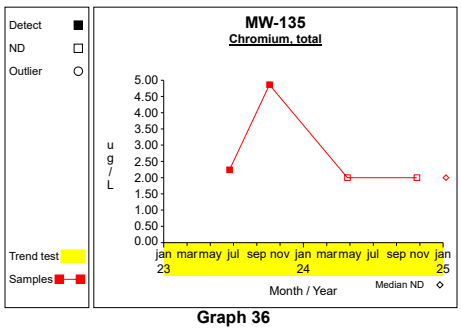
Graph 33



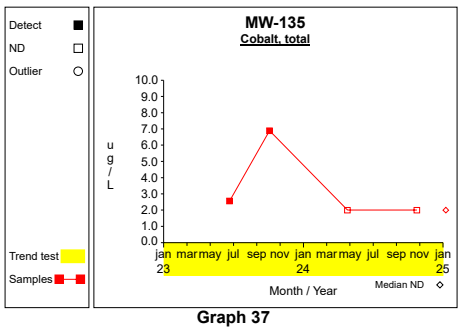
Graph 34



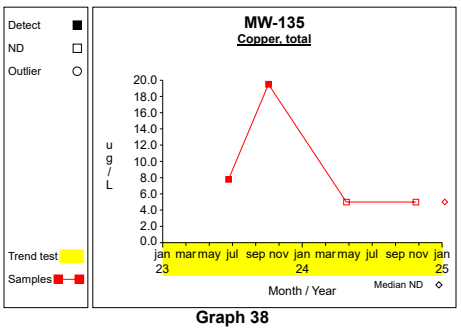
Graph 35



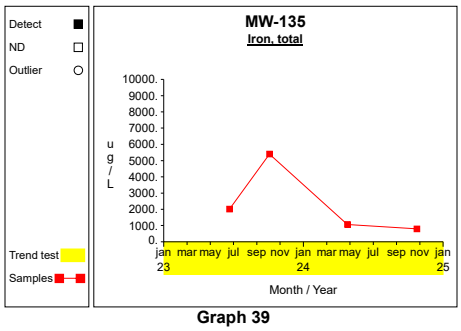
Graph 36



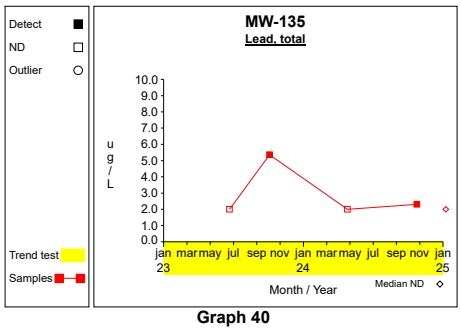
Graph 37



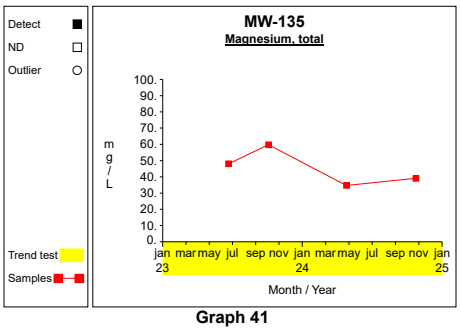
Graph 38



Graph 39



Graph 40



Graph 41

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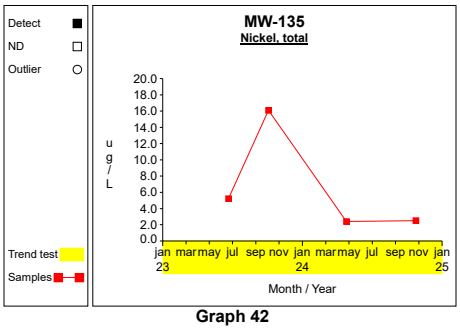
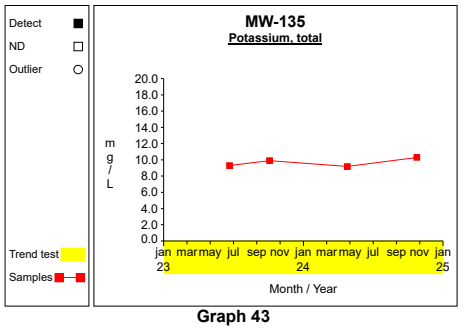
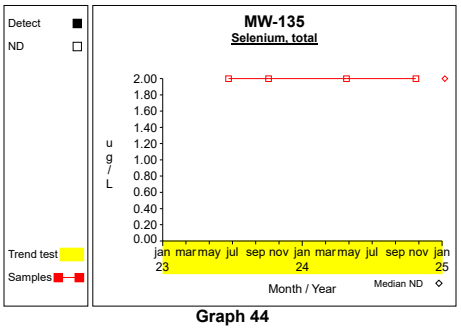
Time Series



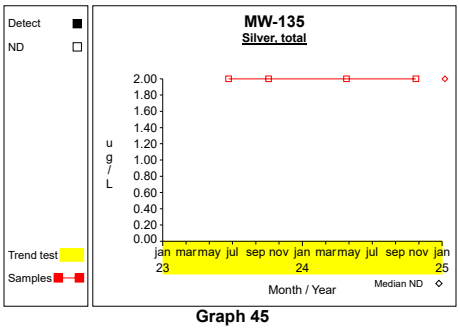
Graph 42



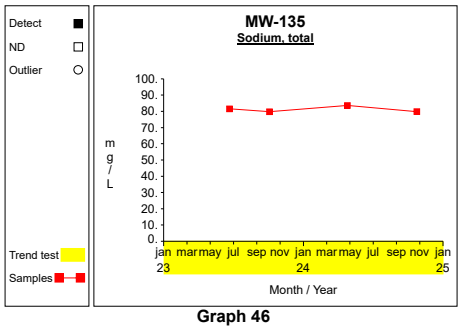
Graph 43



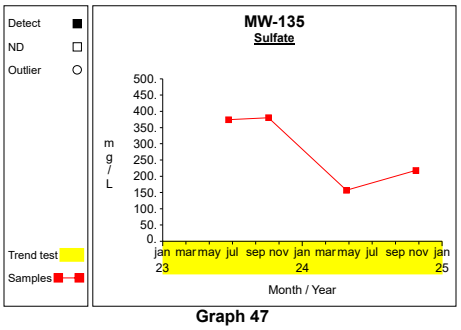
Graph 44



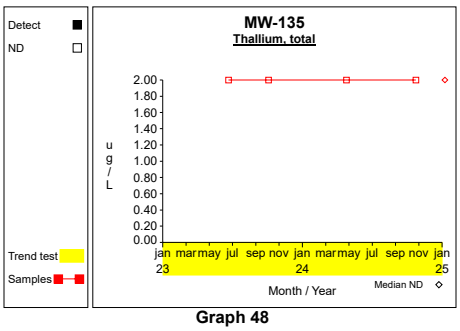
Graph 45



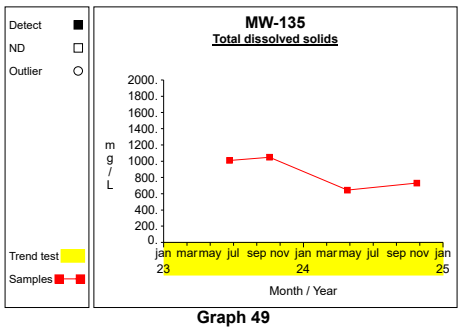
Graph 46



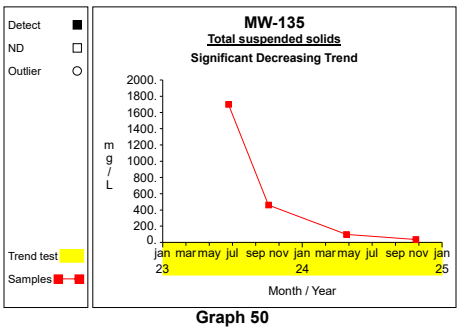
Graph 47



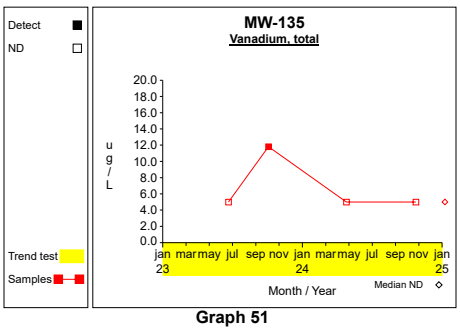
Graph 48



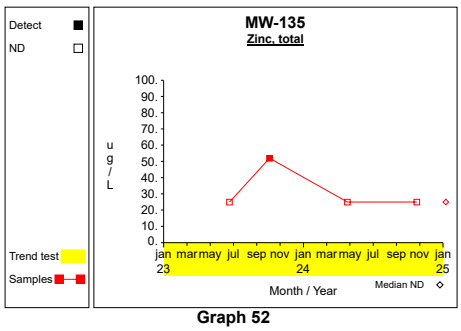
Graph 49



Graph 50

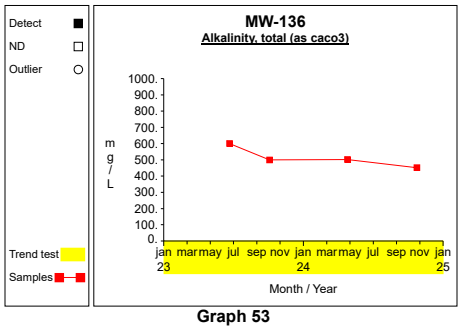


Graph 51

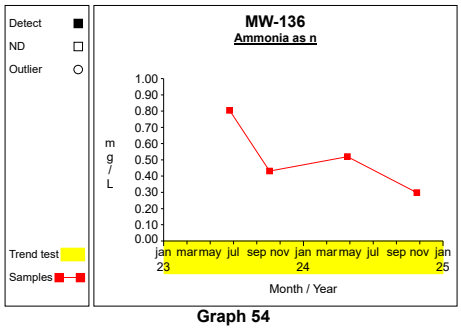


Graph 52

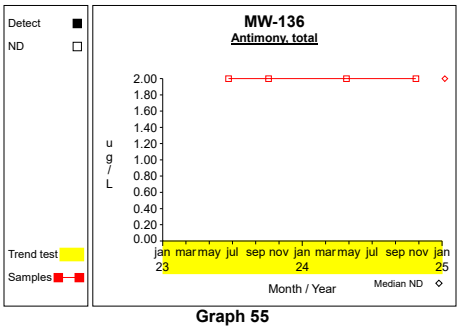
Time Series



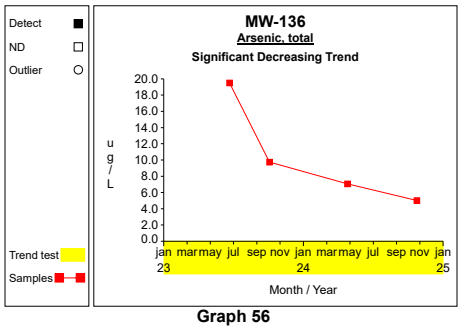
Graph 53



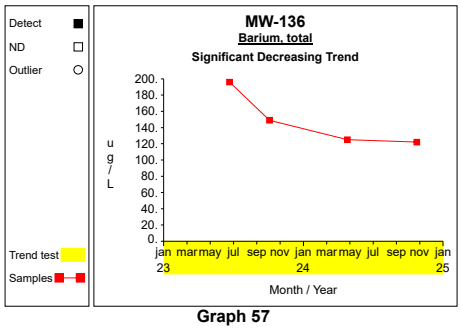
Graph 54



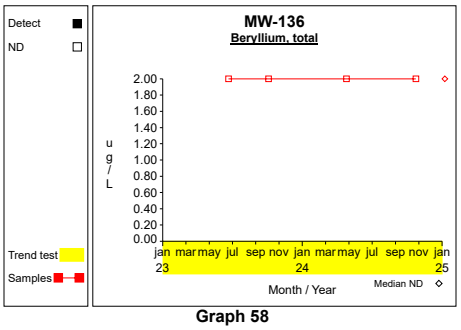
Graph 55



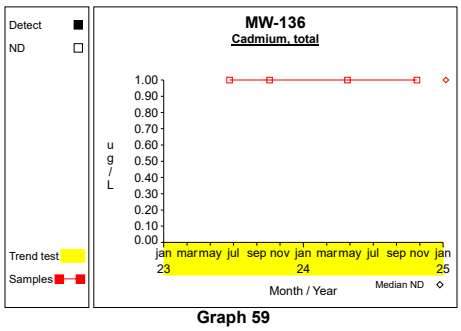
Graph 56



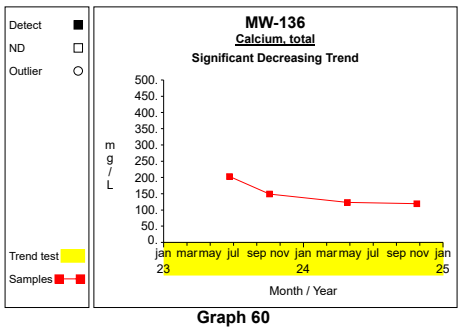
Graph 57



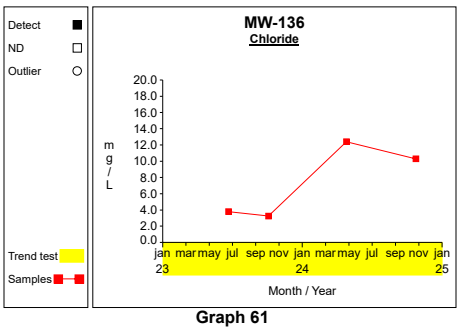
Graph 58



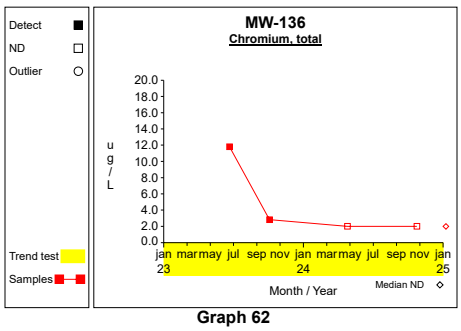
Graph 59



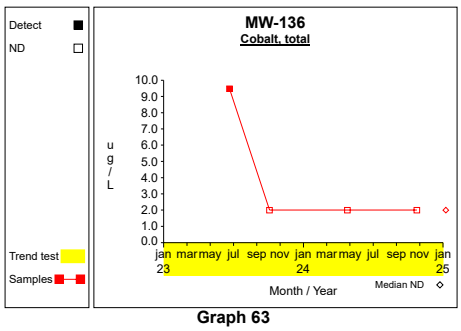
Graph 60



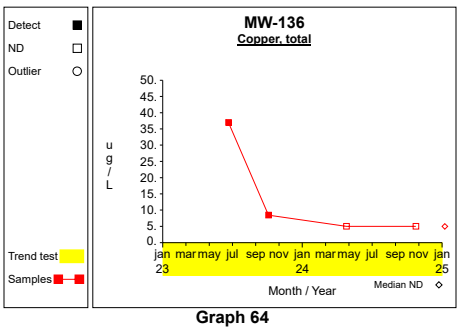
Graph 61



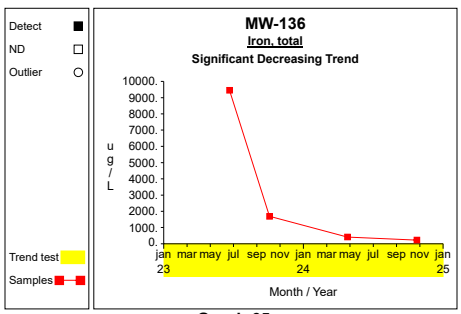
Graph 62



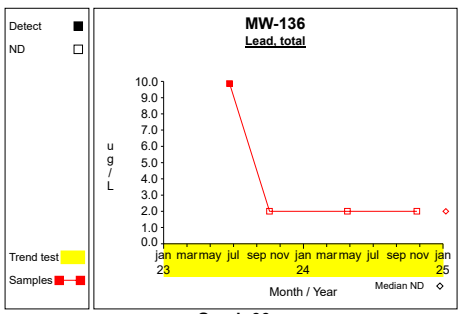
Graph 63



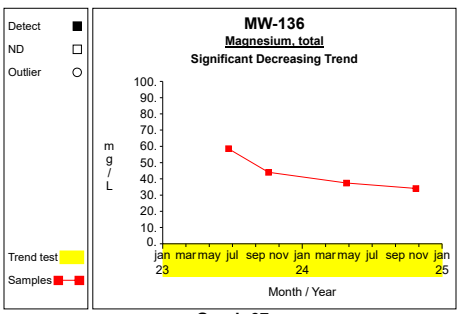
Graph 64



Graph 65



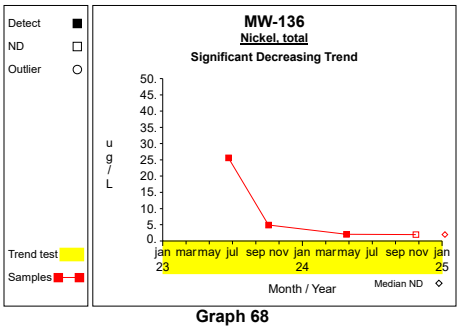
Graph 66



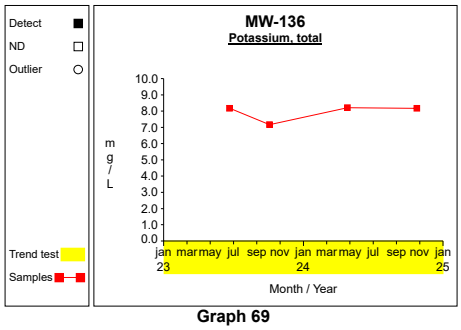
Graph 67

Prepared by: Otter Creek Environmental

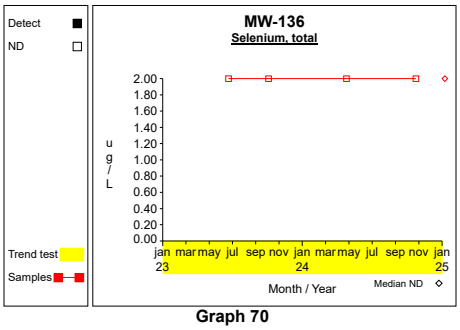
Time Series



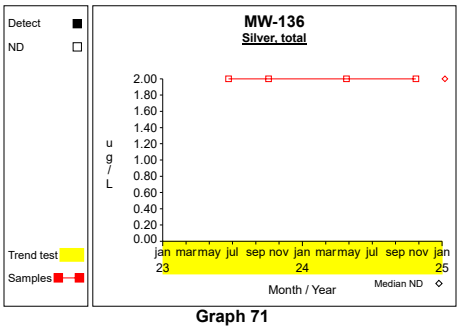
Graph 68



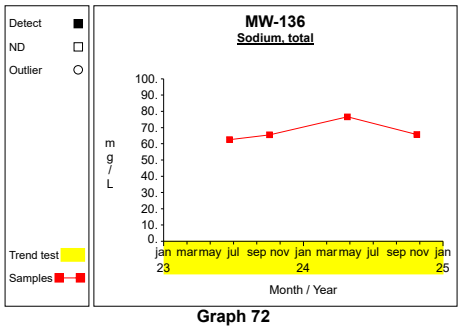
Graph 69



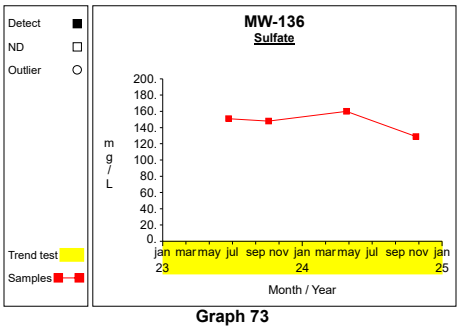
Graph 70



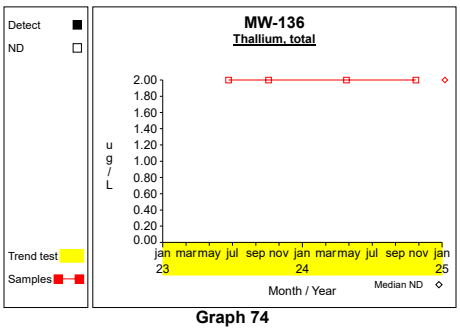
Graph 71



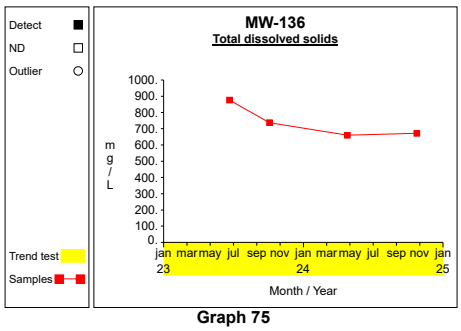
Graph 72



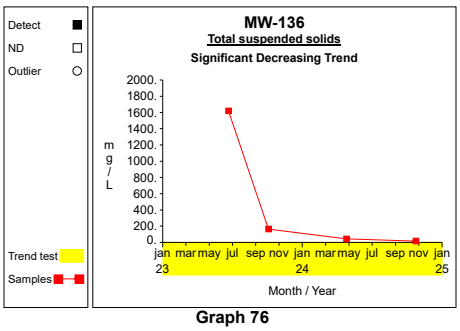
Graph 73



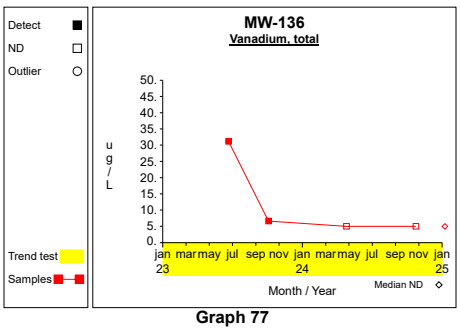
Graph 74



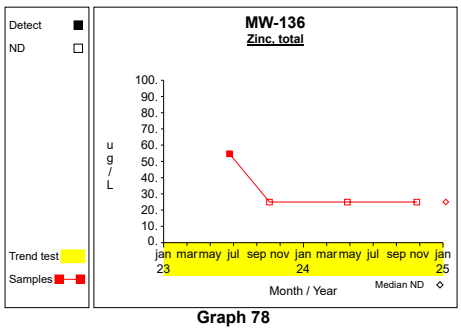
Graph 75



Graph 76



Graph 77



Graph 78

Appendix E Background Monitoring Events Analytical Reports (Pace National)

ANALYTICAL REPORT

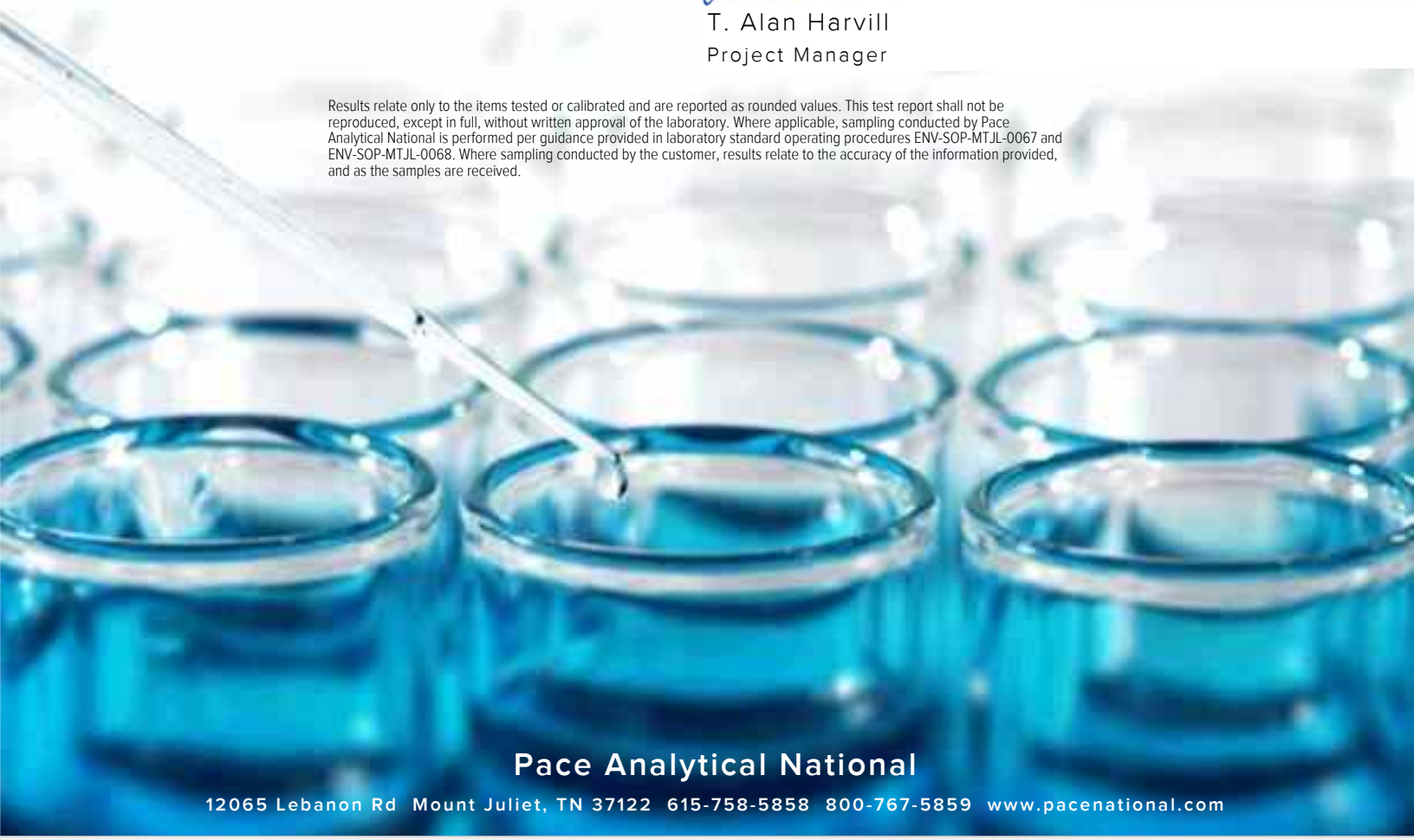
October 20, 2023

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1663305
Samples Received:	10/05/2023
Project Number:	200
Description:	Central Disposal Systems, Inc. Landfill
Site:	IA02
Report To:	Todd Halbersma 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 www.pacenational.com

TABLE OF CONTENTS

MW-134 L1663305-01 GW

Collected by: Tim MacDonald | Collected date/time: 10/03/23 15:18 | Received date/time: 10/05/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2147641	1	10/09/23 08:32	10/09/23 11:03	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2147696	1	10/10/23 15:38	10/10/23 17:32	JAC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2147302	1	10/10/23 11:28	10/10/23 11:28	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2147646	1	10/09/23 14:39	10/09/23 14:39	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2148966	100	10/11/23 22:56	10/11/23 22:56	ASM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2146867	1	10/11/23 08:42	10/18/23 17:54	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2146310	1	10/06/23 18:00	10/06/23 18:00	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2150570	1	10/16/23 01:00	10/16/23 01:00	JBE	Mt. Juliet, TN

MW-135 L1663305-02 GW

Collected by: Tim MacDonald | Collected date/time: 10/03/23 15:50 | Received date/time: 10/05/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2147641	1	10/09/23 08:32	10/09/23 11:03	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2147696	1	10/10/23 15:38	10/10/23 17:32	JAC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2147302	1	10/10/23 11:36	10/10/23 11:36	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2147646	1	10/09/23 14:41	10/09/23 14:41	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2148966	1	10/12/23 00:37	10/12/23 00:37	ASM	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2151765	5	10/16/23 06:43	10/16/23 06:43	GEB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2146867	1	10/11/23 08:42	10/18/23 18:01	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2146310	1	10/06/23 18:24	10/06/23 18:24	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2150570	1	10/16/23 01:19	10/16/23 01:19	JBE	Mt. Juliet, TN

MW-136 L1663305-03 GW

Collected by: Tim MacDonald | Collected date/time: 10/03/23 13:11 | Received date/time: 10/05/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2147641	1	10/09/23 08:32	10/09/23 11:03	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2147696	1	10/10/23 15:38	10/10/23 17:32	JAC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2147302	1	10/10/23 12:17	10/10/23 12:17	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2147646	1	10/09/23 14:42	10/09/23 14:42	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2148966	1	10/12/23 00:50	10/12/23 00:50	ASM	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2146867	1	10/11/23 08:42	10/18/23 18:04	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2146310	1	10/06/23 18:48	10/06/23 18:48	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2148773	1	10/11/23 00:30	10/11/23 00:30	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2150324	1	10/14/23 14:24	10/14/23 14:24	KSD	Mt. Juliet, TN

Trip Blank L1663305-04 GW

Collected by: Tim MacDonald | Collected date/time: 10/03/23 00:00 | Received date/time: 10/05/23 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2146310	1	10/06/23 15:12	10/06/23 15:12	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2148773	1	10/10/23 23:12	10/10/23 23:12	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2150324	1	10/14/23 12:49	10/14/23 12:49	KSD	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Sample Delivery Group (SDG) Narrative

Analyzed from headspace vial.

Batch	Method	Lab Sample ID
WG2150324	8260B	L1663305-04

Wet Chemistry by Method 9056A

RPD value not applicable for sample concentrations less than 5 times the reporting limit.

Batch	Lab Sample ID	Analytes
WG2151765	(DUP) R3986596-3	Sulfate

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2148966	(MS) R3986372-7, (MSD) R3986372-8	Chloride

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2148966	(MS) R3986372-10, (MS) R3986372-7, (MSD) R3986372-8	Chloride and Sulfate

Metals (ICPMS) by Method 6020

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2146867	(MS) R3988013-4, (MSD) R3988013-5	Calcium and Sodium

Volatile Organic Compounds (GC/MS) by Method 8260B

The associated batch QC was outside the established quality control range for precision.

Batch	Lab Sample ID	Analytes
WG2148773	(LCSD) R3985504-2, L1663305-03, 04	Vinyl acetate

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	34.86	su
pH (On Site)	7.24	su
Specific Conductance (on site)	1760	umhos/cm
Temperature (on-site)	11	Deg. C
Turbidity (on-site)	312	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1160		10.0	1	10/09/2023 11:03	WG2147641

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	408		5.83	1	10/10/2023 17:32	WG2147696

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	487		20.0	1	10/10/2023 11:28	WG2147302

Sample Narrative:

L1663305-01 WG2147302: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.903		0.100	1	10/09/2023 14:39	WG2147646

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	37.7		5.19	100	10/11/2023 22:56	WG2148966
Sulfate	384		7.74	100	10/11/2023 22:56	WG2148966

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	10/18/2023 17:54	WG2146867
Arsenic	0.0229		0.00200	1	10/18/2023 17:54	WG2146867
Barium	0.0483		0.00500	1	10/18/2023 17:54	WG2146867
Beryllium	ND		0.00200	1	10/18/2023 17:54	WG2146867
Calcium	204		1.00	1	10/18/2023 17:54	WG2146867
Cadmium	ND		0.00100	1	10/18/2023 17:54	WG2146867
Cobalt	0.00250		0.00200	1	10/18/2023 17:54	WG2146867
Chromium	0.00392		0.00200	1	10/18/2023 17:54	WG2146867
Copper	0.00749		0.00500	1	10/18/2023 17:54	WG2146867
Iron	5.66		0.100	1	10/18/2023 17:54	WG2146867
Potassium	10.3		1.00	1	10/18/2023 17:54	WG2146867
Magnesium	56.8		1.00	1	10/18/2023 17:54	WG2146867
Sodium	115		1.00	1	10/18/2023 17:54	WG2146867
Nickel	0.00718		0.00200	1	10/18/2023 17:54	WG2146867
Lead	0.00320		0.00200	1	10/18/2023 17:54	WG2146867

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	10/18/2023 17:54	WG2146867
Selenium	ND		0.00200	1	10/18/2023 17:54	WG2146867
Thallium	ND		0.00200	1	10/18/2023 17:54	WG2146867
Vanadium	0.00557		0.00500	1	10/18/2023 17:54	WG2146867
Zinc	0.0280		0.0250	1	10/18/2023 17:54	WG2146867

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/16/2023 01:00	WG2150570
1,2,3-Trichloropropane	ND		0.00580	1	10/06/2023 18:00	WG2146310
1,1,1-Trichloroethane	ND		1.00	1	10/16/2023 01:00	WG2150570
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/06/2023 18:00	WG2146310
1,1,2,2-Tetrachloroethane	ND		0.300	1	10/16/2023 01:00	WG2150570
1,2-Dibromoethane	ND		0.0500	1	10/06/2023 18:00	WG2146310
1,1,2-Trichloroethane	ND		1.00	1	10/16/2023 01:00	WG2150570
1,1-Dichloroethane	ND		1.00	1	10/16/2023 01:00	WG2150570
1,1-Dichloroethene	ND		1.00	1	10/16/2023 01:00	WG2150570
1,2-Dichlorobenzene	ND		1.00	1	10/16/2023 01:00	WG2150570
1,2-Dichloroethane	ND		1.00	1	10/16/2023 01:00	WG2150570
1,2-Dichloropropane	ND		1.00	1	10/16/2023 01:00	WG2150570
1,4-Dichlorobenzene	ND		1.00	1	10/16/2023 01:00	WG2150570
2-Butanone (MEK)	ND		10.0	1	10/16/2023 01:00	WG2150570
2-Hexanone	ND		5.00	1	10/16/2023 01:00	WG2150570
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/16/2023 01:00	WG2150570
Acetone	ND		25.0	1	10/16/2023 01:00	WG2150570
Acrylonitrile	ND		0.320	1	10/16/2023 01:00	WG2150570
Benzene	ND		1.00	1	10/16/2023 01:00	WG2150570
Bromochloromethane	ND		1.00	1	10/16/2023 01:00	WG2150570
Bromodichloromethane	ND		1.00	1	10/16/2023 01:00	WG2150570
Bromoform	ND		1.00	1	10/16/2023 01:00	WG2150570
Bromomethane	ND		2.50	1	10/16/2023 01:00	WG2150570
Carbon disulfide	1.08		1.00	1	10/16/2023 01:00	WG2150570
Carbon tetrachloride	ND		1.00	1	10/16/2023 01:00	WG2150570
Chlorobenzene	ND		1.00	1	10/16/2023 01:00	WG2150570
Chlorodibromomethane	ND		1.00	1	10/16/2023 01:00	WG2150570
Chloroethane	ND		2.50	1	10/16/2023 01:00	WG2150570
Chloroform	ND		1.00	1	10/16/2023 01:00	WG2150570
Chloromethane	ND		1.25	1	10/16/2023 01:00	WG2150570
Dibromomethane	ND		1.00	1	10/16/2023 01:00	WG2150570
Ethylbenzene	ND		1.00	1	10/16/2023 01:00	WG2150570
Iodomethane	ND		10.0	1	10/16/2023 01:00	WG2150570
Methylene Chloride	ND		2.50	1	10/16/2023 01:00	WG2150570
Styrene	ND		1.00	1	10/16/2023 01:00	WG2150570
Tetrachloroethene	ND		1.00	1	10/16/2023 01:00	WG2150570
Toluene	ND		1.00	1	10/16/2023 01:00	WG2150570
Trichloroethene	ND		1.00	1	10/16/2023 01:00	WG2150570
Trichlorofluoromethane	ND		2.50	1	10/16/2023 01:00	WG2150570
Vinyl acetate	ND		5.00	1	10/16/2023 01:00	WG2150570
Vinyl chloride	ND		1.00	1	10/16/2023 01:00	WG2150570
Xylenes, Total	ND		1.50	1	10/16/2023 01:00	WG2150570
cis-1,2-Dichloroethene	ND		1.00	1	10/16/2023 01:00	WG2150570
cis-1,3-Dichloropropene	ND		1.00	1	10/16/2023 01:00	WG2150570
trans-1,2-Dichloroethene	ND		1.00	1	10/16/2023 01:00	WG2150570
trans-1,3-Dichloropropene	ND		1.00	1	10/16/2023 01:00	WG2150570
trans-1,4-Dichloro-2-butene	ND		1.00	1	10/16/2023 01:00	WG2150570

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*106*			*67.0-138*	*10/16/2023 01:00*	WG2150570
(S) Toluene-d8	*99.9*			*75.0-131*	*10/16/2023 01:00*	WG2150570
(S) 1,2-Dichloroethane-d4	*97.9*			*70.0-130*	*10/16/2023 01:00*	WG2150570

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	51.59	su
pH (On Site)	7.13	su
Specific Conductance (on site)	1560	umhos/cm
Temperature (on-site)	13	Deg. C
Turbidity (on-site)	164	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1050		10.0	1	10/09/2023 11:03	WG2147641

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	460		8.75	1	10/10/2023 17:32	WG2147696

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	581		20.0	1	10/10/2023 11:36	WG2147302

Sample Narrative:

L1663305-02 WG2147302: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.790		0.100	1	10/09/2023 14:41	WG2147646

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	4.34		1.00	1	10/12/2023 00:37	WG2148966
Sulfate	380		5.00	5	10/16/2023 06:43	WG2151765

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	10/18/2023 18:01	WG2146867
Arsenic	0.0108		0.00200	1	10/18/2023 18:01	WG2146867
Barium	0.0832		0.00500	1	10/18/2023 18:01	WG2146867
Beryllium	ND		0.00200	1	10/18/2023 18:01	WG2146867
Calcium	232		1.00	1	10/18/2023 18:01	WG2146867
Cadmium	ND		0.00100	1	10/18/2023 18:01	WG2146867
Cobalt	0.00689		0.00200	1	10/18/2023 18:01	WG2146867
Chromium	0.00486		0.00200	1	10/18/2023 18:01	WG2146867
Copper	0.0195		0.00500	1	10/18/2023 18:01	WG2146867
Iron	5.40		0.100	1	10/18/2023 18:01	WG2146867
Potassium	9.91		1.00	1	10/18/2023 18:01	WG2146867
Magnesium	59.8		1.00	1	10/18/2023 18:01	WG2146867
Sodium	79.7		1.00	1	10/18/2023 18:01	WG2146867
Nickel	0.0161		0.00200	1	10/18/2023 18:01	WG2146867
Lead	0.00536		0.00200	1	10/18/2023 18:01	WG2146867

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	10/18/2023 18:01	WG2146867
Selenium	ND		0.00200	1	10/18/2023 18:01	WG2146867
Thallium	ND		0.00200	1	10/18/2023 18:01	WG2146867
Vanadium	0.0118		0.00500	1	10/18/2023 18:01	WG2146867
Zinc	0.0520		0.0250	1	10/18/2023 18:01	WG2146867

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/16/2023 01:19	WG2150570
1,2,3-Trichloropropane	ND		0.00580	1	10/06/2023 18:24	WG2146310
1,1,1-Trichloroethane	ND		1.00	1	10/16/2023 01:19	WG2150570
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/06/2023 18:24	WG2146310
1,1,2,2-Tetrachloroethane	ND		0.300	1	10/16/2023 01:19	WG2150570
1,2-Dibromoethane	ND		0.0500	1	10/06/2023 18:24	WG2146310
1,1,2-Trichloroethane	ND		1.00	1	10/16/2023 01:19	WG2150570
1,1-Dichloroethane	ND		1.00	1	10/16/2023 01:19	WG2150570
1,1-Dichloroethene	ND		1.00	1	10/16/2023 01:19	WG2150570
1,2-Dichlorobenzene	ND		1.00	1	10/16/2023 01:19	WG2150570
1,2-Dichloroethane	ND		1.00	1	10/16/2023 01:19	WG2150570
1,2-Dichloropropane	ND		1.00	1	10/16/2023 01:19	WG2150570
1,4-Dichlorobenzene	ND		1.00	1	10/16/2023 01:19	WG2150570
2-Butanone (MEK)	ND		10.0	1	10/16/2023 01:19	WG2150570
2-Hexanone	ND		5.00	1	10/16/2023 01:19	WG2150570
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/16/2023 01:19	WG2150570
Acetone	ND		25.0	1	10/16/2023 01:19	WG2150570
Acrylonitrile	ND		0.320	1	10/16/2023 01:19	WG2150570
Benzene	ND		1.00	1	10/16/2023 01:19	WG2150570
Bromochloromethane	ND		1.00	1	10/16/2023 01:19	WG2150570
Bromodichloromethane	ND		1.00	1	10/16/2023 01:19	WG2150570
Bromoform	ND		1.00	1	10/16/2023 01:19	WG2150570
Bromomethane	ND		2.50	1	10/16/2023 01:19	WG2150570
Carbon disulfide	ND		1.00	1	10/16/2023 01:19	WG2150570
Carbon tetrachloride	ND		1.00	1	10/16/2023 01:19	WG2150570
Chlorobenzene	ND		1.00	1	10/16/2023 01:19	WG2150570
Chlorodibromomethane	ND		1.00	1	10/16/2023 01:19	WG2150570
Chloroethane	ND		2.50	1	10/16/2023 01:19	WG2150570
Chloroform	ND		1.00	1	10/16/2023 01:19	WG2150570
Chloromethane	ND		1.25	1	10/16/2023 01:19	WG2150570
Dibromomethane	ND		1.00	1	10/16/2023 01:19	WG2150570
Ethylbenzene	ND		1.00	1	10/16/2023 01:19	WG2150570
Iodomethane	ND		10.0	1	10/16/2023 01:19	WG2150570
Methylene Chloride	ND		2.50	1	10/16/2023 01:19	WG2150570
Styrene	ND		1.00	1	10/16/2023 01:19	WG2150570
Tetrachloroethene	ND		1.00	1	10/16/2023 01:19	WG2150570
Toluene	ND		1.00	1	10/16/2023 01:19	WG2150570
Trichloroethene	ND		1.00	1	10/16/2023 01:19	WG2150570
Trichlorofluoromethane	ND		2.50	1	10/16/2023 01:19	WG2150570
Vinyl acetate	ND		5.00	1	10/16/2023 01:19	WG2150570
Vinyl chloride	ND		1.00	1	10/16/2023 01:19	WG2150570
Xylenes, Total	ND		1.50	1	10/16/2023 01:19	WG2150570
cis-1,2-Dichloroethene	ND		1.00	1	10/16/2023 01:19	WG2150570
cis-1,3-Dichloropropene	ND		1.00	1	10/16/2023 01:19	WG2150570
trans-1,2-Dichloroethene	ND		1.00	1	10/16/2023 01:19	WG2150570
trans-1,3-Dichloropropene	ND		1.00	1	10/16/2023 01:19	WG2150570
trans-1,4-Dichloro-2-butene	ND		1.00	1	10/16/2023 01:19	WG2150570

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*105*			*67.0-138*	*10/16/2023 01:19*	WG2150570
(S) Toluene-d8	*100*			*75.0-131*	*10/16/2023 01:19*	WG2150570
(S) 1,2-Dichloroethane-d4	*97.1*			*70.0-130*	*10/16/2023 01:19*	WG2150570

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	48.41	su
pH (On Site)	7.27	su
Specific Conductance (on site)	1097	umhos/cm
Temperature (on-site)	12.8	Deg. C
Turbidity (on-site)	144	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	737		10.0	1	10/09/2023 11:03	WG2147641

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	165		4.00	1	10/10/2023 17:32	WG2147696

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	499		20.0	1	10/10/2023 12:17	WG2147302

Sample Narrative:

L1663305-03 WG2147302: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.431		0.100	1	10/09/2023 14:42	WG2147646

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	3.26		1.00	1	10/12/2023 00:50	WG2148966
Sulfate	148		5.00	1	10/12/2023 00:50	WG2148966

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	10/18/2023 18:04	WG2146867
Arsenic	0.00974		0.00200	1	10/18/2023 18:04	WG2146867
Barium	0.149		0.00500	1	10/18/2023 18:04	WG2146867
Beryllium	ND		0.00200	1	10/18/2023 18:04	WG2146867
Calcium	149		1.00	1	10/18/2023 18:04	WG2146867
Cadmium	ND		0.00100	1	10/18/2023 18:04	WG2146867
Cobalt	ND		0.00200	1	10/18/2023 18:04	WG2146867
Chromium	0.00282		0.00200	1	10/18/2023 18:04	WG2146867
Copper	0.00847		0.00500	1	10/18/2023 18:04	WG2146867
Iron	1.69		0.100	1	10/18/2023 18:04	WG2146867
Potassium	7.17		1.00	1	10/18/2023 18:04	WG2146867
Magnesium	44.0		1.00	1	10/18/2023 18:04	WG2146867
Sodium	65.5		1.00	1	10/18/2023 18:04	WG2146867
Nickel	0.00495		0.00200	1	10/18/2023 18:04	WG2146867
Lead	ND		0.00200	1	10/18/2023 18:04	WG2146867

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	10/18/2023 18:04	WG2146867
Selenium	ND		0.00200	1	10/18/2023 18:04	WG2146867
Thallium	ND		0.00200	1	10/18/2023 18:04	WG2146867
Vanadium	0.00667		0.00500	1	10/18/2023 18:04	WG2146867
Zinc	ND		0.0250	1	10/18/2023 18:04	WG2146867

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/11/2023 00:30	WG2148773
1,2,3-Trichloropropane	ND		0.00580	1	10/06/2023 18:48	WG2146310
1,1,1-Trichloroethane	ND		1.00	1	10/11/2023 00:30	WG2148773
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/06/2023 18:48	WG2146310
1,1,2,2-Tetrachloroethane	ND		0.300	1	10/11/2023 00:30	WG2148773
1,2-Dibromoethane	ND		0.0500	1	10/06/2023 18:48	WG2146310
1,1,2-Trichloroethane	ND		1.00	1	10/11/2023 00:30	WG2148773
1,1-Dichloroethane	ND		1.00	1	10/11/2023 00:30	WG2148773
1,1-Dichloroethene	ND		1.00	1	10/11/2023 00:30	WG2148773
1,2-Dichlorobenzene	ND		1.00	1	10/11/2023 00:30	WG2148773
1,2-Dichloroethane	ND		1.00	1	10/11/2023 00:30	WG2148773
1,2-Dichloropropane	ND		1.00	1	10/11/2023 00:30	WG2148773
1,4-Dichlorobenzene	ND		1.00	1	10/11/2023 00:30	WG2148773
2-Butanone (MEK)	ND		10.0	1	10/11/2023 00:30	WG2148773
2-Hexanone	ND		5.00	1	10/11/2023 00:30	WG2148773
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/11/2023 00:30	WG2148773
Acetone	ND		25.0	1	10/11/2023 00:30	WG2148773
Acrylonitrile	ND		0.320	1	10/11/2023 00:30	WG2148773
Benzene	ND		1.00	1	10/11/2023 00:30	WG2148773
Bromochloromethane	ND		1.00	1	10/11/2023 00:30	WG2148773
Bromodichloromethane	ND		1.00	1	10/11/2023 00:30	WG2148773
Bromoform	ND		1.00	1	10/11/2023 00:30	WG2148773
Bromomethane	ND		2.50	1	10/11/2023 00:30	WG2148773
Carbon disulfide	ND		1.00	1	10/11/2023 00:30	WG2148773
Carbon tetrachloride	ND		1.00	1	10/11/2023 00:30	WG2148773
Chlorobenzene	ND		1.00	1	10/11/2023 00:30	WG2148773
Chlorodibromomethane	ND		1.00	1	10/11/2023 00:30	WG2148773
Chloroethane	ND		2.50	1	10/11/2023 00:30	WG2148773
Chloroform	ND		1.00	1	10/11/2023 00:30	WG2148773
Chloromethane	ND		1.25	1	10/11/2023 00:30	WG2148773
Dibromomethane	ND		1.00	1	10/11/2023 00:30	WG2148773
Ethylbenzene	ND		1.00	1	10/11/2023 00:30	WG2148773
Iodomethane	ND		10.0	1	10/11/2023 00:30	WG2148773
Methylene Chloride	ND		2.50	1	10/11/2023 00:30	WG2148773
Styrene	ND		1.00	1	10/11/2023 00:30	WG2148773
Tetrachloroethene	ND		1.00	1	10/11/2023 00:30	WG2148773
Toluene	ND		1.00	1	10/11/2023 00:30	WG2148773
Trichloroethene	ND		1.00	1	10/11/2023 00:30	WG2148773
Trichlorofluoromethane	ND		2.50	1	10/11/2023 00:30	WG2148773
Vinyl acetate	ND	J3	5.00	1	10/11/2023 00:30	WG2148773
Vinyl chloride	ND		1.00	1	10/14/2023 14:24	WG2150324
Xylenes, Total	ND		1.50	1	10/11/2023 00:30	WG2148773
cis-1,2-Dichloroethene	ND		1.00	1	10/11/2023 00:30	WG2148773
cis-1,3-Dichloropropene	ND		1.00	1	10/11/2023 00:30	WG2148773
trans-1,2-Dichloroethene	ND		1.00	1	10/11/2023 00:30	WG2148773
trans-1,3-Dichloropropene	ND		1.00	1	10/11/2023 00:30	WG2148773
trans-1,4-Dichloro-2-butene	ND		1.00	1	10/11/2023 00:30	WG2148773

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*98.9*			*67.0-138*	*10/11/2023 00:30*	WG2148773
(S) 4-Bromofluorobenzene	*97.8*			*67.0-138*	*10/14/2023 14:24*	WG2150324
(S) Toluene-d8	*102*			*75.0-131*	*10/11/2023 00:30*	WG2148773
(S) Toluene-d8	*92.4*			*75.0-131*	*10/14/2023 14:24*	WG2150324
(S) 1,2-Dichloroethane-d4	*89.9*			*70.0-130*	*10/11/2023 00:30*	WG2148773
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*	*10/14/2023 14:24*	WG2150324

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	10/10/2023 23:12	WG2148773
1,2,3-Trichloropropane	ND		0.00580	1	10/06/2023 15:12	WG2146310
1,1,1-Trichloroethane	ND		1.00	1	10/10/2023 23:12	WG2148773
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/06/2023 15:12	WG2146310
1,1,2,2-Tetrachloroethane	ND		0.300	1	10/10/2023 23:12	WG2148773
1,2-Dibromoethane	ND		0.0500	1	10/06/2023 15:12	WG2146310
1,1,2-Trichloroethane	ND		1.00	1	10/10/2023 23:12	WG2148773
1,1-Dichloroethane	ND		1.00	1	10/10/2023 23:12	WG2148773
1,1-Dichloroethene	ND		1.00	1	10/10/2023 23:12	WG2148773
1,2-Dichlorobenzene	ND		1.00	1	10/10/2023 23:12	WG2148773
1,2-Dichloroethane	ND		1.00	1	10/10/2023 23:12	WG2148773
1,2-Dichloropropane	ND		1.00	1	10/10/2023 23:12	WG2148773
1,4-Dichlorobenzene	ND		1.00	1	10/10/2023 23:12	WG2148773
2-Butanone (MEK)	ND		10.0	1	10/10/2023 23:12	WG2148773
2-Hexanone	ND		5.00	1	10/10/2023 23:12	WG2148773
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	10/10/2023 23:12	WG2148773
Acetone	ND		25.0	1	10/10/2023 23:12	WG2148773
Acrylonitrile	ND		0.320	1	10/10/2023 23:12	WG2148773
Benzene	ND		1.00	1	10/10/2023 23:12	WG2148773
Bromochloromethane	ND		1.00	1	10/10/2023 23:12	WG2148773
Bromodichloromethane	ND		1.00	1	10/10/2023 23:12	WG2148773
Bromoform	ND		1.00	1	10/10/2023 23:12	WG2148773
Bromomethane	ND		2.50	1	10/10/2023 23:12	WG2148773
Carbon disulfide	ND		1.00	1	10/10/2023 23:12	WG2148773
Carbon tetrachloride	ND		1.00	1	10/10/2023 23:12	WG2148773
Chlorobenzene	ND		1.00	1	10/10/2023 23:12	WG2148773
Chlorodibromomethane	ND		1.00	1	10/10/2023 23:12	WG2148773
Chloroethane	ND		2.50	1	10/10/2023 23:12	WG2148773
Chloroform	ND		1.00	1	10/10/2023 23:12	WG2148773
Chloromethane	ND		1.25	1	10/10/2023 23:12	WG2148773
Dibromomethane	ND		1.00	1	10/10/2023 23:12	WG2148773
Ethylbenzene	ND		1.00	1	10/10/2023 23:12	WG2148773
Iodomethane	ND		10.0	1	10/10/2023 23:12	WG2148773
Methylene Chloride	ND		2.50	1	10/10/2023 23:12	WG2148773
Styrene	ND		1.00	1	10/10/2023 23:12	WG2148773
Tetrachloroethene	ND		1.00	1	10/10/2023 23:12	WG2148773
Toluene	ND		1.00	1	10/10/2023 23:12	WG2148773
Trichloroethene	ND		1.00	1	10/10/2023 23:12	WG2148773
Trichlorofluoromethane	ND		2.50	1	10/10/2023 23:12	WG2148773
Vinyl acetate	ND	J3	5.00	1	10/10/2023 23:12	WG2148773
Vinyl chloride	ND		1.00	1	10/14/2023 12:49	WG2150324
Xylenes, Total	ND		1.50	1	10/10/2023 23:12	WG2148773
cis-1,2-Dichloroethene	ND		1.00	1	10/10/2023 23:12	WG2148773
cis-1,3-Dichloropropene	ND		1.00	1	10/10/2023 23:12	WG2148773
trans-1,2-Dichloroethene	ND		1.00	1	10/10/2023 23:12	WG2148773
trans-1,3-Dichloropropene	ND		1.00	1	10/10/2023 23:12	WG2148773
trans-1,4-Dichloro-2-butene	ND		1.00	1	10/10/2023 23:12	WG2148773
(S) 4-Bromofluorobenzene	*98.9*			*67.0-138*	*10/10/2023 23:12*	WG2148773
(S) 4-Bromofluorobenzene	*102*			*67.0-138*	*10/14/2023 12:49*	WG2150324
(S) Toluene-d8	*101*			*75.0-131*	*10/10/2023 23:12*	WG2148773
(S) Toluene-d8	*94.2*			*75.0-131*	*10/14/2023 12:49*	WG2150324
(S) 1,2-Dichloroethane-d4	*86.1*			*70.0-130*	*10/10/2023 23:12*	WG2148773
(S) 1,2-Dichloroethane-d4	*107*			*70.0-130*	*10/14/2023 12:49*	WG2150324

Method Blank (MB)

(MB) R3984245-1 10/09/23 11:03

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	ND		2.82	10.0

L1664095-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1664095-02 10/09/23 11:03 • (DUP) R3984245-3 10/09/23 11:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	775	787	1	1.54		5

L1664095-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1664095-03 10/09/23 11:03 • (DUP) R3984245-4 10/09/23 11:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	719	736	1	2.38		5

Laboratory Control Sample (LCS)

(LCS) R3984245-2 10/09/23 11:03

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8910	101	77.3-123	

Method Blank (MB)

(MB) R3984765-1 10/10/23 17:32

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1662445-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1662445-01 10/10/23 17:32 • (DUP) R3984765-3 10/10/23 17:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	34.0	35.2	1	3.47		5

L1663305-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1663305-02 10/10/23 17:32 • (DUP) R3984765-4 10/10/23 17:32

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	460	478	1	3.73		5

Laboratory Control Sample (LCS)

(LCS) R3984765-2 10/10/23 17:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	800	103	85.7-114	

Method Blank (MB)

(MB) R3984306-2 10/10/23 08:51

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1663297-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1663297-01 10/10/23 09:16 • (DUP) R3984306-4 10/10/23 09:24

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	504	505	1	0.247		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1663057-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1663057-02 10/10/23 12:00 • (DUP) R3984306-6 10/10/23 12:11

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	364	368	1	1.05		20

Sample Narrative:

OS: Endpoint pH 4.5

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R3984306-1 10/10/23 08:42

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	100	100	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R3983871-1 10/09/23 14:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

L1663156-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1663156-01 10/09/23 14:14 • (DUP) R3983871-5 10/09/23 14:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.116	0.116	1	0.000		10

L1663319-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1663319-02 10/09/23 14:47 • (DUP) R3983871-7 10/09/23 14:48

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	3.49	3.45	1	1.18		10

Laboratory Control Sample (LCS)

(LCS) R3983871-2 10/09/23 14:02

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.28	97.1	90.0-110	

L1663155-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1663155-01 10/09/23 14:09 • (MS) R3983871-3 10/09/23 14:11 • (MSD) R3983871-4 10/09/23 14:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	ND	5.08	5.22	100	103	1	90.0-110			2.86	10

L1663319-01 Original Sample (OS) • Matrix Spike (MS)

(OS) L1663319-01 10/09/23 14:44 • (MS) R3983871-6 10/09/23 14:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	3.43	8.30	97.5	1	90.0-110	

Method Blank (MB)

(MB) R3986372-1 10/11/23 11:30

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.265		0.0519	1.00
Sulfate	0.339		0.0774	5.00

L1663122-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1663122-12 10/11/23 19:45 • (DUP) R3986372-6 10/11/23 19:58

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	274	273	1	0.272	E	15
Sulfate	83.5	83.2	1	0.361		15

L1663122-13 Original Sample (OS) • Duplicate (DUP)

(OS) L1663122-13 10/11/23 22:18 • (DUP) R3986372-9 10/11/23 22:31

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	154	152	1	1.42		15
Sulfate	24.2	23.6	1	2.71		15

Laboratory Control Sample (LCS)

(LCS) R3986372-2 10/11/23 11:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	40.0	100	80.0-120	
Sulfate	40.0	39.9	99.9	80.0-120	

L1663122-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1663122-12 10/11/23 19:45 • (MS) R3986372-7 10/11/23 20:11 • (MSD) R3986372-8 10/11/23 20:23

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	274	260	238	0.000	0.000	1	80.0-120	E V	E V	8.84	15
Sulfate	40.0	83.5	107	105	58.1	55.0	1	80.0-120	J6	J6	1.18	15

L1663122-13 Original Sample (OS) • Matrix Spike (MS)

(OS) L1663122-13 10/11/23 22:18 • (MS) R3986372-10 10/11/23 22:43

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	154	162	18.5	1	80.0-120	J6
Sulfate	40.0	24.2	57.9	84.2	1	80.0-120	

Method Blank (MB)

(MB) R3986596-1 10/16/23 03:59

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	ND		0.0774	5.00

L1664106-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1664106-01 10/16/23 04:24 • (DUP) R3986596-3 10/16/23 04:37

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	ND	ND	1	15.8	P1	15

Laboratory Control Sample (LCS)

(LCS) R3986596-2 10/16/23 04:12

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	40.1	100	80.0-120	

L1664106-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1664106-01 10/16/23 04:24 • (MS) R3986596-4 10/16/23 04:49 • (MSD) R3986596-5 10/16/23 05:02

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	ND	40.3	40.5	96.6	97.0	1	80.0-120			0.409	15

QUALITY CONTROL SUMMARY

L1663305-01,02,03

Method Blank (MB)

(MB) R3988013-1 10/18/23 16:28

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silver	ND		0.000250	0.00200
Arsenic	ND		0.000250	0.00200
Barium	0.000802	J	0.000360	0.00500
Beryllium	ND		0.000120	0.00200
Calcium	ND		0.0460	1.00
Cadmium	ND		0.000160	0.00100
Cobalt	ND		0.000260	0.00200
Chromium	ND		0.000540	0.00200
Copper	ND		0.000520	0.00500
Iron	ND		0.0150	0.100
Potassium	ND		0.0370	1.00
Magnesium	ND		0.100	1.00
Sodium	ND		0.110	1.00
Nickel	ND		0.000350	0.00200
Lead	0.000542		0.000240	0.00200
Antimony	ND		0.000754	0.00200
Selenium	ND		0.000380	0.00200
Thallium	ND		0.000190	0.00200
Vanadium	ND		0.000180	0.00500
Zinc	ND		0.00256	0.0250

Laboratory Control Sample (LCS)

(LCS) R3988013-2 10/18/23 16:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver	0.0500	0.0516	103	80.0-120	
Arsenic	0.0500	0.0528	106	80.0-120	
Barium	0.0500	0.0499	99.8	80.0-120	
Beryllium	0.0500	0.0500	100	80.0-120	
Calcium	5.00	5.11	102	80.0-120	
Cadmium	0.0500	0.0537	107	80.0-120	
Cobalt	0.0500	0.0517	103	80.0-120	
Chromium	0.0500	0.0513	103	80.0-120	
Copper	0.0500	0.0481	96.1	80.0-120	
Iron	1.00	1.03	103	80.0-120	
Potassium	5.00	5.00	100	80.0-120	
Magnesium	5.00	5.05	101	80.0-120	
Sodium	5.00	5.07	101	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R3988013-2 10/18/23 16:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nickel	0.0500	0.0522	104	80.0-120	
Lead	0.0500	0.0502	100	80.0-120	
Antimony	0.0500	0.0520	104	80.0-120	
Selenium	0.0500	0.0518	104	80.0-120	
Thallium	0.0500	0.0503	101	80.0-120	
Vanadium	0.0500	0.0513	103	80.0-120	
Zinc	0.0500	0.0507	101	80.0-120	

L1663354-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1663354-01 10/18/23 16:35 • (MS) R3988013-4 10/18/23 16:41 • (MSD) R3988013-5 10/18/23 16:45

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Silver	0.0500	ND	0.0516	0.0516	103	103	1	75.0-125			0.0228	20
Arsenic	0.0500	ND	0.0520	0.0509	104	102	1	75.0-125			2.09	20
Barium	0.0500	0.0152	0.0657	0.0646	101	98.9	1	75.0-125			1.65	20
Beryllium	0.0500	ND	0.0505	0.0506	101	101	1	75.0-125			0.156	20
Calcium	5.00	92.2	94.4	93.2	44.4	20.7	1	75.0-125	V	V	1.26	20
Cadmium	0.0500	ND	0.0531	0.0534	106	107	1	75.0-125			0.580	20
Cobalt	0.0500	ND	0.0499	0.0503	99.5	100	1	75.0-125			0.914	20
Chromium	0.0500	ND	0.0496	0.0485	99.1	96.9	1	75.0-125			2.22	20
Copper	0.0500	ND	0.0478	0.0479	95.5	95.8	1	75.0-125			0.272	20
Iron	1.00	ND	1.02	0.999	102	99.9	1	75.0-125			1.72	20
Potassium	5.00	2.22	7.14	6.99	98.4	95.3	1	75.0-125			2.19	20
Magnesium	5.00	2.03	6.96	6.96	98.6	98.6	1	75.0-125			0.0321	20
Sodium	5.00	37.4	40.8	41.9	67.9	90.0	1	75.0-125	V		2.67	20
Nickel	0.0500	ND	0.0507	0.0509	99.5	99.8	1	75.0-125			0.294	20
Lead	0.0500	ND	0.0492	0.0523	98.5	105	1	75.0-125			6.00	20
Antimony	0.0500	ND	0.0522	0.0535	104	107	1	75.0-125			2.40	20
Selenium	0.0500	ND	0.0521	0.0513	104	103	1	75.0-125			1.48	20
Thallium	0.0500	ND	0.0498	0.0519	99.6	104	1	75.0-125			4.14	20
Vanadium	0.0500	ND	0.0507	0.0499	101	99.8	1	75.0-125			1.51	20
Zinc	0.0500	ND	0.0536	0.0532	97.9	97.1	1	75.0-125			0.771	20

Method Blank (MB)

(MB) R3983648-2 10/06/23 14:27

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2,3-Trichloropropane	ND		0.00200	0.00500
1,2-Dibromo-3-Chloropropane	ND		0.000520	0.00500
1,2-Dibromoethane	ND		0.00410	0.00500

Laboratory Control Sample (LCS)

(LCS) R3983648-1 10/06/23 14:03

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,3-Trichloropropane	0.0500	0.0450	90.0	70.0-130	
1,2-Dibromo-3-Chloropropane	0.0500	0.0480	96.0	70.0-130	
1,2-Dibromoethane	0.0500	0.0440	88.0	70.0-130	

Method Blank (MB)

(MB) R3985504-3 10/10/23 22:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.0379	0.100
1,1,1-Trichloroethane	ND		0.0369	0.100
1,1,2,2-Tetrachloroethane	ND		0.0278	0.100
1,1,2-Trichloroethane	ND		0.0239	0.100
1,1-Dichloroethane	ND		0.0196	0.100
1,1-Dichloroethene	ND		0.0242	0.100
1,2-Dichlorobenzene	ND		0.0170	0.200
1,2-Dichloroethane	ND		0.0260	0.100
1,2-Dichloropropane	ND		0.0568	0.200
1,4-Dichlorobenzene	ND		0.0280	0.200
2-Butanone (MEK)	ND		2.54	4.00
2-Hexanone	ND		0.134	1.00
4-Methyl-2-pentanone (MIBK)	ND		0.0912	1.00
Acetone	ND		1.46	2.00
Acrylonitrile	ND		0.144	0.500
Benzene	ND		0.0187	0.0400
Bromochloromethane	ND		0.0226	0.200
Bromodichloromethane	ND		0.0290	0.100
Bromoform	ND		0.0468	1.00
Bromomethane	ND		0.0788	0.500
Carbon disulfide	ND		0.0280	0.500
Carbon tetrachloride	ND		0.0359	0.200
Chlorobenzene	ND		0.00840	0.100
Chlorodibromomethane	ND		0.0245	0.100
Chloroethane	ND		0.0680	0.200
Chloroform	ND		0.0412	0.100
Chloromethane	ND		0.174	0.500
Dibromomethane	ND		0.0300	0.200
Ethylbenzene	ND		0.0295	0.100
Iodomethane	ND		0.0928	0.500
Methylene Chloride	ND		0.266	1.00
Styrene	ND		0.00916	0.500
Tetrachloroethene	ND		0.0358	0.100
Toluene	ND		0.0520	0.200
Trichloroethene	ND		0.0234	0.0400
Trichlorofluoromethane	ND		0.0331	0.100
Vinyl acetate	ND		0.102	0.500
Xylenes, Total	ND		0.0352	0.260
cis-1,2-Dichloroethene	ND		0.0294	0.100
cis-1,3-Dichloropropene	ND		0.0303	0.100

Method Blank (MB)

(MB) R3985504-3 10/10/23 22:41

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
trans-1,2-Dichloroethene	ND		0.0416	0.200
trans-1,3-Dichloropropene	ND		0.0456	0.200
trans-1,4-Dichloro-2-butene	ND		0.0744	0.200
(S) 4-Bromofluorobenzene	*103*			*67.0-138*
(S) Toluene-d8	*99.5*			*75.0-131*
(S) 1,2-Dichloroethane-d4	*90.9*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3985504-1 10/10/23 20:19 • (LCSD) R3985504-2 10/10/23 20:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	5.49	5.40	110	108	74.0-129			1.65	20
1,1,1-Trichloroethane	5.00	5.70	5.71	114	114	69.0-126			0.175	20
1,1,2,2-Tetrachloroethane	5.00	4.92	5.03	98.4	101	68.0-128			2.21	20
1,1,2-Trichloroethane	5.00	5.37	5.56	107	111	78.0-123			3.48	20
1,1-Dichloroethane	5.00	5.29	5.19	106	104	70.0-127			1.91	20
1,1-Dichloroethene	5.00	5.34	5.37	107	107	65.0-131			0.560	20
1,2-Dichlorobenzene	5.00	5.58	5.58	112	112	76.0-124			0.000	20
1,2-Dichloroethane	5.00	5.21	5.22	104	104	65.0-131			0.192	20
1,2-Dichloropropane	5.00	5.30	5.31	106	106	74.0-125			0.189	20
1,4-Dichlorobenzene	5.00	5.48	5.49	110	110	77.0-121			0.182	20
2-Butanone (MEK)	25.0	24.7	24.3	98.8	97.2	30.0-160			1.63	24
2-Hexanone	25.0	26.1	26.8	104	107	54.0-147			2.65	20
4-Methyl-2-pentanone (MIBK)	25.0	26.0	25.8	104	103	56.0-143			0.772	20
Acetone	25.0	23.7	24.4	94.8	97.6	10.0-160			2.91	31
Acrylonitrile	25.0	28.1	27.1	112	108	45.0-153			3.62	22
Benzene	5.00	5.58	5.36	112	107	70.0-123			4.02	20
Bromochloromethane	5.00	6.03	5.91	121	118	77.0-128			2.01	20
Bromodichloromethane	5.00	5.40	5.36	108	107	73.0-121			0.744	20
Bromoform	5.00	5.17	5.34	103	107	64.0-132			3.24	20
Bromomethane	5.00	6.32	5.93	126	119	56.0-147			6.37	20
Carbon disulfide	5.00	5.34	5.22	107	104	56.0-133			2.27	20
Carbon tetrachloride	5.00	5.61	5.69	112	114	66.0-128			1.42	20
Chlorobenzene	5.00	5.62	5.65	112	113	76.0-128			0.532	20
Chlorodibromomethane	5.00	5.14	5.30	103	106	74.0-127			3.07	20
Chloroethane	5.00	5.69	5.34	114	107	61.0-134			6.35	20
Chloroform	5.00	5.49	5.46	110	109	72.0-123			0.548	20
Chloromethane	5.00	5.23	5.30	105	106	51.0-138			1.33	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3985504-1 10/10/23 20:19 • (LCSD) R3985504-2 10/10/23 20:39

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Dibromomethane	5.00	5.20	5.16	104	103	75.0-122			0.772	20
Ethylbenzene	5.00	5.57	5.43	111	109	74.0-126			2.55	20
Iodomethane	25.0	29.4	28.6	118	114	74.0-134			2.76	20
Methylene Chloride	5.00	5.82	5.85	116	117	68.0-123			0.514	20
Styrene	5.00	5.54	5.32	111	106	72.0-127			4.05	20
Tetrachloroethene	5.00	6.03	6.08	121	122	70.0-136			0.826	20
Toluene	5.00	5.70	5.49	114	110	75.0-121			3.75	20
Trichloroethene	5.00	5.90	5.63	118	113	76.0-126			4.68	20
Trichlorofluoromethane	5.00	5.93	5.98	119	120	61.0-142			0.840	20
Vinyl acetate	25.0	19.1	29.4	76.4	118	43.0-159		J3	42.5	20
Xylenes, Total	15.0	16.4	16.1	109	107	72.0-127			1.85	20
cis-1,2-Dichloroethene	5.00	5.73	5.46	115	109	73.0-125			4.83	20
cis-1,3-Dichloropropene	5.00	5.02	5.19	100	104	76.0-127			3.33	20
trans-1,2-Dichloroethene	5.00	5.63	5.61	113	112	71.0-125			0.356	20
trans-1,3-Dichloropropene	5.00	5.14	5.24	103	105	73.0-127			1.93	20
trans-1,4-Dichloro-2-butene	5.00	4.32	4.30	86.4	86.0	45.0-143			0.464	20
(S) 4-Bromofluorobenzene				*99.4*	*96.9*	*67.0-138*				
(S) Toluene-d8				*100*	*97.5*	*75.0-131*				
(S) 1,2-Dichloroethane-d4				*94.5*	*96.1*	*70.0-130*				

Method Blank (MB)

(MB) R3987644-2 10/14/23 10:32

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
Vinyl chloride	ND		0.0462	0.0500
(S) 4-Bromofluorobenzene	*102*			*67.0-138*
(S) Toluene-d8	*94.4*			*75.0-131*
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3987644-1 10/14/23 09:35

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Vinyl chloride	5.00	5.26	105	63.0-134	
(S) 4-Bromofluorobenzene			*103*	*67.0-138*	
(S) Toluene-d8			*94.0*	*75.0-131*	
(S) 1,2-Dichloroethane-d4			*109*	*70.0-130*	

Method Blank (MB)

(MB) R3987342-3 10/16/23 00:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.0379	0.100
1,1,1-Trichloroethane	ND		0.0369	0.100
1,1,2,2-Tetrachloroethane	ND		0.0278	0.100
1,1,2-Trichloroethane	ND		0.0239	0.100
1,1-Dichloroethane	ND		0.0196	0.100
1,1-Dichloroethene	ND		0.0242	0.100
1,2-Dichlorobenzene	ND		0.0170	0.200
1,2-Dichloroethane	ND		0.0260	0.100
1,2-Dichloropropane	ND		0.0568	0.200
1,4-Dichlorobenzene	ND		0.0280	0.200
2-Butanone (MEK)	ND		2.54	4.00
2-Hexanone	ND		0.134	1.00
4-Methyl-2-pentanone (MIBK)	ND		0.0912	1.00
Acetone	ND		1.46	2.00
Acrylonitrile	ND		0.144	0.500
Benzene	ND		0.0187	0.0400
Bromochloromethane	ND		0.0226	0.200
Bromodichloromethane	ND		0.0290	0.100
Bromoform	ND		0.0468	1.00
Bromomethane	ND		0.0788	0.500
Carbon disulfide	ND		0.0280	0.500
Carbon tetrachloride	ND		0.0359	0.200
Chlorobenzene	ND		0.00840	0.100
Chlorodibromomethane	ND		0.0245	0.100
Chloroethane	ND		0.0680	0.200
Chloroform	ND		0.0412	0.100
Chloromethane	ND		0.174	0.500
Dibromomethane	ND		0.0300	0.200
Ethylbenzene	ND		0.0295	0.100
Iodomethane	ND		0.0928	0.500
Methylene Chloride	ND		0.266	1.00
Styrene	ND		0.00916	0.500
Tetrachloroethene	ND		0.0358	0.100
Toluene	ND		0.0520	0.200
Trichloroethene	ND		0.0234	0.0400
Trichlorofluoromethane	ND		0.0331	0.100
Vinyl acetate	ND		0.102	0.500
Vinyl chloride	ND		0.0462	0.0500
Xylenes, Total	ND		0.0352	0.260
cis-1,2-Dichloroethene	ND		0.0294	0.100

Method Blank (MB)

(MB) R3987342-3 10/16/23 00:06

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
cis-1,3-Dichloropropene	ND		0.0303	0.100
trans-1,2-Dichloroethene	ND		0.0416	0.200
trans-1,3-Dichloropropene	ND		0.0456	0.200
trans-1,4-Dichloro-2-butene	ND		0.0744	0.200
(S) 4-Bromofluorobenzene	*101*			*67.0-138*
(S) Toluene-d8	*102*			*75.0-131*
(S) 1,2-Dichloroethane-d4	*93.4*			*70.0-130*

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3987342-1 10/15/23 22:32 • (LCSD) R3987342-2 10/15/23 22:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1,2-Tetrachloroethane	5.00	5.36	5.18	107	104	74.0-129			3.42	20
1,1,1-Trichloroethane	5.00	5.05	5.05	101	101	69.0-126			0.000	20
1,1,2,2-Tetrachloroethane	5.00	5.40	5.27	108	105	68.0-128			2.44	20
1,1,2-Trichloroethane	5.00	5.37	5.16	107	103	78.0-123			3.99	20
1,1-Dichloroethane	5.00	5.55	5.61	111	112	70.0-127			1.08	20
1,1-Dichloroethene	5.00	5.43	5.55	109	111	65.0-131			2.19	20
1,2-Dichlorobenzene	5.00	5.37	5.34	107	107	76.0-124			0.560	20
1,2-Dichloroethane	5.00	4.60	4.37	92.0	87.4	65.0-131			5.13	20
1,2-Dichloropropane	5.00	5.89	5.80	118	116	74.0-125			1.54	20
1,4-Dichlorobenzene	5.00	5.60	5.48	112	110	77.0-121			2.17	20
2-Butanone (MEK)	25.0	26.6	29.1	106	116	30.0-160			8.98	24
2-Hexanone	25.0	31.4	30.7	126	123	54.0-147			2.25	20
4-Methyl-2-pentanone (MIBK)	25.0	31.8	30.6	127	122	56.0-143			3.85	20
Acetone	25.0	20.3	20.1	81.2	80.4	10.0-160			0.990	31
Acrylonitrile	25.0	29.2	27.5	117	110	45.0-153			6.00	22
Benzene	5.00	5.49	5.49	110	110	70.0-123			0.000	20
Bromochloromethane	5.00	4.99	4.82	99.8	96.4	77.0-128			3.47	20
Bromodichloromethane	5.00	5.44	5.25	109	105	73.0-121			3.55	20
Bromoform	5.00	4.62	4.48	92.4	89.6	64.0-132			3.08	20
Bromomethane	5.00	3.60	3.59	72.0	71.8	56.0-147			0.278	20
Carbon disulfide	5.00	5.13	5.17	103	103	56.0-133			0.777	20
Carbon tetrachloride	5.00	5.07	5.17	101	103	66.0-128			1.95	20
Chlorobenzene	5.00	5.36	5.23	107	105	76.0-128			2.46	20
Chlorodibromomethane	5.00	5.20	5.09	104	102	74.0-127			2.14	20
Chloroethane	5.00	4.50	4.59	90.0	91.8	61.0-134			1.98	20
Chloroform	5.00	4.94	4.89	98.8	97.8	72.0-123			1.02	20

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3987342-1 10/15/23 22:32 • (LCSD) R3987342-2 10/15/23 22:51

Analyte	Spike Amount ug/l	LCS Result ug/l	LCSD Result ug/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Chloromethane	5.00	5.30	5.31	106	106	51.0-138			0.189	20
Dibromomethane	5.00	4.78	4.77	95.6	95.4	75.0-122			0.209	20
Ethylbenzene	5.00	5.32	5.37	106	107	74.0-126			0.935	20
Iodomethane	25.0	21.5	20.8	86.0	83.2	74.0-134			3.31	20
Methylene Chloride	5.00	4.77	4.78	95.4	95.6	68.0-123			0.209	20
Styrene	5.00	4.74	4.75	94.8	95.0	72.0-127			0.211	20
Tetrachloroethene	5.00	5.59	5.45	112	109	70.0-136			2.54	20
Toluene	5.00	5.45	5.36	109	107	75.0-121			1.67	20
Trichloroethene	5.00	5.24	5.36	105	107	76.0-126			2.26	20
Trichlorofluoromethane	5.00	5.75	5.88	115	118	61.0-142			2.24	20
Vinyl acetate	25.0	32.2	32.4	129	130	43.0-159			0.619	20
Vinyl chloride	5.00	4.93	5.02	98.6	100	63.0-134			1.81	20
Xylenes, Total	15.0	14.4	16.4	96.0	109	72.0-127			13.0	20
cis-1,2-Dichloroethene	5.00	5.20	5.23	104	105	73.0-125			0.575	20
cis-1,3-Dichloropropene	5.00	5.83	5.94	117	119	76.0-127			1.87	20
trans-1,2-Dichloroethene	5.00	5.27	5.14	105	103	71.0-125			2.50	20
trans-1,3-Dichloropropene	5.00	5.74	5.56	115	111	73.0-127			3.19	20
trans-1,4-Dichloro-2-butene	5.00	6.13	5.92	123	118	45.0-143			3.49	20
(S) 4-Bromofluorobenzene				*100*	*102*	*67.0-138*				
(S) Toluene-d8				*102*	*102*	*75.0-131*				
(S) 1,2-Dichloroethane-d4				*96.6*	*96.8*	*70.0-130*				

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J	The identification of the analyte is acceptable; the reported value is an estimate.
J3	The associated batch QC was outside the established quality control range for precision.
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
P1	RPD value not applicable for sample concentrations less than 5 times the reporting limit.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: **Todd Halbersma**

Email To: **chris.kaiser@stantec.com;cory.anderson2@stan**

Project Description: **Central Disposal Systems, Inc. Landfill**

City/State Collected: **Lk Mills, Iowa**

Please Circle: PT MT (CT) ET

Phone: **763-479-5185**

Client Project # **IA02**

Lab Project # **WMCENIA-00008**

Collected by (print): **Tim MacDonald**

Site/Facility ID # **IA02**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Quote #

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK,CHLORIDE,SULFATE 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	TDS 1L-HDPE NoPres	TSS 1L-HDPE NoPres	V524LL 40mlAmb-AscAcid+HCl	V524LL 40mlAmb-HCl-Blk	V8260ULL 40mlAmb-HCl	V8260ULL 40mlAmb-HCl-Blk			
MW-134	Grab	GW	—	10/3/23 FIOLS	15:18	11	X	X	X	X	X	X		X				-01
MW-135	Grab	GW	—	10/3/23	15:50	11	X	X	X	X	X	X		X				-02
MW-136	Grab	GW	—	10/3/23	13:11	11	X	X	X	X	X	X		X				-03
Trip Blank		GW				2							X		X			-04

Chain of Custody Page ___ of ___

Pace PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 163305
B072

Acctnum: **WMCENIA**
Template: **T231655**
Prelogin: **P1025988**
PM: 364 - T. Alan Harvill
PB: 9/23/23

Shipped Via: **FedEX Ground**

Remarks | Sample # (lab only)

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via: __UPS __FedEx __Courier _____

Tracking # 5318 9944 9399

Sample Receipt Checklist

COC Seal Present/Intact:	NP	Y N
COC Signed/Accurate:		Y N
Bottles arrive intact:		Y N
Correct bottles used:		Y N
Sufficient volume sent:		Y N
If Applicable		
VOA Zero Headspace:		Y N
Preservation Correct/Checked:		Y N
RAD Screen <0.5 mR/hr:		Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: (Yes) / No HCL / MeoH TBR	If preservation required by Login: Date/Time
Tim MacDonald	10/3/23	1930h		2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received: CCAS 3.8+0.3	8
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 10-5-23 Time: 9:00	Hold: / Condition: NCF / OK

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: | | | | |

Sample Point: MW-134 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1663305

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
	1422				

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: Y or N

Filter Device: Y or N — 0.45 µ or ____ µ (circle or fill in)

Purging Device: ____ Sampling Device: ____

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

Filter Type: ____ A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

X-Other: ____

Sample Tube Type: ____ A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	34.86	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
58.1			

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit GPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1433	.35 1st	7.15 1st	1783 1st	10.4		3.6	11	
1444	.35 2nd	7.22 2nd	1798 2nd	10.6		3.7	-112	
1454	~~.35~~ 0.1 3rd	7.24 3rd	1760 3rd	11.0	312	3.6	-132	
	TM 4th	4th	4th					
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: ____ Odor: None Color: ____ Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: 10-15 mph Outlook: Sunny Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

- Well went dry @ 1454 allowed to recover for sample collection. Sample collect @ 1518 hrs

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
10/8/24	Tim MacDonald		Alliance MSP

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: ____ Sample Point: MW-135 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1663305

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
10/3/23	1335	:	3.6		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Purging Device: C — Sampling Device: C — X-Other:

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

Filter Device: Y or (N) — 0.45 µ or ____ µ (circle or fill in)

Filter Type: A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

Sample Tube Type: A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	51.59	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
74.1		2	

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

	Sample Time (2400 Hr Clock)	Rate/Unit GPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1st	1314	.4	6.89 TH	1563	10.7	313	3.4	374	
2nd	1353	.4	7.08	1554	10.9	187	2.9	312	
3rd	1402	.4	7.13	1560	13.0	164	2.2	212	
4th									
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: ____ Odor: None Color: ____ Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: 10-15 mph NNE Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required):

FIELD COMMENTS

Well went dry @ about 2.5 volumes
allowed to recharge to 1550 hrs sampled
@ 1550 hrs

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
10/3/23	Tim MacDonald	(signature)	Alliance MSP

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: ____ Sample Point: MW136 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1663305

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
10 03 23	12:32	:	51		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or [N]

Purging Device: C — Sampling Device: C

A- Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

X-Other: ____

Filter Device: [Y] or (N) — [0.45 µ] or [ ] µ (circle or fill in)

Filter Type: [ ] — A-In-line Disposable, B-Pressure, C-Vacuum, X-Other ____

Sample Tube Type: [ ] — A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other: ____

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	48.41 (ft)	(ft/msl)

Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID	Casing Material
80.4 (ft)	(ft)	2 (in)	

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit 6PM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
12:45	0.4 1st	7.25 1st	1096	13.1	212.-	2.0	1.0	
12:59	0.4 2nd	7.21 2nd	1091	13.0	166.0	1.8	-6.3	
13:11	0.4 3rd	7.27 3rd	1097	12.8	144.-	1.7	-10.8	
	4th	4th					~~-10.8~~ Pro	
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____
10 03 23	7.27	1097	12.8	144	1.7	-10.8	

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

Sample Appearance: ____ Odor: None Color: Lt. Grey Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: 10-15 MPH NNW Outlook: Sunny Precipitation: Y or (N)

Specific Comments (including purge/well volume calculations if required): ____

FIELD COMMENTS

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
10/3/23	Tim MacDonald		alliance MSP

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

ANALYTICAL REPORT

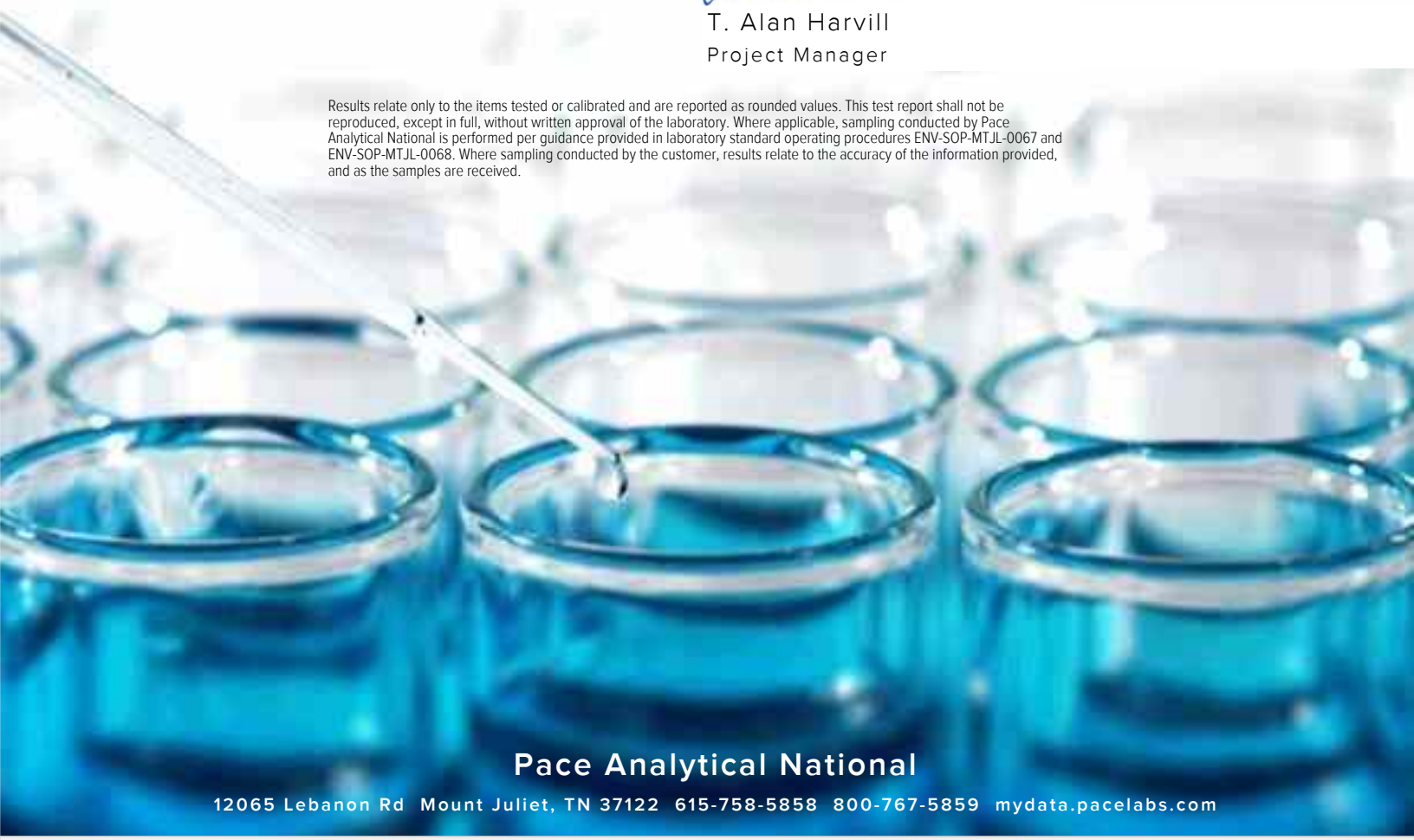
May 13, 2024

Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1730115
Samples Received:	04/26/2024
Project Number:	200
Description:	Central Disposal Systems, Inc. Landfill
Site:	IA02
Report To:	Todd Halbersma 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

MW-134 L1730115-01 GW

Collected by: Mike H. | Collected date/time: 04/25/24 12:00 | Received date/time: 04/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2275893	1	04/28/24 02:15	04/29/24 12:53	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2277619	1	04/30/24 17:20	05/02/24 17:00	JAC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2277355	1	05/01/24 13:21	05/01/24 13:21	KA	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2277052	1	05/01/24 14:29	05/01/24 14:29	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2278742	1	05/03/24 15:26	05/03/24 15:26	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2283110	10	05/09/24 16:01	05/09/24 16:01	GEB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2276140	1	05/03/24 01:29	05/03/24 17:26	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2276372	1	04/30/24 20:14	04/30/24 20:14	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2278860	1	05/02/24 17:50	05/02/24 17:50	DWR	Mt. Juliet, TN

MW-135 L1730115-02 GW

Collected by: Mike H. | Collected date/time: 04/25/24 12:30 | Received date/time: 04/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2275893	1	04/28/24 02:15	04/29/24 12:53	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2277619	1	04/30/24 17:20	05/02/24 17:00	JAC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2277355	1	05/01/24 13:27	05/01/24 13:27	KA	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2277052	1	05/01/24 14:35	05/01/24 14:35	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2278742	1	05/03/24 16:21	05/03/24 16:21	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2283110	1	05/09/24 16:14	05/09/24 16:14	GEB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2276140	1	05/03/24 01:29	05/03/24 17:29	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2276372	1	04/30/24 20:35	04/30/24 20:35	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2278860	1	05/02/24 18:10	05/02/24 18:10	DWR	Mt. Juliet, TN

MW-136 L1730115-03 GW

Collected by: Mike H. | Collected date/time: 04/25/24 11:45 | Received date/time: 04/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2275893	1	04/28/24 02:15	04/29/24 12:53	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2277619	1	04/30/24 17:20	05/02/24 17:00	JAC	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2277355	1	05/01/24 13:34	05/01/24 13:34	KA	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2277052	1	05/01/24 14:36	05/01/24 14:36	BMD	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2278742	1	05/03/24 16:49	05/03/24 16:49	GEB	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2283110	1	05/09/24 16:52	05/09/24 16:52	GEB	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2276140	1	05/03/24 01:29	05/03/24 17:32	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2276372	1	04/30/24 20:56	04/30/24 20:56	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2278860	1	05/02/24 18:29	05/02/24 18:29	DWR	Mt. Juliet, TN

Trip Blank L1730115-04 GW

Collected by: Mike H. | Collected date/time: 04/25/24 00:00 | Received date/time: 04/26/24 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2276372	1	04/30/24 17:06	04/30/24 17:06	BRA	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2278860	1	05/02/24 13:02	05/02/24 13:02	ACG	Mt. Juliet, TN

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Wet Chemistry by Method 9056A

The sample matrix interfered with the ability to make any accurate determination; spike value is low.

Batch	Lab Sample ID	Analytes
WG2283110	(MS) R4068405-4, (MSD) R4068405-5	Sulfate

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2283110	(MS) R4068405-7	Sulfate

Metals (ICPMS) by Method 6020

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2276140	(MSD) R4065640-5	Sodium

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	33.03	su
pH (On Site)	7.23	su
Specific Conductance (on site)	1874	umhos/cm
Temperature (on-site)	12.5	Deg. C
Turbidity (on-site)	65	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1120		10.0	1	04/29/2024 12:53	WG2275893

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	46.0		4.00	1	05/02/2024 17:00	WG2277619

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	522		20.0	1	05/01/2024 13:21	WG2277355

Sample Narrative:

L1730115-01 WG2277355: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.877		0.100	1	05/01/2024 14:29	WG2277052

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	7.18		1.00	1	05/03/2024 15:26	WG2278742
Sulfate	675		5.00	10	05/09/2024 16:01	WG2283110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	05/03/2024 17:26	WG2276140
Arsenic	0.0285		0.00200	1	05/03/2024 17:26	WG2276140
Barium	0.0237		0.00500	1	05/03/2024 17:26	WG2276140
Beryllium	ND		0.00200	1	05/03/2024 17:26	WG2276140
Calcium	202		1.00	1	05/03/2024 17:26	WG2276140
Cadmium	ND		0.00100	1	05/03/2024 17:26	WG2276140
Cobalt	ND		0.00200	1	05/03/2024 17:26	WG2276140
Chromium	ND		0.00200	1	05/03/2024 17:26	WG2276140
Copper	ND		0.00500	1	05/03/2024 17:26	WG2276140
Iron	3.90		0.100	1	05/03/2024 17:26	WG2276140
Potassium	10.5		1.00	1	05/03/2024 17:26	WG2276140
Magnesium	55.8		1.00	1	05/03/2024 17:26	WG2276140
Sodium	146		1.00	1	05/03/2024 17:26	WG2276140
Nickel	ND		0.00200	1	05/03/2024 17:26	WG2276140
Lead	ND		0.00200	1	05/03/2024 17:26	WG2276140

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	05/03/2024 17:26	WG2276140
Selenium	ND		0.00200	1	05/03/2024 17:26	WG2276140
Thallium	ND		0.00200	1	05/03/2024 17:26	WG2276140
Vanadium	ND		0.00500	1	05/03/2024 17:26	WG2276140
Zinc	ND		0.0250	1	05/03/2024 17:26	WG2276140

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	05/02/2024 17:50	WG2278860
1,2,3-Trichloropropane	ND		0.00580	1	04/30/2024 20:14	WG2276372
1,1,1-Trichloroethane	ND		1.00	1	05/02/2024 17:50	WG2278860
1,2-Dibromo-3-Chloropropane	ND		0.200	1	04/30/2024 20:14	WG2276372
1,1,2,2-Tetrachloroethane	ND		0.300	1	05/02/2024 17:50	WG2278860
1,2-Dibromoethane	ND		0.0500	1	04/30/2024 20:14	WG2276372
1,1,2-Trichloroethane	ND		1.00	1	05/02/2024 17:50	WG2278860
1,1-Dichloroethane	ND		1.00	1	05/02/2024 17:50	WG2278860
1,1-Dichloroethene	ND		1.00	1	05/02/2024 17:50	WG2278860
1,2-Dichlorobenzene	ND		1.00	1	05/02/2024 17:50	WG2278860
1,2-Dichloroethane	ND		1.00	1	05/02/2024 17:50	WG2278860
1,2-Dichloropropane	ND		1.00	1	05/02/2024 17:50	WG2278860
1,4-Dichlorobenzene	ND		1.00	1	05/02/2024 17:50	WG2278860
2-Butanone (MEK)	ND		10.0	1	05/02/2024 17:50	WG2278860
2-Hexanone	ND		5.00	1	05/02/2024 17:50	WG2278860
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	05/02/2024 17:50	WG2278860
Acetone	ND		25.0	1	05/02/2024 17:50	WG2278860
Acrylonitrile	ND		0.320	1	05/02/2024 17:50	WG2278860
Benzene	ND		1.00	1	05/02/2024 17:50	WG2278860
Bromochloromethane	ND		1.00	1	05/02/2024 17:50	WG2278860
Bromodichloromethane	ND		1.00	1	05/02/2024 17:50	WG2278860
Bromoform	ND		1.00	1	05/02/2024 17:50	WG2278860
Bromomethane	ND		2.50	1	05/02/2024 17:50	WG2278860
Carbon disulfide	ND		1.00	1	05/02/2024 17:50	WG2278860
Carbon tetrachloride	ND		1.00	1	05/02/2024 17:50	WG2278860
Chlorobenzene	ND		1.00	1	05/02/2024 17:50	WG2278860
Chlorodibromomethane	ND		1.00	1	05/02/2024 17:50	WG2278860
Chloroethane	ND		2.50	1	05/02/2024 17:50	WG2278860
Chloroform	ND		1.00	1	05/02/2024 17:50	WG2278860
Chloromethane	ND		1.25	1	05/02/2024 17:50	WG2278860
Dibromomethane	ND		1.00	1	05/02/2024 17:50	WG2278860
Ethylbenzene	ND		1.00	1	05/02/2024 17:50	WG2278860
Iodomethane	ND		10.0	1	05/02/2024 17:50	WG2278860
Methylene Chloride	ND		2.50	1	05/02/2024 17:50	WG2278860
Styrene	ND		1.00	1	05/02/2024 17:50	WG2278860
Tetrachloroethene	ND		1.00	1	05/02/2024 17:50	WG2278860
Toluene	ND		1.00	1	05/02/2024 17:50	WG2278860
Trichloroethene	ND		1.00	1	05/02/2024 17:50	WG2278860
Trichlorofluoromethane	ND		2.50	1	05/02/2024 17:50	WG2278860
Vinyl acetate	ND		5.00	1	05/02/2024 17:50	WG2278860
Vinyl chloride	ND		1.00	1	05/02/2024 17:50	WG2278860
Xylenes, Total	ND		1.50	1	05/02/2024 17:50	WG2278860
cis-1,2-Dichloroethene	ND		1.00	1	05/02/2024 17:50	WG2278860
cis-1,3-Dichloropropene	ND		1.00	1	05/02/2024 17:50	WG2278860
trans-1,2-Dichloroethene	ND		1.00	1	05/02/2024 17:50	WG2278860
trans-1,3-Dichloropropene	ND		1.00	1	05/02/2024 17:50	WG2278860
trans-1,4-Dichloro-2-butene	ND		1.00	1	05/02/2024 17:50	WG2278860

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*106*			*67.0-138*	*05/02/2024 17:50*	WG2278860
(S) Toluene-d8	*109*			*75.0-131*	*05/02/2024 17:50*	WG2278860
(S) 1,2-Dichloroethane-d4	*89.7*			*70.0-130*	*05/02/2024 17:50*	WG2278860

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	50.24	su
pH (On Site)	7.34	su
Specific Conductance (on site)	1184	umhos/cm
Temperature (on-site)	12.9	Deg. C
Turbidity (on-site)	35	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	644		10.0	1	04/29/2024 12:53	WG2275893

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	98.8		4.00	1	05/02/2024 17:00	WG2277619

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	426		20.0	1	05/01/2024 13:27	WG2277355

Sample Narrative:

L1730115-02 WG2277355: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.165		0.100	1	05/01/2024 14:35	WG2277052

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	46.7		1.00	1	05/03/2024 16:21	WG2278742
Sulfate	157		5.00	1	05/09/2024 16:14	WG2283110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	05/03/2024 17:29	WG2276140
Arsenic	0.00533		0.00200	1	05/03/2024 17:29	WG2276140
Barium	0.0996		0.00500	1	05/03/2024 17:29	WG2276140
Beryllium	ND		0.00200	1	05/03/2024 17:29	WG2276140
Calcium	107		1.00	1	05/03/2024 17:29	WG2276140
Cadmium	ND		0.00100	1	05/03/2024 17:29	WG2276140
Cobalt	ND		0.00200	1	05/03/2024 17:29	WG2276140
Chromium	ND		0.00200	1	05/03/2024 17:29	WG2276140
Copper	ND		0.00500	1	05/03/2024 17:29	WG2276140
Iron	1.07		0.100	1	05/03/2024 17:29	WG2276140
Potassium	9.19		1.00	1	05/03/2024 17:29	WG2276140
Magnesium	34.7		1.00	1	05/03/2024 17:29	WG2276140
Sodium	83.6		1.00	1	05/03/2024 17:29	WG2276140
Nickel	0.00240		0.00200	1	05/03/2024 17:29	WG2276140
Lead	ND		0.00200	1	05/03/2024 17:29	WG2276140

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	05/03/2024 17:29	WG2276140
Selenium	ND		0.00200	1	05/03/2024 17:29	WG2276140
Thallium	ND		0.00200	1	05/03/2024 17:29	WG2276140
Vanadium	ND		0.00500	1	05/03/2024 17:29	WG2276140
Zinc	ND		0.0250	1	05/03/2024 17:29	WG2276140

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	05/02/2024 18:10	WG2278860
1,2,3-Trichloropropane	ND		0.00580	1	04/30/2024 20:35	WG2276372
1,1,1-Trichloroethane	ND		1.00	1	05/02/2024 18:10	WG2278860
1,2-Dibromo-3-Chloropropane	ND		0.200	1	04/30/2024 20:35	WG2276372
1,1,2,2-Tetrachloroethane	ND		0.300	1	05/02/2024 18:10	WG2278860
1,2-Dibromoethane	ND		0.0500	1	04/30/2024 20:35	WG2276372
1,1,2-Trichloroethane	ND		1.00	1	05/02/2024 18:10	WG2278860
1,1-Dichloroethane	ND		1.00	1	05/02/2024 18:10	WG2278860
1,1-Dichloroethene	ND		1.00	1	05/02/2024 18:10	WG2278860
1,2-Dichlorobenzene	ND		1.00	1	05/02/2024 18:10	WG2278860
1,2-Dichloroethane	ND		1.00	1	05/02/2024 18:10	WG2278860
1,2-Dichloropropane	ND		1.00	1	05/02/2024 18:10	WG2278860
1,4-Dichlorobenzene	ND		1.00	1	05/02/2024 18:10	WG2278860
2-Butanone (MEK)	ND		10.0	1	05/02/2024 18:10	WG2278860
2-Hexanone	ND		5.00	1	05/02/2024 18:10	WG2278860
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	05/02/2024 18:10	WG2278860
Acetone	ND		25.0	1	05/02/2024 18:10	WG2278860
Acrylonitrile	ND		0.320	1	05/02/2024 18:10	WG2278860
Benzene	ND		1.00	1	05/02/2024 18:10	WG2278860
Bromochloromethane	ND		1.00	1	05/02/2024 18:10	WG2278860
Bromodichloromethane	ND		1.00	1	05/02/2024 18:10	WG2278860
Bromoform	ND		1.00	1	05/02/2024 18:10	WG2278860
Bromomethane	ND		2.50	1	05/02/2024 18:10	WG2278860
Carbon disulfide	ND		1.00	1	05/02/2024 18:10	WG2278860
Carbon tetrachloride	ND		1.00	1	05/02/2024 18:10	WG2278860
Chlorobenzene	ND		1.00	1	05/02/2024 18:10	WG2278860
Chlorodibromomethane	ND		1.00	1	05/02/2024 18:10	WG2278860
Chloroethane	ND		2.50	1	05/02/2024 18:10	WG2278860
Chloroform	ND		1.00	1	05/02/2024 18:10	WG2278860
Chloromethane	ND		1.25	1	05/02/2024 18:10	WG2278860
Dibromomethane	ND		1.00	1	05/02/2024 18:10	WG2278860
Ethylbenzene	ND		1.00	1	05/02/2024 18:10	WG2278860
Iodomethane	ND		10.0	1	05/02/2024 18:10	WG2278860
Methylene Chloride	ND		2.50	1	05/02/2024 18:10	WG2278860
Styrene	ND		1.00	1	05/02/2024 18:10	WG2278860
Tetrachloroethene	ND		1.00	1	05/02/2024 18:10	WG2278860
Toluene	ND		1.00	1	05/02/2024 18:10	WG2278860
Trichloroethene	ND		1.00	1	05/02/2024 18:10	WG2278860
Trichlorofluoromethane	ND		2.50	1	05/02/2024 18:10	WG2278860
Vinyl acetate	ND		5.00	1	05/02/2024 18:10	WG2278860
Vinyl chloride	ND		1.00	1	05/02/2024 18:10	WG2278860
Xylenes, Total	ND		1.50	1	05/02/2024 18:10	WG2278860
cis-1,2-Dichloroethene	ND		1.00	1	05/02/2024 18:10	WG2278860
cis-1,3-Dichloropropene	ND		1.00	1	05/02/2024 18:10	WG2278860
trans-1,2-Dichloroethene	ND		1.00	1	05/02/2024 18:10	WG2278860
trans-1,3-Dichloropropene	ND		1.00	1	05/02/2024 18:10	WG2278860
trans-1,4-Dichloro-2-butene	ND		1.00	1	05/02/2024 18:10	WG2278860

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*103*			*67.0-138*	*05/02/2024 18:10*	WG2278860
(S) Toluene-d8	*109*			*75.0-131*	*05/02/2024 18:10*	WG2278860
(S) 1,2-Dichloroethane-d4	*88.1*			*70.0-130*	*05/02/2024 18:10*	WG2278860

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	46.61	su
pH (On Site)	7.4	su
Specific Conductance (on site)	1088	umhos/cm
Temperature (on-site)	10.5	Deg. C
Turbidity (on-site)	45	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	660		10.0	1	04/29/2024 12:53	WG2275893

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	42.4		4.00	1	05/02/2024 17:00	WG2277619

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	502		20.0	1	05/01/2024 13:34	WG2277355

Sample Narrative:

L1730115-03 WG2277355: Endpoint pH 4.5 headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.520		0.100	1	05/01/2024 14:36	WG2277052

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	12.4		1.00	1	05/03/2024 16:49	WG2278742
Sulfate	160		5.00	1	05/09/2024 16:52	WG2283110

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	05/03/2024 17:32	WG2276140
Arsenic	0.00706		0.00200	1	05/03/2024 17:32	WG2276140
Barium	0.125		0.00500	1	05/03/2024 17:32	WG2276140
Beryllium	ND		0.00200	1	05/03/2024 17:32	WG2276140
Calcium	123		1.00	1	05/03/2024 17:32	WG2276140
Cadmium	ND		0.00100	1	05/03/2024 17:32	WG2276140
Cobalt	ND		0.00200	1	05/03/2024 17:32	WG2276140
Chromium	ND		0.00200	1	05/03/2024 17:32	WG2276140
Copper	ND		0.00500	1	05/03/2024 17:32	WG2276140
Iron	0.416		0.100	1	05/03/2024 17:32	WG2276140
Potassium	8.21		1.00	1	05/03/2024 17:32	WG2276140
Magnesium	37.4		1.00	1	05/03/2024 17:32	WG2276140
Sodium	76.6		1.00	1	05/03/2024 17:32	WG2276140
Nickel	0.00206		0.00200	1	05/03/2024 17:32	WG2276140
Lead	ND		0.00200	1	05/03/2024 17:32	WG2276140

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	05/03/2024 17:32	WG2276140
Selenium	ND		0.00200	1	05/03/2024 17:32	WG2276140
Thallium	ND		0.00200	1	05/03/2024 17:32	WG2276140
Vanadium	ND		0.00500	1	05/03/2024 17:32	WG2276140
Zinc	ND		0.0250	1	05/03/2024 17:32	WG2276140

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	05/02/2024 18:29	WG2278860
1,2,3-Trichloropropane	ND		0.00580	1	04/30/2024 20:56	WG2276372
1,1,1-Trichloroethane	ND		1.00	1	05/02/2024 18:29	WG2278860
1,2-Dibromo-3-Chloropropane	ND		0.200	1	04/30/2024 20:56	WG2276372
1,1,2,2-Tetrachloroethane	ND		0.300	1	05/02/2024 18:29	WG2278860
1,2-Dibromoethane	ND		0.0500	1	04/30/2024 20:56	WG2276372
1,1,2-Trichloroethane	ND		1.00	1	05/02/2024 18:29	WG2278860
1,1-Dichloroethane	ND		1.00	1	05/02/2024 18:29	WG2278860
1,1-Dichloroethene	ND		1.00	1	05/02/2024 18:29	WG2278860
1,2-Dichlorobenzene	ND		1.00	1	05/02/2024 18:29	WG2278860
1,2-Dichloroethane	ND		1.00	1	05/02/2024 18:29	WG2278860
1,2-Dichloropropane	ND		1.00	1	05/02/2024 18:29	WG2278860
1,4-Dichlorobenzene	ND		1.00	1	05/02/2024 18:29	WG2278860
2-Butanone (MEK)	ND		10.0	1	05/02/2024 18:29	WG2278860
2-Hexanone	ND		5.00	1	05/02/2024 18:29	WG2278860
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	05/02/2024 18:29	WG2278860
Acetone	ND		25.0	1	05/02/2024 18:29	WG2278860
Acrylonitrile	ND		0.320	1	05/02/2024 18:29	WG2278860
Benzene	ND		1.00	1	05/02/2024 18:29	WG2278860
Bromochloromethane	ND		1.00	1	05/02/2024 18:29	WG2278860
Bromodichloromethane	ND		1.00	1	05/02/2024 18:29	WG2278860
Bromoform	ND		1.00	1	05/02/2024 18:29	WG2278860
Bromomethane	ND		2.50	1	05/02/2024 18:29	WG2278860
Carbon disulfide	ND		1.00	1	05/02/2024 18:29	WG2278860
Carbon tetrachloride	ND		1.00	1	05/02/2024 18:29	WG2278860
Chlorobenzene	ND		1.00	1	05/02/2024 18:29	WG2278860
Chlorodibromomethane	ND		1.00	1	05/02/2024 18:29	WG2278860
Chloroethane	ND		2.50	1	05/02/2024 18:29	WG2278860
Chloroform	ND		1.00	1	05/02/2024 18:29	WG2278860
Chloromethane	ND		1.25	1	05/02/2024 18:29	WG2278860
Dibromomethane	ND		1.00	1	05/02/2024 18:29	WG2278860
Ethylbenzene	ND		1.00	1	05/02/2024 18:29	WG2278860
Iodomethane	ND		10.0	1	05/02/2024 18:29	WG2278860
Methylene Chloride	ND		2.50	1	05/02/2024 18:29	WG2278860
Styrene	ND		1.00	1	05/02/2024 18:29	WG2278860
Tetrachloroethene	ND		1.00	1	05/02/2024 18:29	WG2278860
Toluene	ND		1.00	1	05/02/2024 18:29	WG2278860
Trichloroethene	ND		1.00	1	05/02/2024 18:29	WG2278860
Trichlorofluoromethane	ND		2.50	1	05/02/2024 18:29	WG2278860
Vinyl acetate	ND		5.00	1	05/02/2024 18:29	WG2278860
Vinyl chloride	ND		1.00	1	05/02/2024 18:29	WG2278860
Xylenes, Total	ND		1.50	1	05/02/2024 18:29	WG2278860
cis-1,2-Dichloroethene	ND		1.00	1	05/02/2024 18:29	WG2278860
cis-1,3-Dichloropropene	ND		1.00	1	05/02/2024 18:29	WG2278860
trans-1,2-Dichloroethene	ND		1.00	1	05/02/2024 18:29	WG2278860
trans-1,3-Dichloropropene	ND		1.00	1	05/02/2024 18:29	WG2278860
trans-1,4-Dichloro-2-butene	ND		1.00	1	05/02/2024 18:29	WG2278860

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*104*			*67.0-138*	*05/02/2024 18:29*	WG2278860
(S) Toluene-d8	*112*			*75.0-131*	*05/02/2024 18:29*	WG2278860
(S) 1,2-Dichloroethane-d4	*89.4*			*70.0-130*	*05/02/2024 18:29*	WG2278860

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	05/02/2024 13:02	WG2278860
1,2,3-Trichloropropane	ND		0.00580	1	04/30/2024 17:06	WG2276372
1,1,1-Trichloroethane	ND		1.00	1	05/02/2024 13:02	WG2278860
1,2-Dibromo-3-Chloropropane	ND		0.200	1	04/30/2024 17:06	WG2276372
1,1,2,2-Tetrachloroethane	ND		0.300	1	05/02/2024 13:02	WG2278860
1,2-Dibromoethane	ND		0.0500	1	04/30/2024 17:06	WG2276372
1,1,2-Trichloroethane	ND		1.00	1	05/02/2024 13:02	WG2278860
1,1-Dichloroethane	ND		1.00	1	05/02/2024 13:02	WG2278860
1,1-Dichloroethene	ND		1.00	1	05/02/2024 13:02	WG2278860
1,2-Dichlorobenzene	ND		1.00	1	05/02/2024 13:02	WG2278860
1,2-Dichloroethane	ND		1.00	1	05/02/2024 13:02	WG2278860
1,2-Dichloropropane	ND		1.00	1	05/02/2024 13:02	WG2278860
1,4-Dichlorobenzene	ND		1.00	1	05/02/2024 13:02	WG2278860
2-Butanone (MEK)	ND		10.0	1	05/02/2024 13:02	WG2278860
2-Hexanone	ND		5.00	1	05/02/2024 13:02	WG2278860
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	05/02/2024 13:02	WG2278860
Acetone	ND		25.0	1	05/02/2024 13:02	WG2278860
Acrylonitrile	ND		0.320	1	05/02/2024 13:02	WG2278860
Benzene	ND		1.00	1	05/02/2024 13:02	WG2278860
Bromochloromethane	ND		1.00	1	05/02/2024 13:02	WG2278860
Bromodichloromethane	ND		1.00	1	05/02/2024 13:02	WG2278860
Bromoform	ND		1.00	1	05/02/2024 13:02	WG2278860
Bromomethane	ND		2.50	1	05/02/2024 13:02	WG2278860
Carbon disulfide	ND		1.00	1	05/02/2024 13:02	WG2278860
Carbon tetrachloride	ND		1.00	1	05/02/2024 13:02	WG2278860
Chlorobenzene	ND		1.00	1	05/02/2024 13:02	WG2278860
Chlorodibromomethane	ND		1.00	1	05/02/2024 13:02	WG2278860
Chloroethane	ND		2.50	1	05/02/2024 13:02	WG2278860
Chloroform	ND		1.00	1	05/02/2024 13:02	WG2278860
Chloromethane	ND		1.25	1	05/02/2024 13:02	WG2278860
Dibromomethane	ND		1.00	1	05/02/2024 13:02	WG2278860
Ethylbenzene	ND		1.00	1	05/02/2024 13:02	WG2278860
Iodomethane	ND		10.0	1	05/02/2024 13:02	WG2278860
Methylene Chloride	ND		2.50	1	05/02/2024 13:02	WG2278860
Styrene	ND		1.00	1	05/02/2024 13:02	WG2278860
Tetrachloroethene	ND		1.00	1	05/02/2024 13:02	WG2278860
Toluene	ND		1.00	1	05/02/2024 13:02	WG2278860
Trichloroethene	ND		1.00	1	05/02/2024 13:02	WG2278860
Trichlorofluoromethane	ND		2.50	1	05/02/2024 13:02	WG2278860
Vinyl acetate	ND		5.00	1	05/02/2024 13:02	WG2278860
Vinyl chloride	ND		1.00	1	05/02/2024 13:02	WG2278860
Xylenes, Total	ND		1.50	1	05/02/2024 13:02	WG2278860
cis-1,2-Dichloroethene	ND		1.00	1	05/02/2024 13:02	WG2278860
cis-1,3-Dichloropropene	ND		1.00	1	05/02/2024 13:02	WG2278860
trans-1,2-Dichloroethene	ND		1.00	1	05/02/2024 13:02	WG2278860
trans-1,3-Dichloropropene	ND		1.00	1	05/02/2024 13:02	WG2278860
trans-1,4-Dichloro-2-butene	ND		1.00	1	05/02/2024 13:02	WG2278860
(S) 4-Bromofluorobenzene	*104*			*67.0-138*	*05/02/2024 13:02*	WG2278860
(S) Toluene-d8	*110*			*75.0-131*	*05/02/2024 13:02*	WG2278860
(S) 1,2-Dichloroethane-d4	*88.9*			*70.0-130*	*05/02/2024 13:02*	WG2278860

Method Blank (MB)

(MB) R4065229-1 04/29/24 12:53

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	ND		2.82	10.0

L1729571-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1729571-01 04/29/24 12:53 • (DUP) R4065229-3 04/29/24 12:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	170	175	1	2.90		10

L1730067-04 Original Sample (OS) • Duplicate (DUP)

(OS) L1730067-04 04/29/24 12:53 • (DUP) R4065229-4 04/29/24 12:53

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	607	609	1	0.438		10

Laboratory Control Sample (LCS)

(LCS) R4065229-2 04/29/24 12:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8490	96.5	85.0-115	

Method Blank (MB)

(MB) R4065553-1 05/02/24 17:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1730078-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1730078-01 05/02/24 17:00 • (DUP) R4065553-3 05/02/24 17:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	9.00	9.00	1	0.000		10

L1730115-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1730115-01 05/02/24 17:00 • (DUP) R4065553-4 05/02/24 17:00

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	46.0	48.0	1	4.26		10

Laboratory Control Sample (LCS)

(LCS) R4065553-2 05/02/24 17:00

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	752	97.3	85.0-115	

Method Blank (MB)

(MB) R4064564-2 05/01/24 12:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1729568-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1729568-01 05/01/24 12:17 • (DUP) R4064564-3 05/01/24 12:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	601	621	1	3.19		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

L1731134-06 Original Sample (OS) • Duplicate (DUP)

(OS) L1731134-06 05/01/24 14:39 • (DUP) R4064564-4 05/01/24 14:43

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	91.9	94.8	1	3.12		20

Sample Narrative:

OS: Endpoint pH 4.5 headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4064564-1 05/01/24 11:58

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	103	103	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4064553-1 05/01/24 13:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

L1730102-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1730102-02 05/01/24 14:18 • (DUP) R4064553-5 05/01/24 14:20

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	ND	ND	1	0.000		10

L1730102-05 Original Sample (OS) • Duplicate (DUP)

(OS) L1730102-05 05/01/24 14:26 • (DUP) R4064553-7 05/01/24 14:27

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	2.63	2.63	1	0.000		10

Laboratory Control Sample (LCS)

(LCS) R4064553-2 05/01/24 13:57

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.52	100	90.0-110	

L1730102-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1730102-01 05/01/24 14:09 • (MS) R4064553-3 05/01/24 14:15 • (MSD) R4064553-4 05/01/24 14:17

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	ND	5.14	5.10	103	102	1	90.0-110			0.918	10

L1730102-04 Original Sample (OS) • Matrix Spike (MS)

(OS) L1730102-04 05/01/24 14:23 • (MS) R4064553-6 05/01/24 14:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	0.143	5.35	104	1	90.0-110	

Method Blank (MB)

(MB) R4067381-1 05/03/24 08:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	0.236		0.0519	1.00

L1730102-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1730102-02 05/03/24 13:50 • (DUP) R4067381-3 05/03/24 14:04

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	17.0	17.6	1	3.14		15

Laboratory Control Sample (LCS)

(LCS) R4067381-2 05/03/24 08:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	39.2	98.0	80.0-120	

L1730102-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1730102-02 05/03/24 13:50 • (MS) R4067381-4 05/03/24 14:18 • (MSD) R4067381-5 05/03/24 14:32

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	17.0	52.7	53.7	89.1	91.7	1	80.0-120			1.95	15

Sample Narrative:

MS: SO4 spike failed due to sample matrix

MSD: SO4 spike failed due to sample matrix

Method Blank (MB)

(MB) R4068405-1 05/09/24 09:17

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	0.345		0.0774	5.00

L1730102-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1730102-02 05/09/24 14:31 • (DUP) R4068405-3 05/09/24 14:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	113	114	1	0.537		15

L1734261-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1734261-02 05/09/24 19:55 • (DUP) R4068405-6 05/09/24 20:07

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	180	181	1	0.540		15

Laboratory Control Sample (LCS)

(LCS) R4068405-2 05/09/24 09:30

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	41.5	104	80.0-120	

L1730102-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1730102-02 05/09/24 14:31 • (MS) R4068405-4 05/09/24 14:57 • (MSD) R4068405-5 05/09/24 15:09

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	113	126	129	33.4	39.7	1	80.0-120	J6	J6	1.96	15

Sample Narrative:

MS: SO4 spike failed due to sample matrix

MSD: SO4 spike failed due to sample matrix

L1734261-02 Original Sample (OS) • Matrix Spike (MS)

(OS) L1734261-02 05/09/24 19:55 • (MS) R4068405-7 05/09/24 20:20

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	180	186	16.1	1	80.0-120	V

Sample Narrative:

MS: CL/SO4 spike failed due to sample matrix

QUALITY CONTROL SUMMARY

L1730115-01,02,03

Method Blank (MB)

(MB) R4065640-1 05/03/24 16:07

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silver	ND		0.000250	0.00200
Arsenic	ND		0.000250	0.00200
Barium	ND		0.000360	0.00500
Beryllium	ND		0.000120	0.00200
Calcium	ND		0.0460	1.00
Cadmium	ND		0.000160	0.00100
Cobalt	ND		0.000260	0.00200
Chromium	ND		0.000540	0.00200
Copper	ND		0.000520	0.00500
Iron	ND		0.0150	0.100
Potassium	ND		0.0370	1.00
Magnesium	ND		0.100	1.00
Sodium	ND		0.110	1.00
Nickel	ND		0.000350	0.00200
Lead	ND		0.000240	0.00200
Antimony	ND		0.000754	0.00200
Selenium	ND		0.000380	0.00200
Thallium	ND		0.000190	0.00200
Vanadium	ND		0.000180	0.00500
Zinc	ND		0.00256	0.0250

Laboratory Control Sample (LCS)

(LCS) R4065640-2 05/03/24 16:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver	0.0500	0.0535	107	80.0-120	
Arsenic	0.0500	0.0519	104	80.0-120	
Barium	0.0500	0.0506	101	80.0-120	
Beryllium	0.0500	0.0493	98.5	80.0-120	
Calcium	5.00	5.29	106	80.0-120	
Cadmium	0.0500	0.0552	110	80.0-120	
Cobalt	0.0500	0.0544	109	80.0-120	
Chromium	0.0500	0.0524	105	80.0-120	
Copper	0.0500	0.0511	102	80.0-120	
Iron	1.00	1.02	102	80.0-120	
Potassium	5.00	5.09	102	80.0-120	
Magnesium	5.00	5.50	110	80.0-120	
Sodium	5.00	5.54	111	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4065640-2 05/03/24 16:11

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nickel	0.0500	0.0540	108	80.0-120	
Lead	0.0500	0.0521	104	80.0-120	
Antimony	0.0500	0.0509	102	80.0-120	
Selenium	0.0500	0.0512	102	80.0-120	
Thallium	0.0500	0.0528	106	80.0-120	
Vanadium	0.0500	0.0510	102	80.0-120	
Zinc	0.0500	0.0504	101	80.0-120	

L1730149-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1730149-01 05/03/24 16:14 • (MS) R4065640-4 05/03/24 16:21 • (MSD) R4065640-5 05/03/24 16:24

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Silver	0.0500	ND	0.0541	0.0558	108	112	1	75.0-125			3.14	20
Arsenic	0.0500	ND	0.0534	0.0535	106	106	1	75.0-125			0.219	20
Barium	0.0500	0.0288	0.0843	0.0863	111	115	1	75.0-125			2.34	20
Beryllium	0.0500	ND	0.0518	0.0517	104	103	1	75.0-125			0.257	20
Calcium	5.00	19.8	25.2	25.2	108	109	1	75.0-125			0.280	20
Cadmium	0.0500	ND	0.0566	0.0573	113	115	1	75.0-125			1.24	20
Cobalt	0.0500	ND	0.0537	0.0539	107	108	1	75.0-125			0.434	20
Chromium	0.0500	ND	0.0527	0.0529	105	106	1	75.0-125			0.495	20
Copper	0.0500	ND	0.0549	0.0546	110	109	1	75.0-125			0.399	20
Iron	1.00	0.318	1.33	1.33	101	101	1	75.0-125			0.226	20
Potassium	5.00	ND	5.68	5.65	101	100	1	75.0-125			0.515	20
Magnesium	5.00	13.1	19.0	18.8	118	115	1	75.0-125			0.949	20
Sodium	5.00	214	219	216	110	42.6	1	75.0-125		V	1.54	20
Nickel	0.0500	ND	0.0526	0.0532	105	106	1	75.0-125			1.20	20
Lead	0.0500	ND	0.0509	0.0523	102	105	1	75.0-125			2.55	20
Antimony	0.0500	ND	0.0527	0.0565	105	113	1	75.0-125			6.94	20
Selenium	0.0500	ND	0.0546	0.0557	109	111	1	75.0-125			2.05	20
Thallium	0.0500	ND	0.0527	0.0537	105	107	1	75.0-125			1.93	20
Vanadium	0.0500	ND	0.0523	0.0526	105	105	1	75.0-125			0.455	20
Zinc	0.0500	ND	0.0523	0.0524	105	105	1	75.0-125			0.200	20

Method Blank (MB)

(MB) R4064300-2 04/30/24 16:45

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2,3-Trichloropropane	ND		0.00200	0.00500
1,2-Dibromo-3-Chloropropane	ND		0.000520	0.200
1,2-Dibromoethane	ND		0.00410	0.00500

Laboratory Control Sample (LCS)

(LCS) R4064300-1 04/30/24 16:24

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,3-Trichloropropane	0.0500	0.0530	106	70.0-130	
1,2-Dibromo-3-Chloropropane	0.0500	0.0420	84.0	70.0-130	
1,2-Dibromoethane	0.0500	0.0490	98.0	70.0-130	

Method Blank (MB)

(MB) R4065013-2 05/02/24 09:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.0379	0.100
1,1,1-Trichloroethane	ND		0.0369	0.100
1,1,2,2-Tetrachloroethane	ND		0.0278	0.100
1,1,2-Trichloroethane	ND		0.0239	0.100
1,1-Dichloroethane	ND		0.0196	0.100
1,1-Dichloroethene	ND		0.0242	0.100
1,2-Dichlorobenzene	ND		0.0170	0.200
1,2-Dichloroethane	ND		0.0260	0.100
1,2-Dichloropropane	ND		0.0568	0.200
1,4-Dichlorobenzene	ND		0.0280	0.200
2-Butanone (MEK)	ND		2.54	4.00
2-Hexanone	ND		0.134	1.00
4-Methyl-2-pentanone (MIBK)	ND		0.0912	1.00
Acetone	ND		1.46	2.00
Acrylonitrile	ND		0.144	0.500
Benzene	ND		0.0187	0.0400
Bromochloromethane	ND		0.0226	0.200
Bromodichloromethane	ND		0.0290	0.100
Bromoform	ND		0.0468	1.00
Bromomethane	ND		0.0788	0.500
Carbon disulfide	ND		0.0280	0.500
Carbon tetrachloride	ND		0.0359	0.200
Chlorobenzene	ND		0.00840	0.100
Chlorodibromomethane	ND		0.0245	0.100
Chloroethane	ND		0.0680	0.200
Chloroform	ND		0.0412	0.100
Chloromethane	ND		0.174	0.500
Dibromomethane	ND		0.0300	0.200
Ethylbenzene	ND		0.0295	0.100
Iodomethane	ND		0.0928	0.500
Methylene Chloride	ND		0.266	1.00
Styrene	ND		0.00916	0.500
Tetrachloroethene	ND		0.0358	0.100
Toluene	ND		0.0520	0.200
Trichloroethene	ND		0.0234	0.0400
Trichlorofluoromethane	ND		0.0331	0.100
Vinyl acetate	ND		0.102	0.500
Vinyl chloride	ND		0.0462	0.0500
Xylenes, Total	ND		0.0352	0.260
cis-1,2-Dichloroethene	ND		0.0294	0.100

Method Blank (MB)

(MB) R4065013-2 05/02/24 09:42

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
cis-1,3-Dichloropropene	ND		0.0303	0.100
trans-1,2-Dichloroethene	ND		0.0416	0.200
trans-1,3-Dichloropropene	ND		0.0456	0.200
trans-1,4-Dichloro-2-butene	ND		0.0744	0.200
(S) 4-Bromofluorobenzene	*104*			*67.0-138*
(S) Toluene-d8	*107*			*75.0-131*
(S) 1,2-Dichloroethane-d4	*92.4*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4065013-1 05/02/24 08:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,1,1,2-Tetrachloroethane	5.00	4.64	92.8	74.0-129	
1,1,1-Trichloroethane	5.00	4.07	81.4	69.0-126	
1,1,2,2-Tetrachloroethane	5.00	4.16	83.2	68.0-128	
1,1,2-Trichloroethane	5.00	4.83	96.6	78.0-123	
1,1-Dichloroethane	5.00	4.53	90.6	70.0-127	
1,1-Dichloroethene	5.00	4.46	89.2	65.0-131	
1,2-Dichlorobenzene	5.00	4.77	95.4	76.0-124	
1,2-Dichloroethane	5.00	4.20	84.0	65.0-131	
1,2-Dichloropropane	5.00	4.64	92.8	74.0-125	
1,4-Dichlorobenzene	5.00	4.63	92.6	77.0-121	
2-Butanone (MEK)	25.0	19.4	77.6	30.0-160	
2-Hexanone	25.0	22.8	91.2	54.0-147	
4-Methyl-2-pentanone (MIBK)	25.0	23.1	92.4	56.0-143	
Acetone	25.0	15.4	61.6	10.0-160	
Acrylonitrile	25.0	23.5	94.0	45.0-153	
Benzene	5.00	4.72	94.4	70.0-123	
Bromochloromethane	5.00	5.01	100	77.0-128	
Bromodichloromethane	5.00	4.42	88.4	73.0-121	
Bromoform	5.00	4.64	92.8	64.0-132	
Bromomethane	5.00	5.32	106	56.0-147	
Carbon disulfide	5.00	4.30	86.0	56.0-133	
Carbon tetrachloride	5.00	4.42	88.4	66.0-128	
Chlorobenzene	5.00	4.89	97.8	76.0-128	
Chlorodibromomethane	5.00	4.68	93.6	74.0-127	
Chloroethane	5.00	5.04	101	61.0-134	
Chloroform	5.00	4.36	87.2	72.0-123	

Laboratory Control Sample (LCS)

(LCS) R4065013-1 05/02/24 08:43

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloromethane	5.00	4.82	96.4	51.0-138	
Dibromomethane	5.00	4.56	91.2	75.0-122	
Ethylbenzene	5.00	4.97	99.4	74.0-126	
Iodomethane	25.0	22.7	90.8	74.0-134	
Methylene Chloride	5.00	5.24	105	68.0-123	
Styrene	5.00	4.77	95.4	72.0-127	
Tetrachloroethene	5.00	5.55	111	70.0-136	
Toluene	5.00	4.79	95.8	75.0-121	
Trichloroethene	5.00	4.96	99.2	76.0-126	
Trichlorofluoromethane	5.00	5.10	102	61.0-142	
Vinyl acetate	25.0	19.2	76.8	43.0-159	
Vinyl chloride	5.00	4.83	96.6	63.0-134	
Xylenes, Total	15.0	14.5	96.7	72.0-127	
cis-1,2-Dichloroethene	5.00	4.79	95.8	73.0-125	
cis-1,3-Dichloropropene	5.00	4.30	86.0	76.0-127	
trans-1,2-Dichloroethene	5.00	4.58	91.6	71.0-125	
trans-1,3-Dichloropropene	5.00	4.53	90.6	73.0-127	
trans-1,4-Dichloro-2-butene	5.00	3.67	73.4	45.0-143	
(S) 4-Bromofluorobenzene			*103*	*67.0-138*	
(S) Toluene-d8			*106*	*75.0-131*	
(S) 1,2-Dichloroethane-d4			*92.7*	*70.0-130*	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: **Todd Halbersma**

Email To: chris.kaiser@stantec.com;cory.anderson2@stan

Project Description: **Central Disposal Systems, Inc. Landfill**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **IA02**

Lab Project # **WMCENIA-00008**

Collected by (print): Mike Hamer

Site/Facility ID # **IA02**

P.O. #

Collected by (signature):

Immediately Packed on Ice N___ Y✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

No. of Cntrs

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK,CHLORIDE,SULFATE 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	TDS 1L-HDPE NoPres	TSS 1L-HDPE NoPres	V524LL 40mlAmb-AscAcid+HCl	V524LL 40mlAmb-HCl-Blk	V8260ULL 40mlAmb-HCl	V8260ULL 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-134		GW		4/25/24	1200	11	X	X	X	X	X	X		X			-01
MW-135		GW			1230	11	X	X	X	X	X	X		X			-02
MW-136		GW			1145	11	X	X	X	X	X	X		X			-03
Trip Blank		GW				2							X		X		-04

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN

12065 Lebanon Rd Mount Juliet, TN 37122
Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 173015
E117

Acctnum: **WMCENIA**
Template: **T231655**
Prelogin: **P1064522**
PM: **364 - T. Alan Harvill**
PB: 3.25.24 BK
Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 7320 9669 7721

Sample Receipt Checklist
COC Seal Present/Intact: NP Y N
COC Signed/Accurate: Y N
Bottles arrive intact: Y N
Correct bottles used: Y N
Sufficient volume sent: Y N
If Applicable
VOA Zero Headspace: Y N
Preservation Correct/Checked: Y N
RAD Screen <0.5 mR/hr: Y N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR	If preservation required by Login: Date/Time
	4/25/24	1530	FedEx	2	
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: DR/NC Bottles Received: 2.7+.1=2.8 33	
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 4/26/24 Time: 0900	Hold: / Condition: NCF / OK

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: ____ Sample Point: MW134 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: 473011S

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
04/25/24	09:45	:	40		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

Filter Type: A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

X-Other: ____

Sample Tube Type: A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 33.03 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): 58.1 (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit GPM		pH (std)		Conductance (SC/EC) (µmhos/cm @ 25 °C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
10:15	0.5	1st	7.40	1st	1873		11.6	55	1.45	-95	
		2nd		2nd							
		3rd		3rd							
12:00		4th	7.23	4th	1874		12.5	65	3.8	-74	
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: Lt. Grey Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

Purged dry and allowed to recover

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
4/25/24	Mike Hauer		

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: | | | | | Sample Point: MW135 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1730115

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
04/25/24	10:30	:	40		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Purging Device: C

Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

Filter Type: A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

X-Other: ____

Sample Tube Type: A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC)	Depth to Water (DTW) (from TOC)	Groundwater Elevation (site datum, from TOC)
(ft/msl)	50.24 (ft)	(ft/msl)

Total Well Depth (from TOC)	Stick Up (from ground elevation)	Casing ID	Casing Material
74.1 (ft)	(ft)	(in)	

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit (CPM)	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
11:00	0.5	1st 7.20	1st 1162	12.0	64	3.0	-9	
:		2nd	2nd					
:		3rd	3rd					
12:30		4th 7.34	4th 1184	12.9	35	4.2	-3.9	
:								
:								
:								
:								
:								
:								
:								
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: Lt. Grey Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required): ____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
4/25/24	Mike Hamm		Alloy

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: | | | | |

Sample Point: MW136 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1730115

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
04/25/24	1110	:	55		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: Y (C) or N

Purging Device: C

Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other:

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type:

A-In-line Disposable; B-Pressure; C-Vacuum; X-Other

Sample Tube Type:

A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other:

WELL DATA

Well Elevation (at TOC) (ft/msl)	Depth to Water (DTW) (from TOC) (ft)	Groundwater Elevation (site datum, from TOC) (ft/msl)
	46.61	

Total Well Depth (from TOC) (ft)	Stick Up (from ground elevation) (ft)	Casing ID (in)	Casing Material
80.4		2	

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit GPM	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1115	04	1st 7.27	1st 1091	10.3	63	2.8	-12	
1130		2nd 7.36	2nd 1088	10.4	39	3.3	29	
1145		3rd 7.40	3rd 1088	10.5	45	4.7	36	
:		4th	4th					
:								
:								
:								
:								
:								
:								
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: Lt. Grey Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
4/25/24	Nate Hess		

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

ANALYTICAL REPORT

January 27, 2025

Revised Report

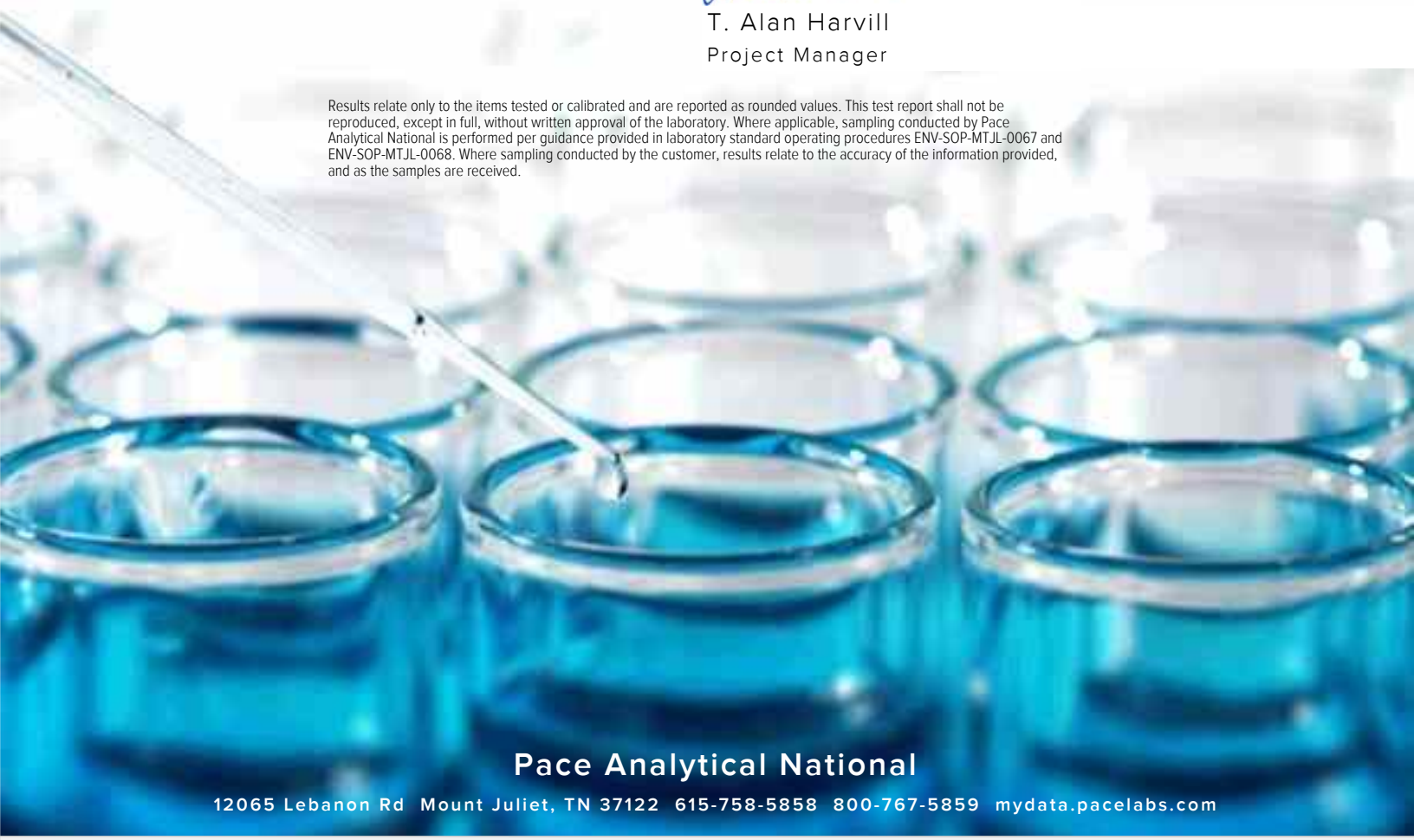
Central Disposal Systems, Inc. Landfill

Sample Delivery Group:	L1792903
Samples Received:	10/25/2024
Project Number:	200
Description:	Central Disposal Systems, Inc. Landfill
Site:	IA02
Report To:	Aaron Rebmann 21265 430th Street Lake Mills, IA 50450

Entire Report Reviewed By:

T. Alan Harvill
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.



Pace Analytical National
12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 mydata.pacelabs.com

TABLE OF CONTENTS

MW-134 L1792903-01 GW

Collected by: Mike Hamer | Collected date/time: 10/24/24 12:00 | Received date/time: 10/25/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2390367	1	10/27/24 09:30	10/28/24 15:36	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2390338	1	10/27/24 08:18	10/28/24 20:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2390009	1	10/27/24 14:27	10/27/24 14:27	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2390736	1	10/28/24 11:39	10/28/24 11:39	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2389984	1	10/31/24 19:48	10/31/24 19:48	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2389984	10	10/31/24 20:04	10/31/24 20:04	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2391290	1	11/05/24 21:49	11/06/24 01:02	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2391543	1	10/29/24 19:55	10/29/24 19:55	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2396393	1	11/07/24 00:20	11/07/24 00:20	ACG	Mt. Juliet, TN

MW-135 L1792903-02 GW

Collected by: Mike Hamer | Collected date/time: 10/24/24 12:30 | Received date/time: 10/25/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2390367	1	10/27/24 09:30	10/28/24 15:36	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2390338	1	10/27/24 08:18	10/28/24 20:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2390009	1	10/27/24 14:32	10/27/24 14:32	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2390736	1	10/28/24 11:40	10/28/24 11:40	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2389984	1	10/31/24 20:20	10/31/24 20:20	ZSA	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2394536	5	11/04/24 15:41	11/04/24 15:41	DLH	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2391290	1	11/05/24 21:49	11/06/24 01:51	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2391543	1	10/29/24 20:17	10/29/24 20:17	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2396393	1	11/07/24 00:39	11/07/24 00:39	ACG	Mt. Juliet, TN

MW-136 L1792903-03 GW

Collected by: Mike Hamer | Collected date/time: 10/24/24 11:45 | Received date/time: 10/25/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Gravimetric Analysis by Method 2540 C-2011	WG2390367	1	10/27/24 09:30	10/28/24 15:36	JAC	Mt. Juliet, TN
Gravimetric Analysis by Method 2540 D-2011	WG2390338	1	10/27/24 08:18	10/28/24 20:44	MMF	Mt. Juliet, TN
Wet Chemistry by Method 2320 B-2011	WG2390009	1	10/27/24 14:38	10/27/24 14:38	BJM	Mt. Juliet, TN
Wet Chemistry by Method 350.1	WG2390736	1	10/28/24 11:51	10/28/24 11:51	LAS	Mt. Juliet, TN
Wet Chemistry by Method 9056A	WG2389984	1	10/31/24 20:36	10/31/24 20:36	ZSA	Mt. Juliet, TN
Metals (ICPMS) by Method 6020	WG2391290	1	11/05/24 21:49	11/06/24 01:55	JPD	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2391543	1	10/29/24 20:38	10/29/24 20:38	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2396393	1	11/07/24 00:58	11/07/24 00:58	ACG	Mt. Juliet, TN

Trip Blank L1792903-04 GW

Collected by: Mike Hamer | Collected date/time: 10/24/24 00:00 | Received date/time: 10/25/24 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2391543	1	10/29/24 19:12	10/29/24 19:12	JBE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG2396393	1	11/06/24 23:41	11/06/24 23:41	ACG	Mt. Juliet, TN

Unless qualified or notated within the narrative below, all sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital signature below, I affirm to the best of my knowledge, all problems/anomalies observed by the laboratory as having the potential to affect the quality of the data have been identified by the laboratory, and no information or data have been knowingly withheld that would affect the quality of the data.

T. Alan Harvill
Project Manager

Report Revision History

Level II Report - Version 1: 11/08/24 14:46

Project Comments

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

The requested project specific reporting limits may be less than laboratory standard quantitation limits (PQL) but will be greater than or equal to the laboratory method detection limits (MDL). It is noted that results reported below lab standard quantitation limits (PQLs) may result in false positive/false negative values that may require additional laboratory quality assurance review, if requested. Routine laboratory procedures do not initiate a data review process for detections below the laboratory's PQL unless requested by the client.

Wet Chemistry by Method 9056A

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2394536	(MS) R4141976-4, (MS) R4141976-7, (MSD) R4141976-5, L1792903-02	Sulfate

Metals (ICPMS) by Method 6020

The sample concentration is too high to evaluate accurate spike recoveries.

Batch	Lab Sample ID	Analytes
WG2391290	(MS) R4142565-4, (MSD) R4142565-5	Calcium and Sodium

The sample matrix interfered with the ability to make any accurate determination; spike value is high.

Batch	Lab Sample ID	Analytes
WG2391290	(MSD) R4142565-5	Iron

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	31.6	su
pH (On Site)	7.51	su
Specific Conductance (on site)	2055	umhos/cm
Temperature (on-site)	12	Deg. C
Turbidity (on-site)	14	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	1770		10.0	1	10/28/2024 15:36	WG2390367

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	65.7		4.00	1	10/28/2024 20:44	WG2390338

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	475		20.0	1	10/27/2024 14:27	WG2390009

Sample Narrative:

L1792903-01 WG2390009: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.866		0.100	1	10/28/2024 11:39	WG2390736

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	5.95		1.00	1	10/31/2024 19:48	WG2389984
Sulfate	531		5.00	10	10/31/2024 20:04	WG2389984

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	11/06/2024 01:02	WG2391290
Arsenic	0.0227		0.00200	1	11/06/2024 01:02	WG2391290
Barium	0.0231		0.00500	1	11/06/2024 01:02	WG2391290
Beryllium	ND		0.00200	1	11/06/2024 01:02	WG2391290
Calcium	208		1.00	1	11/06/2024 01:02	WG2391290
Cadmium	ND		0.00100	1	11/06/2024 01:02	WG2391290
Cobalt	ND		0.00200	1	11/06/2024 01:02	WG2391290
Chromium	ND		0.00200	1	11/06/2024 01:02	WG2391290
Copper	ND		0.00500	1	11/06/2024 01:02	WG2391290
Iron	3.44		0.100	1	11/06/2024 01:02	WG2391290
Potassium	11.0		1.00	1	11/06/2024 01:02	WG2391290
Magnesium	54.8		1.00	1	11/06/2024 01:02	WG2391290
Sodium	145		1.00	1	11/06/2024 01:02	WG2391290
Nickel	ND		0.00200	1	11/06/2024 01:02	WG2391290
Lead	ND		0.00200	1	11/06/2024 01:02	WG2391290

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	11/06/2024 01:02	WG2391290
Selenium	ND		0.00200	1	11/06/2024 01:02	WG2391290
Thallium	ND		0.00200	1	11/06/2024 01:02	WG2391290
Vanadium	ND		0.00500	1	11/06/2024 01:02	WG2391290
Zinc	ND		0.0250	1	11/06/2024 01:02	WG2391290

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	11/07/2024 00:20	WG2396393
1,2,3-Trichloropropane	ND		0.00580	1	10/29/2024 19:55	WG2391543
1,1,1-Trichloroethane	ND		1.00	1	11/07/2024 00:20	WG2396393
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/29/2024 19:55	WG2391543
1,1,2,2-Tetrachloroethane	ND		0.300	1	11/07/2024 00:20	WG2396393
1,2-Dibromoethane	ND		0.0500	1	10/29/2024 19:55	WG2391543
1,1,2-Trichloroethane	ND		1.00	1	11/07/2024 00:20	WG2396393
1,1-Dichloroethane	ND		1.00	1	11/07/2024 00:20	WG2396393
1,1-Dichloroethene	ND		1.00	1	11/07/2024 00:20	WG2396393
1,2-Dichlorobenzene	ND		1.00	1	11/07/2024 00:20	WG2396393
1,2-Dichloroethane	ND		1.00	1	11/07/2024 00:20	WG2396393
1,2-Dichloropropane	ND		1.00	1	11/07/2024 00:20	WG2396393
1,4-Dichlorobenzene	ND		1.00	1	11/07/2024 00:20	WG2396393
2-Butanone (MEK)	ND		10.0	1	11/07/2024 00:20	WG2396393
2-Hexanone	ND		5.00	1	11/07/2024 00:20	WG2396393
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/07/2024 00:20	WG2396393
Acetone	ND		25.0	1	11/07/2024 00:20	WG2396393
Acrylonitrile	ND		0.320	1	11/07/2024 00:20	WG2396393
Benzene	ND		1.00	1	11/07/2024 00:20	WG2396393
Bromochloromethane	ND		1.00	1	11/07/2024 00:20	WG2396393
Bromodichloromethane	ND		1.00	1	11/07/2024 00:20	WG2396393
Bromoform	ND		1.00	1	11/07/2024 00:20	WG2396393
Bromomethane	ND		2.50	1	11/07/2024 00:20	WG2396393
Carbon disulfide	ND		1.00	1	11/07/2024 00:20	WG2396393
Carbon tetrachloride	ND		1.00	1	11/07/2024 00:20	WG2396393
Chlorobenzene	ND		1.00	1	11/07/2024 00:20	WG2396393
Chlorodibromomethane	ND		1.00	1	11/07/2024 00:20	WG2396393
Chloroethane	ND		2.50	1	11/07/2024 00:20	WG2396393
Chloroform	ND		1.00	1	11/07/2024 00:20	WG2396393
Chloromethane	ND		1.25	1	11/07/2024 00:20	WG2396393
Dibromomethane	ND		1.00	1	11/07/2024 00:20	WG2396393
Ethylbenzene	ND		1.00	1	11/07/2024 00:20	WG2396393
Iodomethane	ND		10.0	1	11/07/2024 00:20	WG2396393
Methylene Chloride	ND		2.50	1	11/07/2024 00:20	WG2396393
Styrene	ND		1.00	1	11/07/2024 00:20	WG2396393
Tetrachloroethene	ND		1.00	1	11/07/2024 00:20	WG2396393
Toluene	ND		1.00	1	11/07/2024 00:20	WG2396393
Trichloroethene	ND		1.00	1	11/07/2024 00:20	WG2396393
Trichlorofluoromethane	ND		2.50	1	11/07/2024 00:20	WG2396393
Vinyl acetate	ND		5.00	1	11/07/2024 00:20	WG2396393
Vinyl chloride	ND		1.00	1	11/07/2024 00:20	WG2396393
Xylenes, Total	ND		1.50	1	11/07/2024 00:20	WG2396393
cis-1,2-Dichloroethene	ND		1.00	1	11/07/2024 00:20	WG2396393
cis-1,3-Dichloropropene	ND		1.00	1	11/07/2024 00:20	WG2396393
trans-1,2-Dichloroethene	ND		1.00	1	11/07/2024 00:20	WG2396393
trans-1,3-Dichloropropene	ND		1.00	1	11/07/2024 00:20	WG2396393
trans-1,4-Dichloro-2-butene	ND		1.00	1	11/07/2024 00:20	WG2396393

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*90.8*			*67.0-138*	*11/07/2024 00:20*	WG2396393
(S) Toluene-d8	*99.5*			*75.0-131*	*11/07/2024 00:20*	WG2396393
(S) 1,2-Dichloroethane-d4	*91.8*			*70.0-130*	*11/07/2024 00:20*	WG2396393

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	48.96	su
pH (On Site)	7.21	su
Specific Conductance (on site)	1266	umhos/cm
Temperature (on-site)	12.5	Deg. C
Turbidity (on-site)	22	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	731		10.0	1	10/28/2024 15:36	WG2390367

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	35.8		4.00	1	10/28/2024 20:44	WG2390338

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	421		20.0	1	10/27/2024 14:32	WG2390009

Sample Narrative:

L1792903-02 WG2390009: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.406		0.100	1	10/28/2024 11:40	WG2390736

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	43.7		1.00	1	10/31/2024 20:20	WG2389984
Sulfate	218	V	5.00	5	11/04/2024 15:41	WG2394536

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	11/06/2024 01:51	WG2391290
Arsenic	0.00400		0.00200	1	11/06/2024 01:51	WG2391290
Barium	0.0753		0.00500	1	11/06/2024 01:51	WG2391290
Beryllium	ND		0.00200	1	11/06/2024 01:51	WG2391290
Calcium	141		1.00	1	11/06/2024 01:51	WG2391290
Cadmium	ND		0.00100	1	11/06/2024 01:51	WG2391290
Cobalt	ND		0.00200	1	11/06/2024 01:51	WG2391290
Chromium	ND		0.00200	1	11/06/2024 01:51	WG2391290
Copper	ND		0.00500	1	11/06/2024 01:51	WG2391290
Iron	0.797		0.100	1	11/06/2024 01:51	WG2391290
Potassium	10.3		1.00	1	11/06/2024 01:51	WG2391290
Magnesium	39.1		1.00	1	11/06/2024 01:51	WG2391290
Sodium	79.8		1.00	1	11/06/2024 01:51	WG2391290
Nickel	0.00252		0.00200	1	11/06/2024 01:51	WG2391290
Lead	0.00231		0.00200	1	11/06/2024 01:51	WG2391290

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	11/06/2024 01:51	WG2391290
Selenium	ND		0.00200	1	11/06/2024 01:51	WG2391290
Thallium	ND		0.00200	1	11/06/2024 01:51	WG2391290
Vanadium	ND		0.00500	1	11/06/2024 01:51	WG2391290
Zinc	ND		0.0250	1	11/06/2024 01:51	WG2391290

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	11/07/2024 00:39	WG2396393
1,2,3-Trichloropropane	ND		0.00580	1	10/29/2024 20:17	WG2391543
1,1,1-Trichloroethane	ND		1.00	1	11/07/2024 00:39	WG2396393
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/29/2024 20:17	WG2391543
1,1,2,2-Tetrachloroethane	ND		0.300	1	11/07/2024 00:39	WG2396393
1,2-Dibromoethane	ND		0.0500	1	10/29/2024 20:17	WG2391543
1,1,2-Trichloroethane	ND		1.00	1	11/07/2024 00:39	WG2396393
1,1-Dichloroethane	ND		1.00	1	11/07/2024 00:39	WG2396393
1,1-Dichloroethene	ND		1.00	1	11/07/2024 00:39	WG2396393
1,2-Dichlorobenzene	ND		1.00	1	11/07/2024 00:39	WG2396393
1,2-Dichloroethane	ND		1.00	1	11/07/2024 00:39	WG2396393
1,2-Dichloropropane	ND		1.00	1	11/07/2024 00:39	WG2396393
1,4-Dichlorobenzene	ND		1.00	1	11/07/2024 00:39	WG2396393
2-Butanone (MEK)	ND		10.0	1	11/07/2024 00:39	WG2396393
2-Hexanone	ND		5.00	1	11/07/2024 00:39	WG2396393
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/07/2024 00:39	WG2396393
Acetone	ND		25.0	1	11/07/2024 00:39	WG2396393
Acrylonitrile	ND		0.320	1	11/07/2024 00:39	WG2396393
Benzene	ND		1.00	1	11/07/2024 00:39	WG2396393
Bromochloromethane	ND		1.00	1	11/07/2024 00:39	WG2396393
Bromodichloromethane	ND		1.00	1	11/07/2024 00:39	WG2396393
Bromoform	ND		1.00	1	11/07/2024 00:39	WG2396393
Bromomethane	ND		2.50	1	11/07/2024 00:39	WG2396393
Carbon disulfide	ND		1.00	1	11/07/2024 00:39	WG2396393
Carbon tetrachloride	ND		1.00	1	11/07/2024 00:39	WG2396393
Chlorobenzene	ND		1.00	1	11/07/2024 00:39	WG2396393
Chlorodibromomethane	ND		1.00	1	11/07/2024 00:39	WG2396393
Chloroethane	ND		2.50	1	11/07/2024 00:39	WG2396393
Chloroform	ND		1.00	1	11/07/2024 00:39	WG2396393
Chloromethane	ND		1.25	1	11/07/2024 00:39	WG2396393
Dibromomethane	ND		1.00	1	11/07/2024 00:39	WG2396393
Ethylbenzene	ND		1.00	1	11/07/2024 00:39	WG2396393
Iodomethane	ND		10.0	1	11/07/2024 00:39	WG2396393
Methylene Chloride	ND		2.50	1	11/07/2024 00:39	WG2396393
Styrene	ND		1.00	1	11/07/2024 00:39	WG2396393
Tetrachloroethene	ND		1.00	1	11/07/2024 00:39	WG2396393
Toluene	ND		1.00	1	11/07/2024 00:39	WG2396393
Trichloroethene	ND		1.00	1	11/07/2024 00:39	WG2396393
Trichlorofluoromethane	ND		2.50	1	11/07/2024 00:39	WG2396393
Vinyl acetate	ND		5.00	1	11/07/2024 00:39	WG2396393
Vinyl chloride	ND		1.00	1	11/07/2024 00:39	WG2396393
Xylenes, Total	ND		1.50	1	11/07/2024 00:39	WG2396393
cis-1,2-Dichloroethene	ND		1.00	1	11/07/2024 00:39	WG2396393
cis-1,3-Dichloropropene	ND		1.00	1	11/07/2024 00:39	WG2396393
trans-1,2-Dichloroethene	ND		1.00	1	11/07/2024 00:39	WG2396393
trans-1,3-Dichloropropene	ND		1.00	1	11/07/2024 00:39	WG2396393
trans-1,4-Dichloro-2-butene	ND		1.00	1	11/07/2024 00:39	WG2396393

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*91.8*			*67.0-138*	*11/07/2024 00:39*	WG2396393
(S) Toluene-d8	*98.8*			*75.0-131*	*11/07/2024 00:39*	WG2396393
(S) 1,2-Dichloroethane-d4	*89.8*			*70.0-130*	*11/07/2024 00:39*	WG2396393

Additional Information - Results for field analyses are not accredited to ISO 17025

Analyte	Result	Units
Depth To Water (onsite)	44.69	su
pH (On Site)	7.38	su
Specific Conductance (on site)	1024	umhos/cm
Temperature (on-site)	11.9	Deg. C
Turbidity (on-site)	29.5	NTU

Gravimetric Analysis by Method 2540 C-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Dissolved Solids	672		10.0	1	10/28/2024 15:36	WG2390367

Gravimetric Analysis by Method 2540 D-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Suspended Solids	16.1		4.00	1	10/28/2024 20:44	WG2390338

Wet Chemistry by Method 2320 B-2011

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Alkalinity	452		20.0	1	10/27/2024 14:38	WG2390009

Sample Narrative:

L1792903-03 WG2390009: Endpoint pH 4.5 Headspace

Wet Chemistry by Method 350.1

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Ammonia Nitrogen	0.298		0.100	1	10/28/2024 11:51	WG2390736

Wet Chemistry by Method 9056A

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Chloride	10.3		1.00	1	10/31/2024 20:36	WG2389984
Sulfate	129		5.00	1	10/31/2024 20:36	WG2389984

Metals (ICPMS) by Method 6020

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	mg/l		mg/l		date / time	
Silver	ND		0.00200	1	11/06/2024 01:55	WG2391290
Arsenic	0.00502		0.00200	1	11/06/2024 01:55	WG2391290
Barium	0.122		0.00500	1	11/06/2024 01:55	WG2391290
Beryllium	ND		0.00200	1	11/06/2024 01:55	WG2391290
Calcium	119		1.00	1	11/06/2024 01:55	WG2391290
Cadmium	ND		0.00100	1	11/06/2024 01:55	WG2391290
Cobalt	ND		0.00200	1	11/06/2024 01:55	WG2391290
Chromium	ND		0.00200	1	11/06/2024 01:55	WG2391290
Copper	ND		0.00500	1	11/06/2024 01:55	WG2391290
Iron	0.230		0.100	1	11/06/2024 01:55	WG2391290
Potassium	8.17		1.00	1	11/06/2024 01:55	WG2391290
Magnesium	34.1		1.00	1	11/06/2024 01:55	WG2391290
Sodium	65.7		1.00	1	11/06/2024 01:55	WG2391290
Nickel	ND		0.00200	1	11/06/2024 01:55	WG2391290
Lead	ND		0.00200	1	11/06/2024 01:55	WG2391290

Metals (ICPMS) by Method 6020

Analyte	Result mg/l	Qualifier	RL mg/l	Dilution	Analysis date / time	Batch
Antimony	ND		0.00200	1	11/06/2024 01:55	WG2391290
Selenium	ND		0.00200	1	11/06/2024 01:55	WG2391290
Thallium	ND		0.00200	1	11/06/2024 01:55	WG2391290
Vanadium	ND		0.00500	1	11/06/2024 01:55	WG2391290
Zinc	ND		0.0250	1	11/06/2024 01:55	WG2391290

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
1,1,1,2-Tetrachloroethane	ND		1.00	1	11/07/2024 00:58	WG2396393
1,2,3-Trichloropropane	ND		0.00580	1	10/29/2024 20:38	WG2391543
1,1,1-Trichloroethane	ND		1.00	1	11/07/2024 00:58	WG2396393
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/29/2024 20:38	WG2391543
1,1,2,2-Tetrachloroethane	ND		0.300	1	11/07/2024 00:58	WG2396393
1,2-Dibromoethane	ND		0.0500	1	10/29/2024 20:38	WG2391543
1,1,2-Trichloroethane	ND		1.00	1	11/07/2024 00:58	WG2396393
1,1-Dichloroethane	ND		1.00	1	11/07/2024 00:58	WG2396393
1,1-Dichloroethene	ND		1.00	1	11/07/2024 00:58	WG2396393
1,2-Dichlorobenzene	ND		1.00	1	11/07/2024 00:58	WG2396393
1,2-Dichloroethane	ND		1.00	1	11/07/2024 00:58	WG2396393
1,2-Dichloropropane	ND		1.00	1	11/07/2024 00:58	WG2396393
1,4-Dichlorobenzene	ND		1.00	1	11/07/2024 00:58	WG2396393
2-Butanone (MEK)	ND		10.0	1	11/07/2024 00:58	WG2396393
2-Hexanone	ND		5.00	1	11/07/2024 00:58	WG2396393
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/07/2024 00:58	WG2396393
Acetone	ND		25.0	1	11/07/2024 00:58	WG2396393
Acrylonitrile	ND		0.320	1	11/07/2024 00:58	WG2396393
Benzene	ND		1.00	1	11/07/2024 00:58	WG2396393
Bromochloromethane	ND		1.00	1	11/07/2024 00:58	WG2396393
Bromodichloromethane	ND		1.00	1	11/07/2024 00:58	WG2396393
Bromoform	ND		1.00	1	11/07/2024 00:58	WG2396393
Bromomethane	ND		2.50	1	11/07/2024 00:58	WG2396393
Carbon disulfide	ND		1.00	1	11/07/2024 00:58	WG2396393
Carbon tetrachloride	ND		1.00	1	11/07/2024 00:58	WG2396393
Chlorobenzene	ND		1.00	1	11/07/2024 00:58	WG2396393
Chlorodibromomethane	ND		1.00	1	11/07/2024 00:58	WG2396393
Chloroethane	ND		2.50	1	11/07/2024 00:58	WG2396393
Chloroform	ND		1.00	1	11/07/2024 00:58	WG2396393
Chloromethane	ND		1.25	1	11/07/2024 00:58	WG2396393
Dibromomethane	ND		1.00	1	11/07/2024 00:58	WG2396393
Ethylbenzene	ND		1.00	1	11/07/2024 00:58	WG2396393
Iodomethane	ND		10.0	1	11/07/2024 00:58	WG2396393
Methylene Chloride	ND		2.50	1	11/07/2024 00:58	WG2396393
Styrene	ND		1.00	1	11/07/2024 00:58	WG2396393
Tetrachloroethene	ND		1.00	1	11/07/2024 00:58	WG2396393
Toluene	ND		1.00	1	11/07/2024 00:58	WG2396393
Trichloroethene	ND		1.00	1	11/07/2024 00:58	WG2396393
Trichlorofluoromethane	ND		2.50	1	11/07/2024 00:58	WG2396393
Vinyl acetate	ND		5.00	1	11/07/2024 00:58	WG2396393
Vinyl chloride	ND		1.00	1	11/07/2024 00:58	WG2396393
Xylenes, Total	ND		1.50	1	11/07/2024 00:58	WG2396393
cis-1,2-Dichloroethene	ND		1.00	1	11/07/2024 00:58	WG2396393
cis-1,3-Dichloropropene	ND		1.00	1	11/07/2024 00:58	WG2396393
trans-1,2-Dichloroethene	ND		1.00	1	11/07/2024 00:58	WG2396393
trans-1,3-Dichloropropene	ND		1.00	1	11/07/2024 00:58	WG2396393
trans-1,4-Dichloro-2-butene	ND		1.00	1	11/07/2024 00:58	WG2396393

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result ug/l	Qualifier	RL ug/l	Dilution	Analysis date / time	Batch
(S) 4-Bromofluorobenzene	*90.8*			*67.0-138*	*11/07/2024 00:58*	WG2396393
(S) Toluene-d8	*99.6*			*75.0-131*	*11/07/2024 00:58*	WG2396393
(S) 1,2-Dichloroethane-d4	*93.7*			*70.0-130*	*11/07/2024 00:58*	WG2396393

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result	Qualifier	RL	Dilution	Analysis	Batch
	ug/l		ug/l		date / time	
1,1,1,2-Tetrachloroethane	ND		1.00	1	11/06/2024 23:41	WG2396393
1,2,3-Trichloropropane	ND		0.00580	1	10/29/2024 19:12	WG2391543
1,1,1-Trichloroethane	ND		1.00	1	11/06/2024 23:41	WG2396393
1,2-Dibromo-3-Chloropropane	ND		0.200	1	10/29/2024 19:12	WG2391543
1,1,2,2-Tetrachloroethane	ND		0.300	1	11/06/2024 23:41	WG2396393
1,2-Dibromoethane	ND		0.0500	1	10/29/2024 19:12	WG2391543
1,1,2-Trichloroethane	ND		1.00	1	11/06/2024 23:41	WG2396393
1,1-Dichloroethane	ND		1.00	1	11/06/2024 23:41	WG2396393
1,1-Dichloroethene	ND		1.00	1	11/06/2024 23:41	WG2396393
1,2-Dichlorobenzene	ND		1.00	1	11/06/2024 23:41	WG2396393
1,2-Dichloroethane	ND		1.00	1	11/06/2024 23:41	WG2396393
1,2-Dichloropropane	ND		1.00	1	11/06/2024 23:41	WG2396393
1,4-Dichlorobenzene	ND		1.00	1	11/06/2024 23:41	WG2396393
2-Butanone (MEK)	ND		10.0	1	11/06/2024 23:41	WG2396393
2-Hexanone	ND		5.00	1	11/06/2024 23:41	WG2396393
4-Methyl-2-pentanone (MIBK)	ND		5.00	1	11/06/2024 23:41	WG2396393
Acetone	ND		25.0	1	11/06/2024 23:41	WG2396393
Acrylonitrile	ND		0.320	1	11/06/2024 23:41	WG2396393
Benzene	ND		1.00	1	11/06/2024 23:41	WG2396393
Bromochloromethane	ND		1.00	1	11/06/2024 23:41	WG2396393
Bromodichloromethane	ND		1.00	1	11/06/2024 23:41	WG2396393
Bromoform	ND		1.00	1	11/06/2024 23:41	WG2396393
Bromomethane	ND		2.50	1	11/06/2024 23:41	WG2396393
Carbon disulfide	ND		1.00	1	11/06/2024 23:41	WG2396393
Carbon tetrachloride	ND		1.00	1	11/06/2024 23:41	WG2396393
Chlorobenzene	ND		1.00	1	11/06/2024 23:41	WG2396393
Chlorodibromomethane	ND		1.00	1	11/06/2024 23:41	WG2396393
Chloroethane	ND		2.50	1	11/06/2024 23:41	WG2396393
Chloroform	ND		1.00	1	11/06/2024 23:41	WG2396393
Chloromethane	ND		1.25	1	11/06/2024 23:41	WG2396393
Dibromomethane	ND		1.00	1	11/06/2024 23:41	WG2396393
Ethylbenzene	ND		1.00	1	11/06/2024 23:41	WG2396393
Iodomethane	ND		10.0	1	11/06/2024 23:41	WG2396393
Methylene Chloride	ND		2.50	1	11/06/2024 23:41	WG2396393
Styrene	ND		1.00	1	11/06/2024 23:41	WG2396393
Tetrachloroethene	ND		1.00	1	11/06/2024 23:41	WG2396393
Toluene	ND		1.00	1	11/06/2024 23:41	WG2396393
Trichloroethene	ND		1.00	1	11/06/2024 23:41	WG2396393
Trichlorofluoromethane	ND		2.50	1	11/06/2024 23:41	WG2396393
Vinyl acetate	ND		5.00	1	11/06/2024 23:41	WG2396393
Vinyl chloride	ND		1.00	1	11/06/2024 23:41	WG2396393
Xylenes, Total	ND		1.50	1	11/06/2024 23:41	WG2396393
cis-1,2-Dichloroethene	ND		1.00	1	11/06/2024 23:41	WG2396393
cis-1,3-Dichloropropene	ND		1.00	1	11/06/2024 23:41	WG2396393
trans-1,2-Dichloroethene	ND		1.00	1	11/06/2024 23:41	WG2396393
trans-1,3-Dichloropropene	ND		1.00	1	11/06/2024 23:41	WG2396393
trans-1,4-Dichloro-2-butene	ND		1.00	1	11/06/2024 23:41	WG2396393
(S) 4-Bromofluorobenzene	*95.5*			*67.0-138*	*11/06/2024 23:41*	WG2396393
(S) Toluene-d8	*99.2*			*75.0-131*	*11/06/2024 23:41*	WG2396393
(S) 1,2-Dichloroethane-d4	*89.8*			*70.0-130*	*11/06/2024 23:41*	WG2396393

1 Cp
2 Tc
3 Ss
4 Cn
5 Sr
6 Qc
7 Gl
8 Al
9 Sc

Method Blank (MB)

(MB) R4140472-1 10/28/24 15:36

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Dissolved Solids	ND		2.82	10.0

L1792903-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1792903-01 10/28/24 15:36 • (DUP) R4140472-3 10/28/24 15:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	1770	1720	1	2.87		10

L1793200-07 Original Sample (OS) • Duplicate (DUP)

(OS) L1793200-07 10/28/24 15:36 • (DUP) R4140472-4 10/28/24 15:36

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Dissolved Solids	784	768	1	2.06		10

Laboratory Control Sample (LCS)

(LCS) R4140472-2 10/28/24 15:36

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Dissolved Solids	8800	8680	98.6	85.0-115	

Method Blank (MB)

(MB) R4139038-1 10/28/24 20:44

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Suspended Solids	ND		0.350	2.50

L1792949-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1792949-02 10/28/24 20:44 • (DUP) R4139038-3 10/28/24 20:44

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Suspended Solids	25.2	27.2	1	7.63		10

Laboratory Control Sample (LCS)

(LCS) R4139038-2 10/28/24 20:44

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Suspended Solids	773	792	102	85.0-115	

Method Blank (MB)

(MB) R4138178-2 10/27/24 13:00

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Alkalinity	ND		2.71	20.0

Sample Narrative:

BLANK: Endpoint pH 4.5

L1792168-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1792168-14 10/27/24 13:12 • (DUP) R4138178-3 10/27/24 13:18

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	161	160	1	0.511		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

L1792860-01 Original Sample (OS) • Duplicate (DUP)

(OS) L1792860-01 10/27/24 15:16 • (DUP) R4138178-4 10/27/24 15:21

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Alkalinity	76.1	78.0	1	2.45		20

Sample Narrative:

OS: Endpoint pH 4.5 Headspace

DUP: Endpoint pH 4.5

Laboratory Control Sample (LCS)

(LCS) R4138178-1 10/27/24 12:53

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Alkalinity	100	103	103	90.0-110	

Sample Narrative:

LCS: Endpoint pH 4.5

Method Blank (MB)

(MB) R4138483-1 10/28/24 10:57

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Ammonia Nitrogen	ND		0.0317	0.100

L1792903-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1792903-02 10/28/24 11:40 • (DUP) R4138483-3 10/28/24 11:46

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.406	0.408	1	0.491		10

L1792903-03 Original Sample (OS) • Duplicate (DUP)

(OS) L1792903-03 10/28/24 11:51 • (DUP) R4138483-6 10/28/24 11:52

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Ammonia Nitrogen	0.298	0.297	1	0.336		10

Laboratory Control Sample (LCS)

(LCS) R4138483-2 10/28/24 10:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Ammonia Nitrogen	7.50	7.40	98.7	90.0-110	

L1792903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792903-02 10/28/24 11:40 • (MS) R4138483-4 10/28/24 11:48 • (MSD) R4138483-5 10/28/24 11:49

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Ammonia Nitrogen	5.00	0.406	5.52	5.49	102	102	1	90.0-110			0.436	10

L1792903-03 Original Sample (OS) • Matrix Spike (MS)

(OS) L1792903-03 10/28/24 11:51 • (MS) R4138483-7 10/28/24 11:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Ammonia Nitrogen	5.00	0.298	5.33	101	1	90.0-110	

Method Blank (MB)

(MB) R4140613-1 10/31/24 11:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Chloride	ND		0.0519	1.00
Sulfate	ND		0.0774	5.00

L1792711-12 Original Sample (OS) • Duplicate (DUP)

(OS) L1792711-12 10/31/24 11:47 • (DUP) R4140613-3 10/31/24 12:03

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	5.83	5.83	1	0.0532		15
Sulfate	22.8	22.8	1	0.0223		15

L1792711-14 Original Sample (OS) • Duplicate (DUP)

(OS) L1792711-14 10/31/24 13:22 • (DUP) R4140613-6 10/31/24 13:38

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Chloride	27.4	27.3	1	0.0852		15
Sulfate	ND	ND	1	0.178		15

Laboratory Control Sample (LCS)

(LCS) R4140613-2 10/31/24 11:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloride	40.0	38.2	95.6	80.0-120	
Sulfate	40.0	36.6	91.6	80.0-120	

L1792711-12 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792711-12 10/31/24 11:47 • (MS) R4140613-4 10/31/24 12:19 • (MSD) R4140613-5 10/31/24 12:35

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Chloride	40.0	5.83	44.3	43.5	96.2	94.2	1	80.0-120			1.81	15
Sulfate	40.0	22.8	56.7	56.1	84.7	83.3	1	80.0-120			0.995	15

L1792711-14 Original Sample (OS) • Matrix Spike (MS)

(OS) L1792711-14 10/31/24 13:22 • (MS) R4140613-7 10/31/24 13:54

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Chloride	40.0	27.4	61.9	86.5	1	80.0-120	
Sulfate	40.0	ND	40.8	94.8	1	80.0-120	

QUALITY CONTROL SUMMARY

L1792903-02

Method Blank (MB)

(MB) R4141976-1 11/04/24 15:16

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Sulfate	ND		0.0774	5.00

L1792903-02 Original Sample (OS) • Duplicate (DUP)

(OS) L1792903-02 11/04/24 15:41 • (DUP) R4141976-3 11/04/24 17:22

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	218	216	5	1.00		15

L1795186-10 Original Sample (OS) • Duplicate (DUP)

(OS) L1795186-10 11/04/24 19:56 • (DUP) R4141976-6 11/04/24 20:08

Analyte	Original Result mg/l	DUP Result mg/l	Dilution	DUP RPD %	DUP Qualifier	DUP RPD Limits %
Sulfate	251	256	10	2.06		15

Laboratory Control Sample (LCS)

(LCS) R4141976-2 11/04/24 15:29

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Sulfate	40.0	40.9	102	80.0-120	

L1792903-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792903-02 11/04/24 15:41 • (MS) R4141976-4 11/04/24 17:35 • (MSD) R4141976-5 11/04/24 17:48

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Sulfate	40.0	218	202	203	0.000	0.000	5	80.0-120	V	V	0.441	15

L1795186-10 Original Sample (OS) • Matrix Spike (MS)

(OS) L1795186-10 11/04/24 19:56 • (MS) R4141976-7 11/04/24 20:21

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MS Rec. %	Dilution	Rec. Limits %	MS Qualifier
Sulfate	40.0	251	236	0.000	10	80.0-120	V

QUALITY CONTROL SUMMARY

L1792903-01,02,03

Method Blank (MB)

(MB) R4142565-1 11/06/24 00:56

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Silver	ND		0.000250	0.00200
Arsenic	ND		0.000250	0.00200
Barium	ND		0.000360	0.00500
Beryllium	ND		0.000120	0.00200
Calcium	ND		0.0460	1.00
Cadmium	ND		0.000160	0.00100
Cobalt	ND		0.000260	0.00200
Chromium	ND		0.000540	0.00200
Copper	ND		0.000520	0.00500
Iron	ND		0.0150	0.100
Potassium	ND		0.0370	1.00
Magnesium	ND		0.100	1.00
Sodium	ND		0.110	1.00
Nickel	ND		0.000350	0.00200
Lead	ND		0.000240	0.00200
Antimony	ND	J	0.000754	0.00200
Selenium	ND		0.000380	0.00200
Thallium	ND		0.000190	0.00200
Vanadium	0.000251		0.000180	0.00500
Zinc	ND		0.00256	0.0250

Laboratory Control Sample (LCS)

(LCS) R4142565-2 11/06/24 00:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Silver	0.0500	0.0472	94.4	80.0-120	
Arsenic	0.0500	0.0476	95.2	80.0-120	
Barium	0.0500	0.0457	91.4	80.0-120	
Beryllium	0.0500	0.0475	95.1	80.0-120	
Calcium	5.00	4.85	97.0	80.0-120	
Cadmium	0.0500	0.0485	97.0	80.0-120	
Cobalt	0.0500	0.0495	99.0	80.0-120	
Chromium	0.0500	0.0490	97.9	80.0-120	
Copper	0.0500	0.0478	95.6	80.0-120	
Iron	1.00	0.939	93.9	80.0-120	
Potassium	5.00	4.77	95.5	80.0-120	
Magnesium	5.00	4.85	97.0	80.0-120	
Sodium	5.00	4.84	96.9	80.0-120	

Laboratory Control Sample (LCS)

(LCS) R4142565-2 11/06/24 00:59

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Nickel	0.0500	0.0494	98.7	80.0-120	
Lead	0.0500	0.0472	94.5	80.0-120	
Antimony	0.0500	0.0500	100	80.0-120	
Selenium	0.0500	0.0444	88.8	80.0-120	
Thallium	0.0500	0.0454	90.8	80.0-120	
Vanadium	0.0500	0.0486	97.1	80.0-120	
Zinc	0.0500	0.0482	96.3	80.0-120	

L1792903-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1792903-01 11/06/24 01:02 • (MS) R4142565-4 11/06/24 01:09 • (MSD) R4142565-5 11/06/24 01:12

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %	RPD Limits %
Silver	0.0500	ND	0.0490	0.0482	98.0	96.3	1	75.0-125			1.69	20
Arsenic	0.0500	0.0227	0.0732	0.0723	101	99.2	1	75.0-125			1.22	20
Barium	0.0500	0.0231	0.0745	0.0731	103	100	1	75.0-125			1.95	20
Beryllium	0.0500	ND	0.0492	0.0488	98.3	97.5	1	75.0-125			0.796	20
Calcium	5.00	208	210	209	43.0	32.2	1	75.0-125	V	V	0.256	20
Cadmium	0.0500	ND	0.0500	0.0496	100	99.2	1	75.0-125			0.874	20
Cobalt	0.0500	ND	0.0507	0.0497	100	98.3	1	75.0-125			1.85	20
Chromium	0.0500	ND	0.0503	0.0497	98.7	97.4	1	75.0-125			1.28	20
Copper	0.0500	ND	0.0530	0.0500	101	95.2	1	75.0-125			5.86	20
Iron	1.00	3.44	4.40	4.70	96.0	126	1	75.0-125		J5	6.67	20
Potassium	5.00	11.0	16.0	16.6	100	112	1	75.0-125			3.45	20
Magnesium	5.00	54.8	58.8	59.6	79.3	97.0	1	75.0-125			1.49	20
Sodium	5.00	145	147	149	29.6	64.7	1	75.0-125	V	V	1.19	20
Nickel	0.0500	ND	0.0511	0.0514	99.2	99.8	1	75.0-125			0.585	20
Lead	0.0500	ND	0.0489	0.0480	97.7	96.0	1	75.0-125			1.84	20
Antimony	0.0500	ND	0.0535	0.0535	107	107	1	75.0-125			0.0554	20
Selenium	0.0500	ND	0.0496	0.0488	99.2	97.5	1	75.0-125			1.71	20
Thallium	0.0500	ND	0.0471	0.0465	94.1	93.0	1	75.0-125			1.16	20
Vanadium	0.0500	ND	0.0509	0.0511	99.4	99.8	1	75.0-125			0.417	20
Zinc	0.0500	ND	0.0532	0.0536	95.6	96.4	1	75.0-125			0.764	20

Method Blank (MB)

(MB) R4139589-2 10/29/24 15:16

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,2,3-Trichloropropane	ND		0.00200	0.00500
1,2-Dibromo-3-Chloropropane	ND		0.000520	0.200
1,2-Dibromoethane	ND		0.00410	0.00500

Laboratory Control Sample (LCS)

(LCS) R4139589-1 10/29/24 14:54

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,2,3-Trichloropropane	0.0500	0.0530	106	70.0-130	
1,2-Dibromo-3-Chloropropane	0.0500	0.0540	108	70.0-130	
1,2-Dibromoethane	0.0500	0.0520	104	70.0-130	

Method Blank (MB)

(MB) R4143546-2 11/06/24 21:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
1,1,1,2-Tetrachloroethane	ND		0.0379	0.100
1,1,1-Trichloroethane	ND		0.0369	0.100
1,1,2,2-Tetrachloroethane	ND		0.0278	0.100
1,1,2-Trichloroethane	ND		0.0239	0.100
1,1-Dichloroethane	ND		0.0196	0.100
1,1-Dichloroethene	ND		0.0242	0.100
1,2-Dichlorobenzene	ND		0.0170	0.200
1,2-Dichloroethane	ND		0.0260	0.100
1,2-Dichloropropane	ND		0.0568	0.200
1,4-Dichlorobenzene	ND		0.0280	0.200
2-Butanone (MEK)	ND		2.54	4.00
2-Hexanone	ND		0.134	1.00
4-Methyl-2-pentanone (MIBK)	ND		0.0912	1.00
Acetone	ND		1.46	2.00
Acrylonitrile	ND		0.144	0.500
Benzene	ND		0.0187	0.0400
Bromochloromethane	ND		0.0226	0.200
Bromodichloromethane	ND		0.0290	0.100
Bromoform	ND		0.0468	1.00
Bromomethane	ND		0.0788	0.500
Carbon disulfide	ND		0.0280	0.500
Carbon tetrachloride	ND		0.0359	0.200
Chlorobenzene	ND		0.00840	0.100
Chlorodibromomethane	ND		0.0245	0.100
Chloroethane	ND		0.0680	0.200
Chloroform	ND		0.0412	0.100
Chloromethane	ND		0.174	0.500
Dibromomethane	ND		0.0300	0.200
Ethylbenzene	ND		0.0295	0.100
Iodomethane	ND		0.0928	0.500
Methylene Chloride	ND		0.266	1.00
Styrene	ND		0.00916	0.500
Tetrachloroethene	ND		0.0358	0.100
Toluene	ND		0.0520	0.200
Trichloroethene	ND		0.0234	0.0400
Trichlorofluoromethane	ND		0.0331	0.100
Vinyl acetate	ND		0.102	0.500
Vinyl chloride	ND		0.0462	1.00
Xylenes, Total	ND		0.0352	0.260
cis-1,2-Dichloroethene	ND		0.0294	0.100

Method Blank (MB)

(MB) R4143546-2 11/06/24 21:29

Analyte	MB Result ug/l	MB Qualifier	MB MDL ug/l	MB RDL ug/l
cis-1,3-Dichloropropene	ND		0.0303	0.100
trans-1,2-Dichloroethene	ND		0.0416	0.200
trans-1,3-Dichloropropene	ND		0.0456	0.200
trans-1,4-Dichloro-2-butene	ND		0.0744	0.200
(S) 4-Bromofluorobenzene	*94.3*			*67.0-138*
(S) Toluene-d8	*100*			*75.0-131*
(S) 1,2-Dichloroethane-d4	*88.4*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R4143546-1 11/06/24 20:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
1,1,1,2-Tetrachloroethane	5.00	5.56	111	74.0-129	
1,1,1-Trichloroethane	5.00	4.99	99.8	69.0-126	
1,1,2,2-Tetrachloroethane	5.00	4.07	81.4	68.0-128	
1,1,2-Trichloroethane	5.00	4.72	94.4	78.0-123	
1,1-Dichloroethane	5.00	4.64	92.8	70.0-127	
1,1-Dichloroethene	5.00	4.79	95.8	65.0-131	
1,2-Dichlorobenzene	5.00	4.75	95.0	76.0-124	
1,2-Dichloroethane	5.00	5.07	101	65.0-131	
1,2-Dichloropropane	5.00	4.31	86.2	74.0-125	
1,4-Dichlorobenzene	5.00	4.45	89.0	77.0-121	
2-Butanone (MEK)	25.0	25.3	101	30.0-160	
2-Hexanone	25.0	24.1	96.4	54.0-147	
4-Methyl-2-pentanone (MIBK)	25.0	29.6	118	56.0-143	
Acetone	25.0	27.5	110	10.0-160	
Acrylonitrile	25.0	26.4	106	45.0-153	
Benzene	5.00	4.43	88.6	70.0-123	
Bromochloromethane	5.00	5.13	103	77.0-128	
Bromodichloromethane	5.00	4.60	92.0	73.0-121	
Bromoform	5.00	5.16	103	64.0-132	
Bromomethane	5.00	4.05	81.0	56.0-147	
Carbon disulfide	5.00	4.30	86.0	56.0-133	
Carbon tetrachloride	5.00	5.01	100	66.0-128	
Chlorobenzene	5.00	4.94	98.8	76.0-128	
Chlorodibromomethane	5.00	4.88	97.6	74.0-127	
Chloroethane	5.00	4.19	83.8	61.0-134	
Chloroform	5.00	4.81	96.2	72.0-123	

Laboratory Control Sample (LCS)

(LCS) R4143546-1 11/06/24 20:31

Analyte	Spike Amount ug/l	LCS Result ug/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Chloromethane	5.00	4.44	88.8	51.0-138	
Dibromomethane	5.00	4.80	96.0	75.0-122	
Ethylbenzene	5.00	4.87	97.4	74.0-126	
Iodomethane	25.0	24.2	96.8	74.0-134	
Methylene Chloride	5.00	4.50	90.0	68.0-123	
Styrene	5.00	4.57	91.4	72.0-127	
Tetrachloroethene	5.00	5.43	109	70.0-136	
Toluene	5.00	4.75	95.0	75.0-121	
Trichloroethene	5.00	5.27	105	76.0-126	
Trichlorofluoromethane	5.00	5.04	101	61.0-142	J
Vinyl acetate	25.0	29.6	118	43.0-159	
Vinyl chloride	5.00	4.31	86.2	63.0-134	
Xylenes, Total	15.0	14.7	98.0	72.0-127	
cis-1,2-Dichloroethene	5.00	4.51	90.2	73.0-125	
cis-1,3-Dichloropropene	5.00	4.65	93.0	76.0-127	
trans-1,2-Dichloroethene	5.00	4.67	93.4	71.0-125	
trans-1,3-Dichloropropene	5.00	4.54	90.8	73.0-127	
trans-1,4-Dichloro-2-butene	5.00	4.28	85.6	45.0-143	
(S) 4-Bromofluorobenzene			*97.8*	*67.0-138*	
(S) Toluene-d8			*99.8*	*75.0-131*	
(S) 1,2-Dichloroethane-d4			*89.3*	*70.0-130*	

GLOSSARY OF TERMS

Guide to Reading and Understanding Your Laboratory Report

The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Reporting Limit (or MDL where applicable).
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state “ND” (Not Detected) or “BDL” (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J5	The sample matrix interfered with the ability to make any accurate determination; spike value is high.
V	The sample concentration is too high to evaluate accurate spike recoveries.

ACCREDITATIONS & LOCATIONS

Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	923	North Dakota	R-140
Idaho	TN00003	Ohio–VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO000356
Kentucky [1 6]	KY90010	South Carolina	84004002
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas [5]	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

[1] Drinking Water [2] Underground Storage Tanks [3] Aquatic Toxicity [4] Chemical/Microbiological [5] Mold [6] Wastewater n/a Accreditation not applicable

* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

Company Name/Address:
Central Disposal Systems, Inc. Landfill

21265 430th Street
Lake Mills, IA 50450

Billing Information:
Accounts Payable/kolson2@wm.com
PO Box 4745
Portland, OR 97208-4745

Pres Chk

Report to: **Aaron Rebmann**

Email To: chris.kaiser@stantec.com;cory.anderson2@stan

Project Description: **Central Disposal Systems, Inc. Landfill**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **763-479-5185**

Client Project # **200**

Lab Project # **WMCENIA-00008**

Collected by (print): Mike Haun

Site/Facility ID # **IA02**

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y ✓

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	ALK,CHLORIDE,SULFATE 125mlHDPE-NoPres	Metals 250mlHDPE-HNO3	NH3 250mlHDPE-H2SO4	TDS 1L-HDPE NoPres	TSS 1L-HDPE NoPres	V524LL 40mlAmb-AscAcid+HCl	V524LL 40mlAmb-HCl-Blk	V8260ULL 40mlAmb-HCl	V8260ULL 40mlAmb-HCl-Blk	Remarks	Sample # (lab only)
MW-134	Grab	GW		10/24/24	1200	11	X	X	X	X	X	X		X			-01
MW-135	↓	GW		↓	1230	11	X	X	X	X	X	X		X			-02
MW-136	↓	GW		↓	1145	11	X	X	X	X	X	X		X			-03
Trip Blank		GW				2							X		X		-04

Chain of Custody Page 1 of 1

Pace
PEOPLE ADVANCING SCIENCE

MT JULIET, TN
12065 Lebanon Rd Mount Juliet, TN 37122

Submitting a sample via this chain of custody constitutes acknowledgment and acceptance of the Pace Terms and Conditions found at: https://info.pacelabs.com/hubfs/pas-standard-terms.pdf

SDG # 179203
J184

Acctnum: **WMCENIA**
Template: **T231655**
Prelogin: **P1102351**
PM: 364 - T. Alan Harvill
PB:

Shipped Via: **FedEX Ground**

* Matrix:
SS - Soil **AIR** - Air **F** - Filter
GW - Groundwater **B** - Bioassay
WW - WasteWater
DW - Drinking Water
OT - Other_____

Remarks:

pH _____ Temp _____
Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 404104855827

Sample Receipt Checklist
COC Seal Present/Intact: __NP ✓Y __N
COC Signed/Accurate: ✓Y __N
Bottles arrive intact: ✓Y __N
Correct bottles used: ✓Y __N
Sufficient volume sent: ✓Y __N
If Applicable
VOA Zero Headspace: __Y __N
Preservation Correct/Checked: __Y ✓N
RAD Screen <0.5 mR/hr: ✓Y __N

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCl / MeoH TBR
	10/24/24	1700	Fedex	2
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				0.4+3=0.7 33
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				10/25/24 0930

If preservation required by Login: Date/Time

Hold:

Condition: NCF / OK

FIELD INFORMATION FORM

WM WASTE MANAGEMENT

Site Name: CDS

Site No.:

Sample Point: MW134 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1792903

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
10 24 24	1000	:	4.3		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment ... Dedicated: (Y) or N

Filter Device: Y or (N) 0.45 μ or ___ μ (circle or fill in)

Purging Device: C

Sampling Device: C

X-Other:

A- Submersible Pump, B-Peristaltic Pump, C-QED Bladder Pump, D-Bailer, E-Piston Pump, F-Dipper/Bottle

Filter Type: ___ A-In-line Disposable, B-Pressure, C-Vacuum, X-Other

Sample Tube Type: ___ A-Teflon, B-Stainless Steel, C-PVC, D-Polypropylene, X-Other:

WELL DATA

Well Elevation (at TOC): ___ (ft/msl)

Depth to Water (DTW) (from TOC): 31.60 (ft)

Groundwater Elevation (site datum, from TOC): ___ (ft/msl)

Total Well Depth (from TOC): 58.1 (ft)

Stick Up (from ground elevation): ___ (ft)

Casing ID: ___ (in)

Casing Material:

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit GPM	pH (std)	Conductance (SC/EC) (μmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
10:15	0.5	1st 7.73	1st 2071	12.2	3.4	1.8	-49	
:		2nd	2nd					
:		3rd	3rd					
:		4th	4th					
12:00		7.51	2055	12.0	4.1	2.3	-10	
:								
:								
:								
:								
:								
:								
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	--	--	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ___ Units ___

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ___ Odor: None Color: None Other:

Weather Conditions (required daily, or as conditions change): Direction/Speed: ___ Outlook: ___ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

Purged to near ~~dryness~~ dryness and allowed to recover

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
10/24/24	Mike H[illegible]	[signature]	Alcon

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: | | | | | Sample Point: MW135 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1792903

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
102424	1030	:	4.1		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Purging Device: ____ Sampling Device: ____ X-Other: ____

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

Filter Device: Y or (N) 0.45 µ or ____ µ (circle or fill in)

Filter Type: ____ A-In-line Disposable; B-Pressure; C-Vacuum; X-Other ____

Sample Tube Type: ____ A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: ____

WELL DATA

Well Elevation (at TOC): ____ (ft/msl)

Depth to Water (DTW) (from TOC): 48.96 (ft)

Groundwater Elevation (site datum, from TOC): ____ (ft/msl)

Total Well Depth (from TOC): 74.1 (ft)

Stick Up (from ground elevation): ____ (ft)

Casing ID: ____ (in)

Casing Material: ____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit	pH (std)	Conductance (SC/EC) (µmhos/cm @ 25 °C)	Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1100	0.5 GPM	1st 7.25	1st 1217	12.6	26	3.1	20	
:		2nd	2nd					
:		3rd	3rd					
1230		4th 7.21	4th 1266	12.5	22	3.5	25	
:								
:								
:								
:								
:								
:								
:								
Suggested range for 3 consec. readings or note Permit/State requirements:		+/- 0.2	+/- 3%	–	–	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: ____ Units ____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: ____ Odor: None Color: N 4 Other: ____

Weather Conditions (required daily, or as conditions change): Direction/Speed: ____ Outlook: ____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required):

Purged to near dryness and allowed to recover

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
10/24/24	Mike Hume		Aloha

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

ORIGINAL COPY

FIELD INFORMATION FORM

WASTE MANAGEMENT

Site Name: CDS

Site No.: | | | | | Sample Point: MW136 (Sample ID)

This Waste Management Field Information Form is Required
This form is to be completed, in addition to any State Forms. The Field Form is submitted along with the Chain of Custody Forms that accompany the sample containers (i.e. with the cooler that is returned to the laboratory).

Laboratory Use Only/Lab ID: L1792903

PURGE INFO

PURGE DATE (MM DD YY)	PURGE TIME (2400 Hr Clock)	ELAPSED HRS (hrs:min)	WATER VOL IN CASING (Gallons)	ACTUAL VOL PURGED (Gallons)	WELL VOLs PURGED
102424	1100		5.8		

Note: For Passive Sampling, replace "Water Vol in Casing" and "Well Vols Purged" w/ Water Vol in Tubing/Flow Cell and Tubing/Flow Cell Vols Purged. Mark changes, record field data, below.

PURGE/SAMPLE EQUIPMENT

Purging and Sampling Equipment … Dedicated: (Y) or N

Purging Device: C

Sampling Device: C

A- Submersible Pump; B-Peristaltic Pump; C-QED Bladder Pump; D-Bailer; E-Piston Pump; F-Dipper/Bottle

X-Other:

Filter Device: Y or (N) 0.45 µ or _____ µ (circle or fill in)

Filter Type: A-In-line Disposable; B-Pressure; C-Vacuum; X-Other _____

Sample Tube Type: A-Teflon; B-Stainless Steel; C-PVC; D-Polypropylene; X-Other: _____

WELL DATA

Well Elevation (at TOC) _____ (ft/msl)

Depth to Water (DTW) (from TOC) 44.69 (ft)

Groundwater Elevation (site datum, from TOC) _____ (ft/msl)

Total Well Depth (from TOC) 80.4 (ft)

Stick Up (from ground elevation) _____ (ft)

Casing ID _____ (in)

Casing Material _____

Note: Total Well Depth, Stick Up, Casing Id, etc. are optional and can be from historical data, unless required by Site/Permit. Well Elevation, DTW, and Groundwater Elevation must be current.

STABILIZATION DATA (Optional)

Sample Time (2400 Hr Clock)	Rate/Unit GPM		pH (std)		Conductance (SC/EC) (µmhos/cm @ 25 °C)		Temp. (°C)	Turbidity (ntu)	D.O. (mg/L - ppm)	eH/ORP (mV)	DTW (ft)
1115	0.5	1st	7.25	1st	1037		11.6	503	3.8	55	
1130		2nd	7.30	2nd	1030		11.8	374	5.0	87	
1145		3rd	7.38	3rd	1024		11.9	295	6.0	109	
		4th		4th							
Suggested range for 3 consec. readings or note Permit/State requirements:			+/- 0.2		+/- 3%		–	–	+/- 10%	+/- 25 mV	Stabilize

Stabilization Data Fields are Optional *(i.e. complete stabilization readings for parameters required by WM, Site, or State). These fields can be used where four (4) field measurements are required by State/Permit/Site. If a Data Logger or other Electronic format is used, fill in final readings below and submit electronic data separately to Site. If more fields above are needed, use separate sheet or form*

FIELD DATA

SAMPLE DATE (MM DD YY)	pH (std)	CONDUCTANCE (umhos/cm @ 25°C)	TEMP. (°C)	TURBIDITY (ntu)	DO (mg/L-ppm)	eH/ORP (mV)	Other: _____ Units _____

Final Field Readings are required *(i.e. record field measurements, final stabilized readings, passive sample readings before sampling for all field parameters required by State/Permit/Site.*

FIELD COMMENTS

Sample Appearance: _____ Odor: None Color: None Other: _____

Weather Conditions (required daily, or as conditions change): Direction/Speed: _____ Outlook: _____ Precipitation: Y or N

Specific Comments (including purge/well volume calculations if required): _____

I certify that sampling procedures were in accordance with applicable EPA, State, and WM protocols (if more than one sampler, all should sign):

Date	Name	Signature	Company
10/24/24	Mike Hay		Allen

DISTRIBUTION: WHITE/ORIGINAL - Stays with Sample, YELLOW - Returned to Client

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Appendix F Historical Data Summary Tables

Appendix F Table F-1 - Groundwater Underdrain (GU-V-2) VOCs

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Volatile Organic Compound (µg/L)	Groundwater Performance Standard	North Leachate Pond VOC range*	GU-V-2																
			08/01/12	*09/25/12*	*06/25/13*	*07/16/13*	*08/28/13*	*05/21/14*	*10/07/14*	*05/11/15*	*10/13/15*	*08/29/16*	*11/10/16*	*05/16/17*	*10/23/17*	*07/31/18*	*11/27/18*	*05/20/20*	*05/11/23*
Acetone	6,300	410 - 1,400	Dry; NS	--	30.0	19.0	--	--	--	--	--	--	--	--	--	NS	NS	--	--
Benzene	5	--	Dry; NS	--	21.0	20.0	61.0	16.0	3.7	--	--	--	--	--	--	NS	NS	--	--
Carbon Disulfide	700	--	Dry; NS	--	--	10.0	--	--	--	--	--	--	--	--	--	NS	NS	--	--
Chloroethane	2,800	--	Dry; NS	--	2.5	2.1	3.7	4.6	1.1	--	--	--	--	--	--	NS	NS	--	--
cis-1,2-Dichloroethene	70	--	Dry; NS		--	--	1.4	--	--	--	--	--	--	--	--	NS	NS	--	--
1,4-dichlorobenzene	75	--	Dry; NS	--	--	--	--	-	-	--	--	--	--	--	--	NS	NS	--	--
Ethylbenzene	700	--	Dry; NS	--	5.2	5.7	12.0	--	--	--	--	--	--	--	--	NS	NS	--	--
Methyl Ethyl Ketone	4,000	320 - 2,200	Dry; NS	--	--	--	--	--	--	--	--	--	--	--	--	NS	NS	--	--
Methyl Isobutyl Ketone	--	--	Dry; NS	--	12.0	12.0	--	--	--	--	--	--	--	--	--	NS	NS	--	--
Toluene	1,000	--	Dry; NS	--	5.5	9.2	1.6	--	--	--	--	--	--	--	--	NS	NS	--	--
Vinyl Chloride	2	--	Dry; NS	--	--	--	--	1.3	2.0	--	--	--	--	--	--	NS	NS	--	--
Xylenes	10,000	13 - 76	Dry; NS	--	--	2.0	--	--	--	--	--	--	--	--	--	NS	NS	--	--

Notes:

* - Four events completed in 2013

-- = Not Detected; VOC was not detected at concentrations above its reporting limit

NS= No Sample; No sample collected

VOC detected at concentrations above Groundwater Performance Standard

Appendix F Table F-2 - Assessment Monitoring Summary

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Parameter	Date	RL	GWPS/MCL	Units	MW-11	MW-115	MW-130	MW-131	MW-132	MW-133
Organochlorine pesticides	12/22/11	-	-	ug/L	ND	--	ND	ND	ND	ND
(per EPA method 8081A)	03/28/12				ND	--	ND	ND	ND	ND
	06/26/12				ND	--	ND	ND	ND	ND
	09/26/12				ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	--
	05/24/16				--	ND	--	--	--	ND
Herbicides										
(per EPA method 8151A)	12/22/11	-	-	ug/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/26/12				ND	--	ND	ND	ND	ND
	09/26/12				ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	--
	05/24/16				--	ND	--	--	--	ND
Polychlorinated Bihenyls (PCBs)										
(per EPA method 8082)	12/22/11	-	-	ug/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/26/12				ND	--	ND	ND	ND	ND
	09/26/12				ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	--
	05/24/16				--	ND	--	--	--	ND
Semi-Volatile Organics										
(per EPA method 8270C)										
Bis(2-ethylhexyl)phthalate	12/22/11	5	6	ug/L	ND	--	ND	ND	ND	23
	03/28/12				ND	--	ND	ND	ND	ND
	06/25/12				ND	--	ND	ND	ND	ND
	09/24/12				ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	ND
	05/24/16				--	ND	--	--	--	ND
Diethyl phthalate	12/22/11	5	5600	ug/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/25/12				ND	--	ND	ND	ND	ND
	09/24/12				ND	--	ND	ND	ND*	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	ND
	05/24/16				--	ND	--	--	--	ND
Butyl benzyl phthalate	12/22/11	5	140	ug/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/25/12				ND	--	ND	ND	ND	ND
	09/24/12				ND	--	ND	ND	ND*	ND
	10/14/15				--	ND	--	--	--	15
	03/28/16				--	--	--	--	--	ND
	05/24/16				--	ND	--	--	--	ND
Appendix II Inorganic Parameters										
Cyanide	12/22/11	0.01	0.2	mg/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/26/12				ND	--	ND	ND	ND	ND
	09/26/12				ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	--
	05/24/16				--	ND	--	--	--	ND
Mercury	12/22/11	0.4	2	ug/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/26/12				ND	--	ND	ND	ND	ND
	09/26/12				ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	--
	05/24/16				--	ND	--	--	--	ND
Sulfide	12/22/11	1	NA	mg/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/26/12				ND	--	ND	ND	ND	ND

Appendix F Table F-2 - Assessment Monitoring Summary

Central Disposal Landfill - Lake Mills, Iowa

Permit No. 95-SDP-01-72

Parameter	Date	RL	GWPS/MCL	Units	MW-11	MW-115	MW-130	MW-131	MW-132	MW-133
Sulfide	09/26/12	1	NA	mg/L	ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	--
	05/24/16				--	ND	--	--	--	ND
Tin	12/22/11	0.01	4.2	mg/L	ND	--	ND	ND	ND	ND
	03/28/12				ND	--	ND	ND	ND	ND
	06/26/12				ND	--	ND	ND	ND	ND
	09/26/12				ND	--	ND	ND	ND	ND
	10/14/15				--	ND	--	--	--	ND
	03/28/16				--	--	--	--	--	--
	05/24/16				--	ND	--	--	--	ND

Notes:

- Parameters with no history of detection are omitted from this table as of April 2016. Future dectections of currently unlisted paremeters to be added as appropriate.

RL = Reporting limit (RL); RLs may vary for individual samples and events
MCL = Maximum Contaminant Level; per United States Environmental Protection Agency (EPA)
GWPS = Groundwater Protection Standard; per Iowa Department of Natural Resources (IDNR)
ND = Parameter not detected; below Minimum Detection Level (MDL)
(XX) = Duplicate sample results in paranthesis
* = Original reported results (10 ug/L) erraneous, lab data quality review and reanalysis confirmed diethyl phthalate as not detected.
-- '= Not tested

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